

## I STRATEGIC ELEMENTS

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The Unified or Combined State Plan must include a Strategic Planning Elements section that analyzes the State's current economic environment and identifies the State's overall vision for its workforce development system. The required elements in this section allow the State to develop data-driven goals for preparing an educated and skilled workforce and to identify successful strategies for aligning workforce development programs to support economic growth. Unless otherwise noted, all Strategic Planning Elements apply to Combined State Plan partner programs included in the plan as well as to core programs.

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### A. ECONOMIC, WORKFORCE, AND WORKFORCE DEVELOPMENT ACTIVITIES ANALYSIS

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The Unified or Combined State Plan must include an analysis of the economic conditions, economic development strategies, and labor market in which the State's workforce system and programs will operate.

#### 1. ECONOMIC AND WORKFORCE ANALYSIS

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##### A. ECONOMIC ANALYSIS

The Unified or Combined State Plan must include an analysis of the economic conditions and trends in the State, including sub-State regions and any specific economic areas identified by the State.

This must include-

**I. EXISTING DEMAND INDUSTRY SECTORS AND OCCUPATIONS** Provide an analysis of the industries and occupations for which there is existing demand.

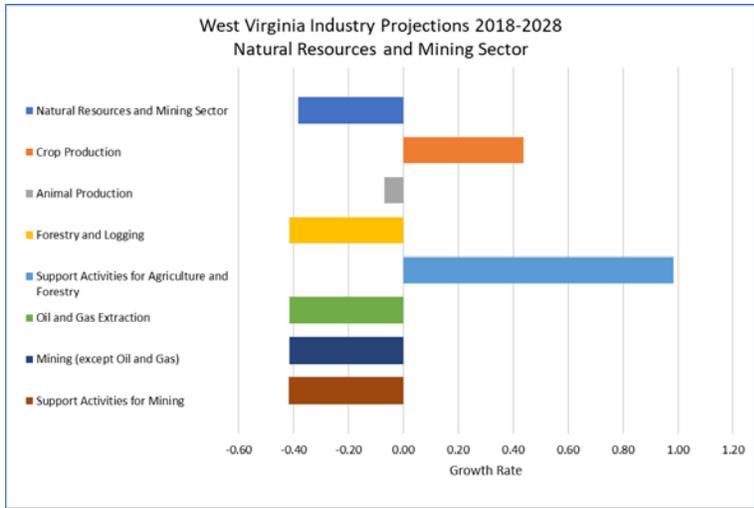
**II. EMERGING DEMAND INDUSTRY SECTORS AND OCCUPATION** Provide an analysis of the industries and occupations for which demand is emerging.

##### III. EMPLOYERS' EMPLOYMENT NEEDS

With regard to the industry sectors and occupations identified in 1 and 2 above, provide an assessment of the employment needs of employers, including a description of the knowledge, skills, and abilities required, including credentials and licenses.

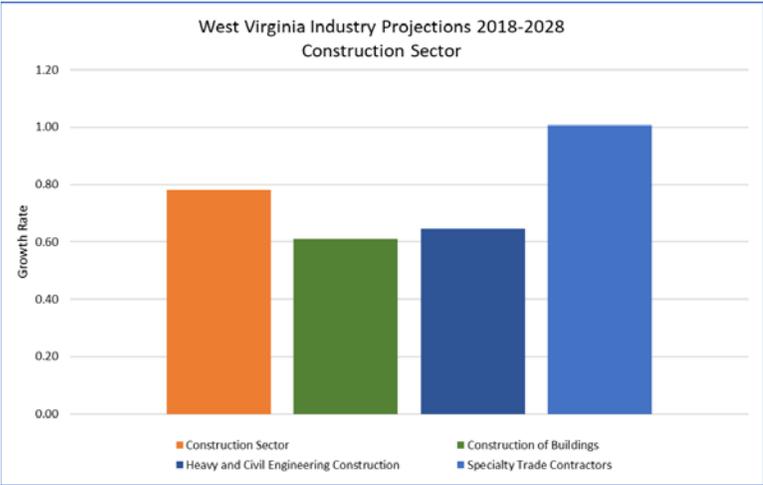
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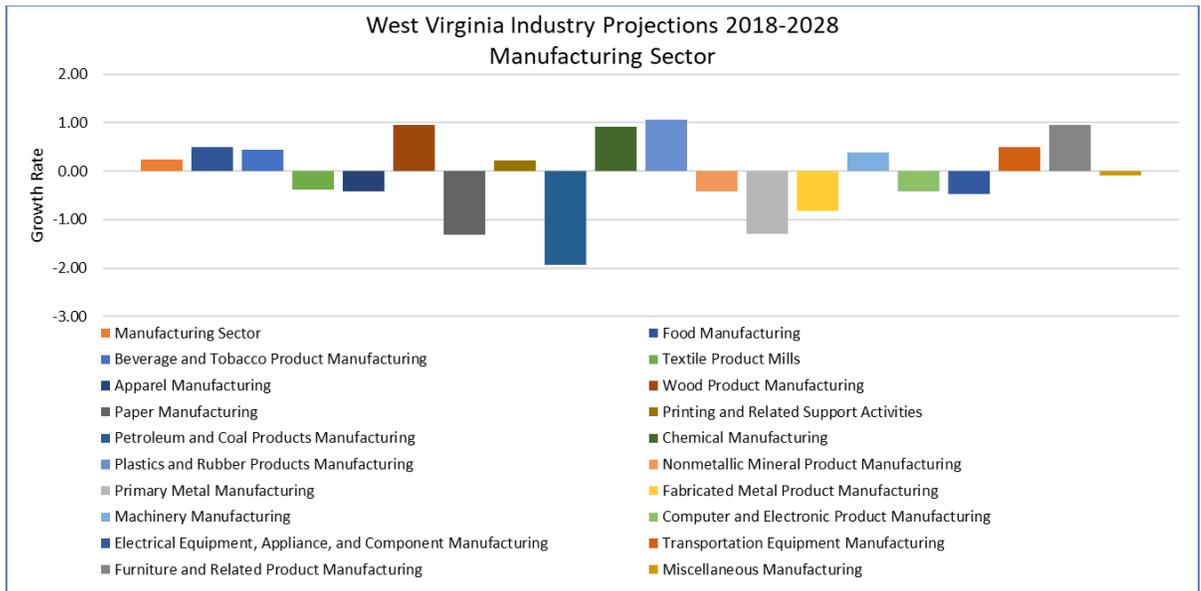
West Virginia's economy can be divided into 11 major sectors: natural resources and mining; construction; manufacturing; trade, transportation and utilities; information; financial activities; professional and business services; education and health services; leisure and hospitality; other services; and total government. Between 2018 and 2028, many of these sectors will see sharp employment declines while others will experience strong growth.



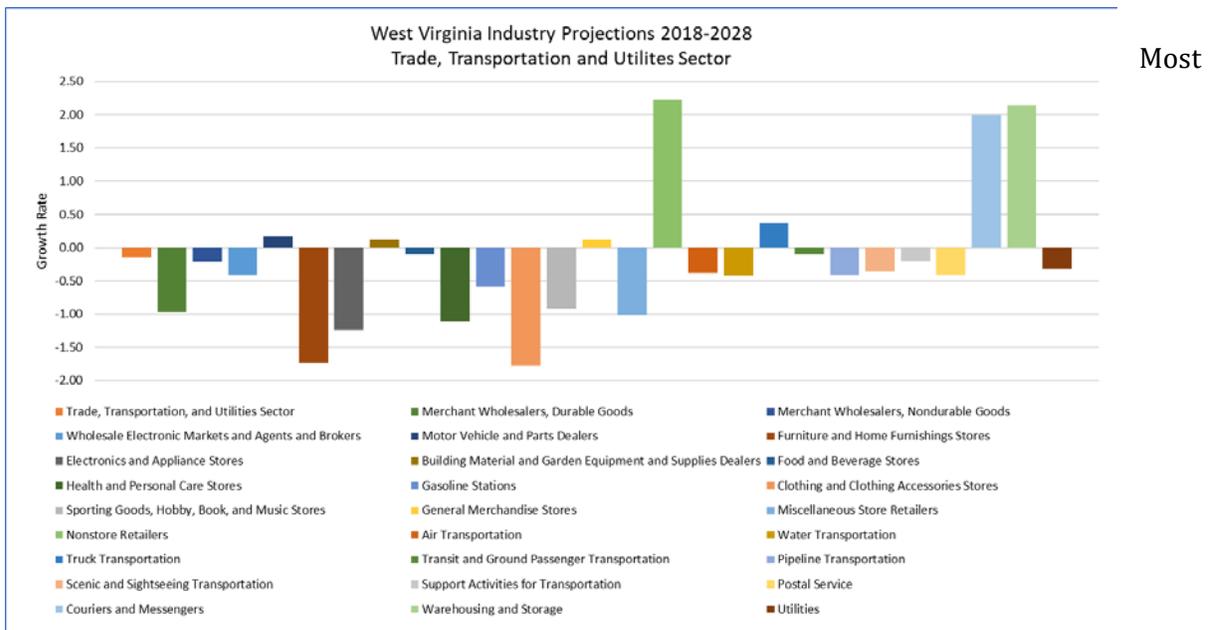
Most industries in the natural resources and mining sector are forecasting declines. Exceptions include crop production and support activities for agriculture and forestry. Coal mining and oil and gas extraction are anticipating employment declines through 2028.

All industries in the construction sector are forecasting growth through 2028, as an increase in infrastructure upgrades is anticipated. However, the greatest growth is expected in specialty trade contractors.



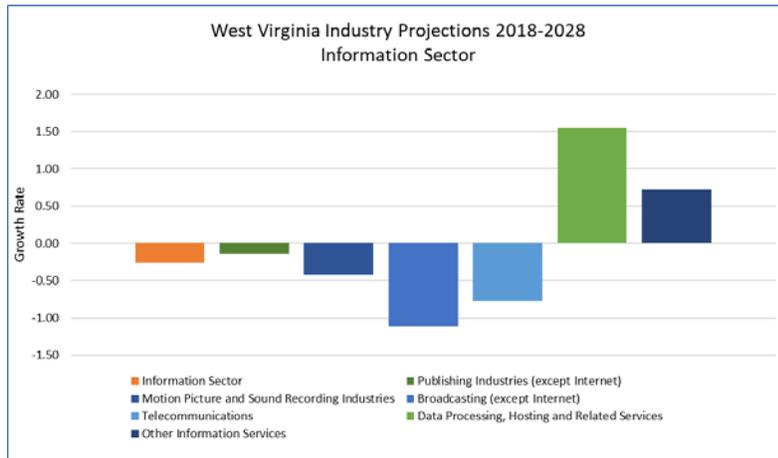


Employment through 2028 in the manufacturing sector is a mixed bag, with declines in many industries and growth in others. Manufacturing industries anticipating notable growth through 2028 include wood products, chemicals, plastics and rubber products, and furniture and related products. Manufacturing industries anticipating notable declines include petroleum and coal products, and paper products. While primary metal manufacturing is projected to decline through 2028, a steel manufacturing employer has recently announced plans to locate in West Virginia. If this occurs, a turnaround in declining employment in this industry will take place.



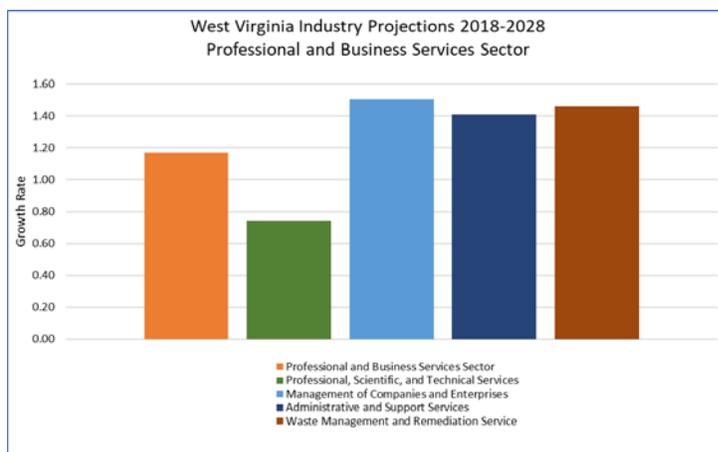
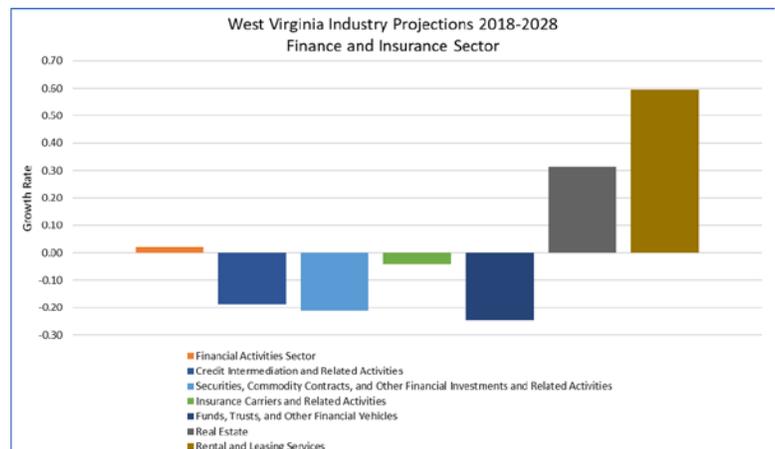
industries within the sector of trade, transportation and utilities will experience employment

declines through 2028. However, there are some exceptions. The strongest growth is anticipated in nonstore retailers, warehousing and storage, and couriers and messengers. Notable projected declines will occur in furniture and home furnishing stores, electronics and appliance stores, clothing and clothing accessories stores, and health and personal care stores.



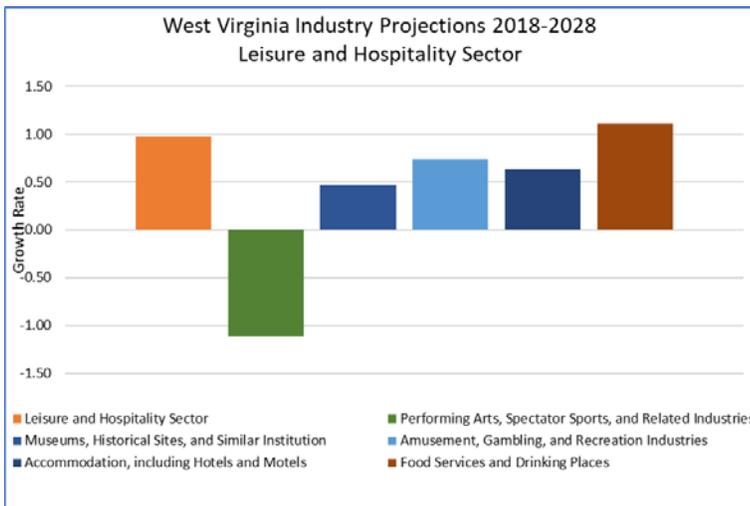
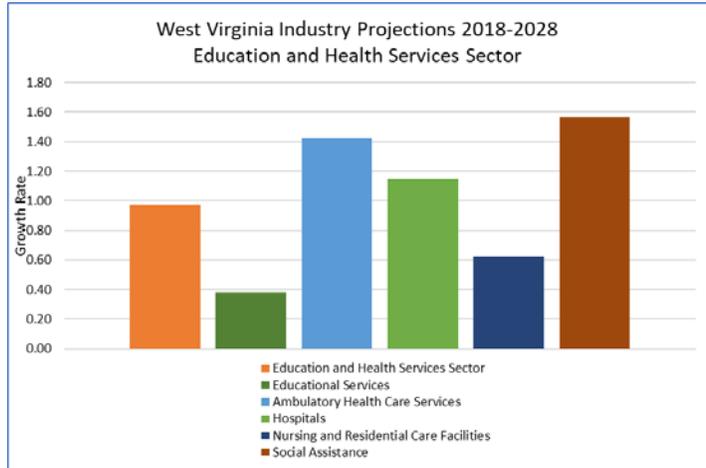
The information sector should see minor employment growth in both data processing, hosting and related services and in other information services through 2028. All remaining industries are anticipating declines. .

Within the financial services sector, employment growth is projected for real estate and for rental and leasing services. All other industries within this sector are projecting employment declines through 2028.



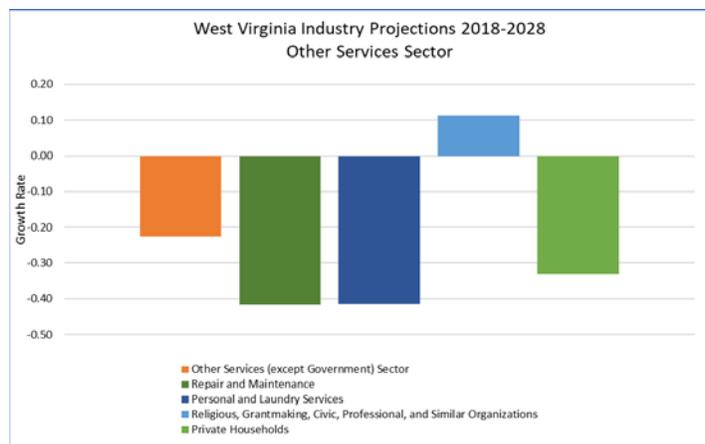
The professional and business services sector should see steady employment growth through 2028, among all its industries. Greatest growth is expected within management of companies and enterprises.

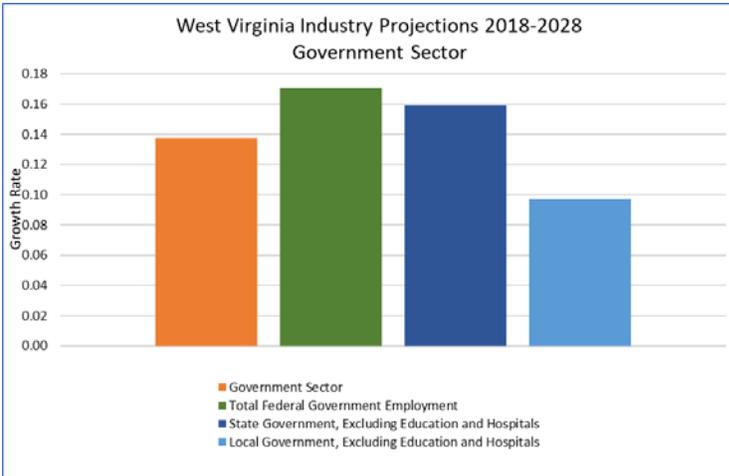
The education and health services sector overall will see growth through 2028, with the most employment growth in social assistance and in ambulatory health care services. West Virginia's aging population as well as the high rate of diabetes and COPD solidify the need for additional healthcare workers. .



Within the leisure and hospitality sector, the strongest growth through 2028 is anticipated in food services and drinking places, with lesser growth among other industries. An employment decline is expected in performing arts, spectator sports, and related industries.

Through 2028, the other services sector is projecting employment growth only in religious, grantmaking, civic, professional, and similar organizations. The remaining industries are anticipating employment declines. West Virginia's population continues to decline, and many other services industries experience the fallout from this population decline.





Employment growth is expected in all major sectors of government through 2028, particularly in the federal sector. .

The Division of Research, Information and Analysis of WorkForce West Virginia produces both short-term and long-term occupational and industry projections. Short-term projections are produced annually, while long-term projections are produced biennially.

**Figure 1:** WDR 1 Industry Projections 2018-2028  
(Contains growing and declining industries by Numeric Change.)

| <b>Workforce Development Region 1<br/>Industry Employment Projections 2018-2028</b> |                                  |                                  |                       |                           |
|---|----------------------------------|----------------------------------|-----------------------|---------------------------|
| <b>Industry Title</b>   | <b>Estimated 2018 Employment</b> | <b>Projected 2028 Employment</b> | <b>Numeric Change</b> | <b>Annual Growth Rate</b> |
| <b>Growing Industries</b>   |                                  |                                  |                       |                           |
| Ambulatory Health Care Services   | 7,842                            | 9,032                            | 1,190                 | 1.4                       |
| Food Services and Drinking Places   | 8,178                            | 9,131                            | 953                   | 1.1                       |
| Hospitals   | 5,999                            | 6,725                            | 726                   | 1.1                       |
| Administrative and Support Services   | 3,922                            | 4,512                            | 590                   | 1.4                       |
| Social Assistance   | 2,986                            | 3,488                            | 502                   | 1.6                       |
| <b>Declining Industries</b>   |                                  |                                  |                       |                           |
| Mining (except Oil and Gas)   | 4,232                            | 4,059                            | -173                  | -0.4                      |
| Merchant Wholesalers, Durable Goods   | 1,558                            | 1,413                            | -145                  | -1.0                      |
| Health and Personal Care Stores   | 1,218                            | 1,090                            | -128                  | -1.1                      |
| Gasoline Stations   | 1,822                            | 1,718                            | -104                  | -0.6                      |
| Clothing and Clothing Accessories Stores  | 546                              | 456                              | -90                   | -1.8                      |

Based on an annual growth rate, three of the top five growing industries in Workforce Development Region 1 are found within healthcare and social assistance. The health services sector contains the greatest numeric growth of the industries on the list and includes ambulatory healthcare services, hospitals, and social assistance. The food services and drinking places industry is expected to add employment through 2028, as employers struggle to fill positions created by workers who left their jobs during the COVID pandemic. The greatest declines by growth rate in WDR Region 1 are found in clothing and clothing accessory stores, health and personal care stores, and merchant wholesalers of durable goods.

**Figure 2:** WDR 2 Industry Projections 2018-2028  
 (Contains growing and declining industries by Numeric Change.)

| <b>Workforce Development Region 2<br/>Industry Employment Projections 2018-2028</b> |  |  |                           |                               |
|---|--|--|---------------------------|-------------------------------|
| <b>Industry Title</b>   | <b>Estimated<br/>2018<br/>Employment</b> | <b>Projected<br/>2028<br/>Employment</b> | <b>Numeric<br/>Change</b> | <b>Annual<br/>Growth Rate</b> |
| <b>Growing Industries</b>   |  |  |                           |                               |
| Ambulatory Health Care Services   | 7225                                     | 8322                                     | 1097                      | 1.4                           |
| Hospitals   | 8943                                     | 10025                                    | 1082                      | 1.1                           |
| Food Services and Drinking Places   | 8819                                     | 9846                                     | 1027                      | 1.1                           |
| Administrative and Support Services   | 5084                                     | 5848                                     | 764                       | 1.4                           |
| Social Assistance   | 3268                                     | 3817                                     | 549                       | 1.6                           |
| <b>Declining Industries</b>   |  |  |                           |                               |
| Merchant Wholesalers, Durable Goods   | 2105                                     | 1909                                     | -196                      | -1.0                          |
| Primary Metal Manufacturing   | 1449                                     | 1272                                     | -177                      | -1.3                          |
| Health and Personal Care Stores   | 1364                                     | 1220                                     | -144                      | -1.1                          |
| Mining (except Oil and Gas)   | 3343                                     | 3206                                     | -137                      | -0.4                          |
| Clothing and Clothing Accessories Stores  | 775                                      | 648                                      | -127                      | -1.8                          |

Based on an annual growth rate, growing industries in WDR 2 are contained largely within healthcare and social assistance. The health services sector contains the greatest numeric growth of industries on the list and includes ambulatory health care services, hospitals, and social assistance. Other growing industries include food services and drinking places and administrative and support services. The greatest declines by growth rate in WDR 2 are found in clothing and clothing accessories stores, primary metal manufacturing, and health and personal care stores.

**Figure 3:** WDR 3 Industry Projections 2018-2028  
 (Contains growing and declining industries by Numeric Change.)

| <b>Workforce Development Region 3<br/>Industry Employment Projections 2018-2028</b> |  |  |                           |                               |
|---|--|--|---------------------------|-------------------------------|
| <b>Industry Title</b>   | <b>Estimated<br/>2018<br/>Employment</b> | <b>Projected<br/>2028<br/>Employment</b> | <b>Numeric<br/>Change</b> | <b>Annual<br/>Growth Rate</b> |
| <b>Growing Industries</b>   |  |  |                           |                               |
| Ambulatory Health Care Services   | 6,264                                    | 7,215                                    | 951                       | 1.4                           |
| Food Services and Drinking Places   | 7,142                                    | 7,974                                    | 832                       | 1.1                           |
| Professional, Scientific, and Technical Services                                    | 5,034                                    | 5,421                                    | 387                       | 0.7                           |
| Social Assistance   | 2,030                                    | 2,371                                    | 341                       | 1.6                           |
| Management of Companies and Enterprises   | 1,533                                    | 1,780                                    | 247                       | 1.5                           |
| <b>Declining Industries</b>   |  |  |                           |                               |
| Merchant Wholesalers, Durable Goods   | 1,723                                    | 1,562                                    | -161                      | -1.0                          |
| Clothing and Clothing Accessories Stores  | 875                                      | 731                                      | -144                      | -1.8                          |
| Health and Personal Care Stores   | 957                                      | 856                                      | -101                      | -1.1                          |
| Telecommunications  | 735                                      | 680                                      | -55                       | -0.8                          |
| Gasoline Stations   | 802                                      | 756                                      | -46                       | -0.6                          |

The top five growing industries in WDR 3 based on an annual growth rate are contained largely in health care and professional and business services. The health care sector contains the greatest numeric growth of industries on the list and includes ambulatory health care services and social assistance. Growth in professional and business services includes professional, scientific, and technical services; and management of companies and enterprises. The greatest declines in WDR 3 are found in merchant wholesalers, durable goods; clothing and clothing accessories stores; and health and personal care stores.

**Figure 4:** WDR 4 Industry Projections 2018-2028  
 (Contains growing and declining industries by Numeric Change.)

| <b>Workforce Development Region 4<br/>Industry Employment Projections 2018-2028</b> |  |  |                           |                               |
|---|--|--|---------------------------|-------------------------------|
| <b>Industry Title</b>   | <b>Estimated<br/>2018<br/>Employment</b> | <b>Projected<br/>2028<br/>Employment</b> | <b>Numeric<br/>Change</b> | <b>Annual<br/>Growth Rate</b> |
| <b>Growing Industries</b>   |  |  |                           |                               |
| Food Services and Drinking Places   | 5,392                                    | 6,020                                    | 628                       | 1.1                           |
| Ambulatory Health Care Services   | 3,655                                    | 4,210                                    | 555                       | 1.4                           |
| Hospitals   | 3,023                                    | 3,389                                    | 366                       | 1.1                           |
| Social Assistance   | 1,975                                    | 2,307                                    | 332                       | 1.6                           |
| Heavy and Civil Engineering Construction  | 4,032                                    | 4,300                                    | 268                       | 0.6                           |
| <b>Declining Industries</b>   |  |  |                           |                               |
| Clothing and Clothing Accessories Stores  | 556                                      | 465                                      | -91                       | -1.8                          |
| Merchant Wholesalers, Durable Goods   | 717                                      | 650                                      | -67                       | -1.0                          |
| Gasoline Stations   | 1,076                                    | 1,014                                    | -62                       | -0.6                          |
| Health and Personal Care Stores   | 575                                      | 514                                      | -61                       | -1.1                          |
| Support Activities for Mining   | 1,012                                    | 971                                      | -41                       | -0.4                          |

The top five growing industries in WDR 4 are contained largely within the health care and social assistance sector. The health care sector contains the greatest numeric growth of industries on the list and includes ambulatory health care services, hospitals, and social assistance. Other growing industries include food services and drinking places and heavy and civil engineering construction. The greatest declines in the WDR 4 clothing and clothing accessories stores, health and personal care stores, and merchant wholesalers, durable goods.

**Figure 5:** WDR 5 Industry Projections 2018-2028  
 (Contains growing and declining industries by Numeric Change.)

| <b>Workforce Development Region 5<br/>Industry Employment Projections 2018-2028</b> |  |  |                           |                                   |
|---|--|--|---------------------------|-----------------------------------|
| <b>Industry Title</b>   | <b>Estimated<br/>2018<br/>Employment</b> | <b>Projected<br/>2028<br/>Employment</b> | <b>Numeric<br/>Change</b> | <b>Annual<br/>Growth<br/>Rate</b> |
| <b>Growing Industries</b>   |  |  |                           |                                   |
| Hospitals   | 4,974                                    | 5,576                                    | 602                       | 1.1                               |
| Food Services and Drinking Places   | 5,117                                    | 5,713                                    | 596                       | 1.1                               |
| Ambulatory Health Care Services   | 3,251                                    | 3,744                                    | 493                       | 1.4                               |
| Administrative and Support Services   | 2,073                                    | 2,385                                    | 312                       | 1.4                               |
| Social Assistance   | 1,347                                    | 1,573                                    | 226                       | 1.6                               |
| <b>Declining Industries</b>   |  |  |                           |                                   |
| Merchant Wholesalers, Durable Goods   | 1,317                                    | 1,194                                    | -123                      | -1.0                              |
| Fabricated Metal Product Manufacturing  | 1,276                                    | 1,174                                    | -102                      | -0.8                              |
| Mining (except Oil and Gas)   | 2,165                                    | 2,076                                    | -89                       | -0.4                              |
| Health and Personal Care Stores   | 452                                      | 404                                      | -48                       | -1.1                              |
| Electronics and Appliance Stores  | 380                                      | 335                                      | -45                       | -1.3                              |

The top five growing industries in WDR 5 are contained largely within health care and social assistance. The health care sector contains the greatest numeric growth of industries on the list and includes ambulatory health care services, hospitals, and social assistance. Other growing industries include food services and drinking places and administrative and support services. The greatest industry declines in WDR 5 based on the growth rate include electronics and appliance stores, health and personal care stores, and merchant wholesalers, durable goods.

**Figure 6:** WDR 6 Industry Projections 2018-2028  
 (Contains growing and declining industries by Numeric Change.)

| <b>Workforce Development Region 6<br/>Industry Employment Projections 2018-2028</b> |  |  |                           |                                   |
|---|--|--|---------------------------|-----------------------------------|
| <b>Industry Title</b>   | <b>Estimated<br/>2018<br/>Employment</b> | <b>Projected<br/>2028<br/>Employment</b> | <b>Numeric<br/>Change</b> | <b>Annual<br/>Growth<br/>Rate</b> |
| <b>Growing Industries</b>   |  |  |                           |                                   |
| Hospitals   | 15,564                                   | 17,446                                   | 1,882                     | 1.1                               |
| Food Services and Drinking Places   | 13,087                                   | 14,612                                   | 1,525                     | 1.1                               |
| Ambulatory Health Care Services   | 9,026                                    | 10,396                                   | 1,370                     | 1.4                               |
| Administrative and Support Services   | 5,101                                    | 5,868                                    | 767                       | 1.4                               |
| Social Assistance   | 4,156                                    | 4,855                                    | 699                       | 1.6                               |
| <b>Declining Industries</b>   |  |  |                           |                                   |
| Clothing and Clothing Accessories Stores  | 1106                                     | 924                                      | -182                      | -1.8                              |
| Merchant Wholesalers, Durable Goods   | 1589                                     | 1441                                     | -148                      | -1.0                              |
| Health and Personal Care Stores   | 1271                                     | 1137                                     | -134                      | -1.1                              |
| Gasoline Stations   | 2281                                     | 2151                                     | -130                      | -0.6                              |
| Mining (except Oil and Gas)   | 2634                                     | 2526                                     | -108                      | -0.4                              |

The industries in WDR 6 projecting the greatest growth through 2028 are found largely within the health care and social assistance sector. These include social assistance, ambulatory health care services, and hospitals. Food services and drinking places and administrative and support services are anticipating employment growth as well. Declining industries include clothing and clothing accessory stores, health and personal care stores, and merchant wholesalers, durable goods.

**Figure 7: WDR 7 Industry Projections 2018-2028**  
 (Contains growing and declining industries by Numeric Change.)

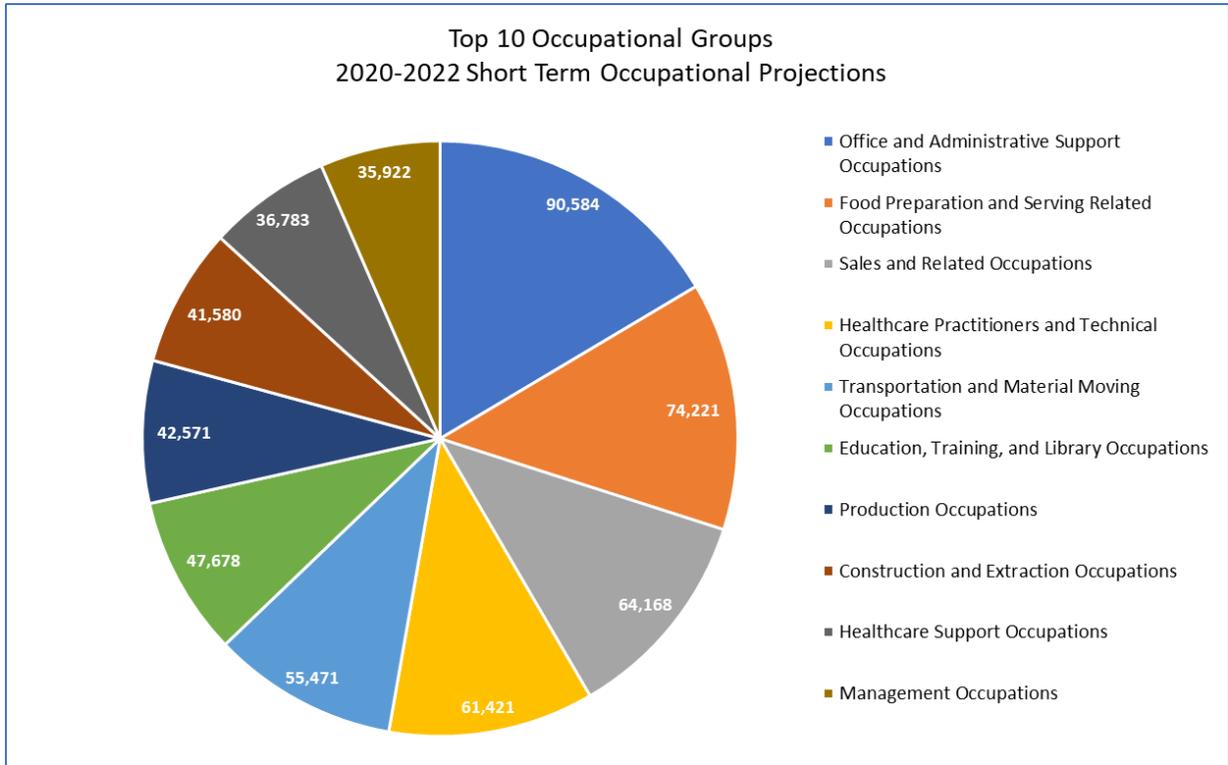
| <b>Workforce Development Region 7<br/>Industry Employment Projections 2018-2028</b> |  |  |                           |                                   |
|---|--|--|---------------------------|-----------------------------------|
| <b>Industry Title</b>   | <b>Estimated<br/>2018<br/>Employment</b> | <b>Projected<br/>2028<br/>Employment</b> | <b>Numeric<br/>Change</b> | <b>Annual<br/>Growth<br/>Rate</b> |
| <b>Growing Industries</b>   |  |  |                           |                                   |
| Chemical Manufacturing  | 6,164                                    | 6,882                                    | 718                       | 1.1                               |
| Ambulatory Health Care Services   | 4,818                                    | 5,401                                    | 583                       | 1.1                               |
| Social Assistance   | 3,094                                    | 3,564                                    | 470                       | 1.4                               |
| Waste Management and Remediation Service  | 1,997                                    | 2,333                                    | 336                       | 1.6                               |
| Heavy and Civil Engineering Construction  | 8,528                                    | 8,858                                    | 330                       | 0.4                               |
| <b>Declining Industries</b>   |  |  |                           |                                   |
| Real Estate   | 1,082                                    | 981                                      | -101                      | -1.0                              |
| Furniture and Related Product Manufacturing   | 1,206                                    | 1,137                                    | -69                       | -0.6                              |
| Fabricated Metal Product Manufacturing  | 616                                      | 551                                      | -65                       | -1.1                              |
| Clothing and Clothing Accessories Stores  | 290                                      | 262                                      | -28                       | -1.0                              |
| Mining (except Oil and Gas)   | 629                                      | 603                                      | -26                       | -0.4                              |

The top five growing industries in WDR 7 through 2028 are scattered throughout various economic sectors. Industries with the highest projected growth rate include waste management and remediation services, social assistance, ambulatory health care services, and chemical manufacturing. The greatest projected declines in the WDR 7 are found in fabricated metal product manufacturing, clothing and clothing accessories stores, and real estate.

**Occupational Demand 2020-2022**

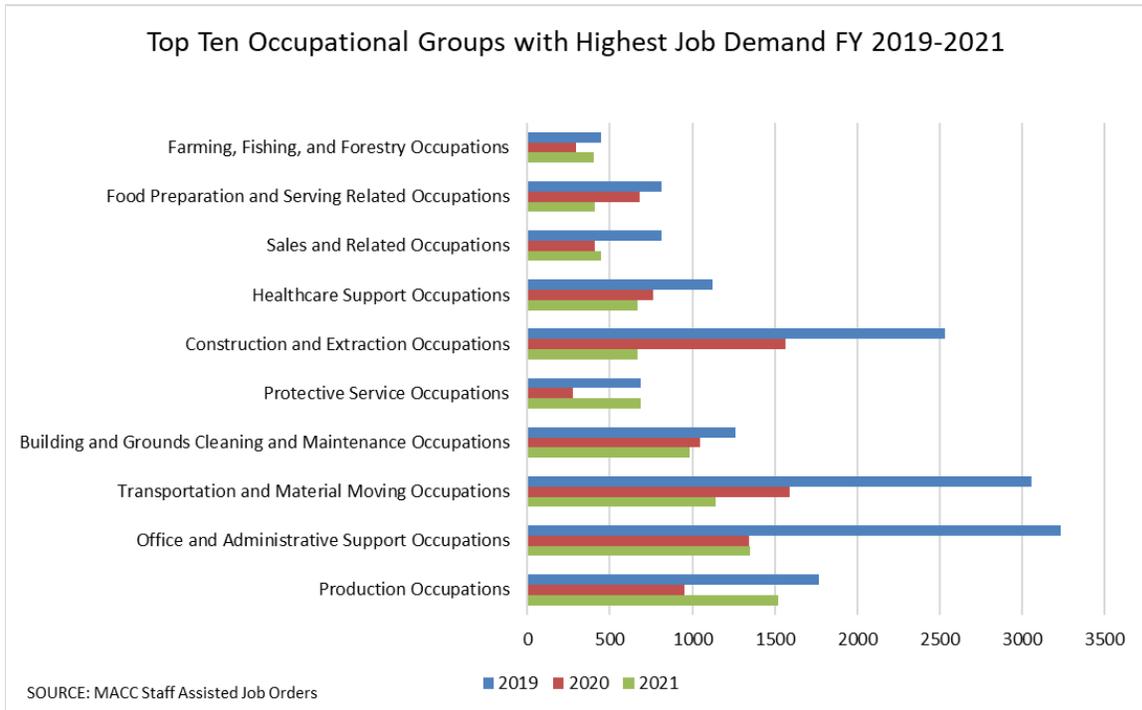
Many outside of our state erroneously believe that most West Virginia workers are employed in the coal-mining industry, but this is hardly the case. Coal mining and other extraction occupations make up only a small part of the entire labor force. As a matter of fact, Construction and Extraction Occupations rank eighth among the top ten employment groups during the 2020-2022 period. Figure 8 shows that the largest employment group is Office and Administrative Support Occupations (90,584). This is followed by Food Preparation and Serving Related Occupations (74,221), Sales and Related Occupations (64,168), Healthcare Practitioners and Technical Occupations (61,421), and Transportation and Material Moving Occupations (55,471) rounding out the top five.

**Figure 8:** Pie Chart of Top 10 Occupational Groups 2020-2022.  
(Pie chart is divided into ten sections and contains employment numbers for these largest occupational groups.)



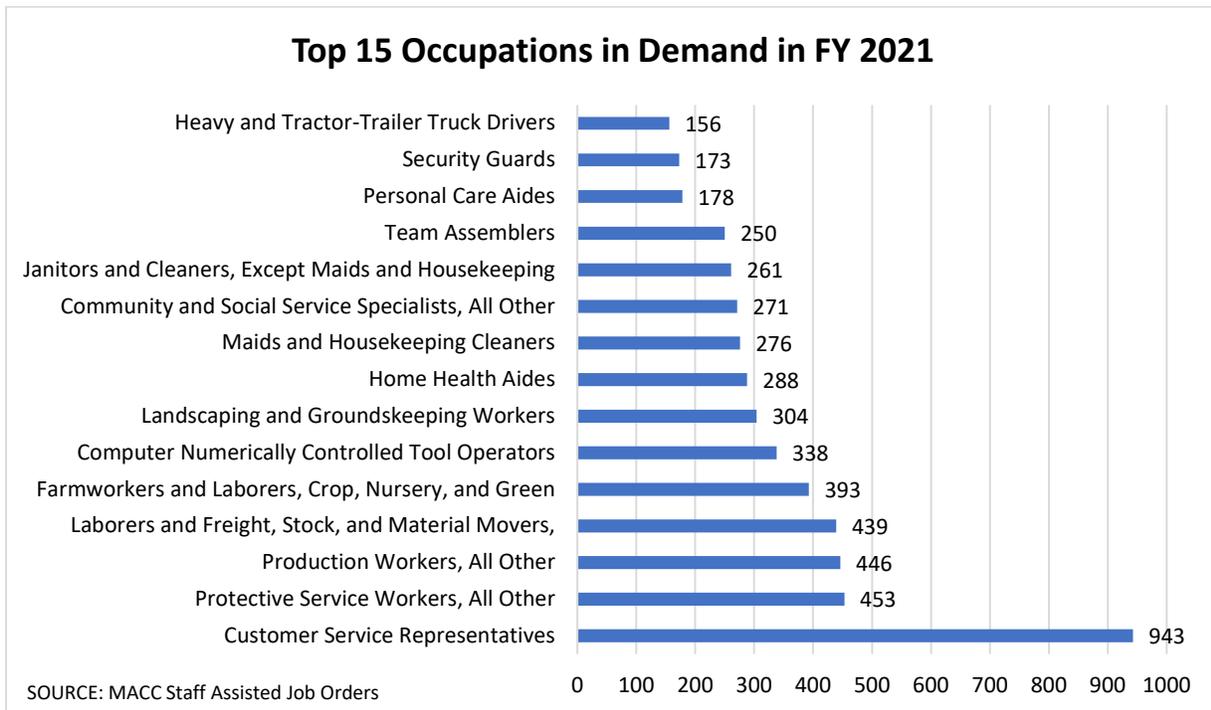
The years 2020 through 2022 have seen high demand for Office and Administrative Support Occupations (Customer Service Representatives, Stock Clerks,), Transportation and Material Moving Occupations (Driver/Sales Worker, Heavy and Tractor-Trailer Truck Drivers), and Construction and Extraction Occupations (Construction Laborers, Extraction Workers). Completing the list of top ten occupations with the highest demand are Production Occupations (Production Workers, Team Assemblers), Building and Grounds Cleaning and Maintenance Occupations (Maids and Housekeeping Cleaners, Landscaping and Groundskeeping Workers), Health care Support Occupations (Medical Assistants, Nursing Assistants, Home Health Aides), Food Preparation and Serving-Related Occupations (Combined Food Preparation and Serving-Related Workers, Counter Attendants), Sales and Related Occupations (Retail Salespersons, Sales Representatives), Protective Service Occupations (Security Guards, First-Line Supervisors of Correctional Officers), and Farming, Fishing, and Forestry Occupations (Log Graders and Scalers, Fallers).

**Figure 9:** Occupational Groups with Highest Job Demand for Fiscal Years 2019-2021.  
 (Bar graph reflecting demand for workers within Occupational Groups for the three-year period of 2019-2020-2021 according to MACC staff assisted job orders.)



Breaking down the data into greater detail, Customer Service Representatives were in greatest demand in Fiscal Year 2021, with 943 openings, followed by Protective Service Workers, All Others (453), Production Workers, All Others (446), Laborers and Freight, Stock, and Material Movers, Hand (439), Farmworkers and Laborers, Crop, Nursery, and Greenhouse (393), Computer Numerically Controlled Tool Operators (338), Landscaping and Groundskeeping Workers (304), Home Health Aides (288), Maids and Housekeeping Cleaners (276), Community and Social Service Specialists, All Other (271), Janitors and Cleaners, Except Maids and Housekeeping (261), Team Assemblers (250), Personal Care Aides (178), Security Guards (173), and Heavy and Tractor-Trailer Truck Drivers (156).

**Figure 10: Top 15 Demand Occupations in Fiscal Year 2020.**  
 (Bar graph reflects the top 10 occupations requested by employers through WorkForce West Virginia in 2020.)



The top five occupational groups with the greatest number of job openings reported in 2021 by WorkForce West Virginia included Production Occupations, Office and Administrative Support Occupations, Transportation and Material Moving Occupations, Building and Grounds Cleaning and Maintenance Occupations, and Protective Service Occupations. West Virginia employers were seeking workers to fill various manufacturing occupations, as well as positions such as Tellers, Drivers/Sales Workers, Heavy and Tractor-Trailer Truck Drivers, Janitors and Cleaners, Landscapers, Security Guards, and Correctional Officers.

**Figure 11:** Job Openings by Occupation Group Fiscal Years 2019-2021.  
 (Table shows 22 Occupational Groups and the number of job openings within these groups for the years 2019-2020-2021.)

| <b>Job Openings by Occupational Group</b>                  |             |             |             |
|--|-------------|-------------|-------------|
| <b>Fiscal Years 2019-2021</b>                              |             |             |             |
| <b>Occupation Group</b>                                    | <b>2019</b> | <b>2020</b> | <b>2021</b> |
| Production Occupations                                     | 1768        | 952         | 1519        |
| Office and Administrative Support Occupations              | 3236        | 1342        | 1350        |
| Transportation and Material Moving Occupations             | 3059        | 1593        | 1143        |
| Building and Grounds Cleaning and Maintenance Occupations  | 1263        | 1049        | 987         |
| Protective Service Occupations                             | 689         | 278         | 690         |
| Construction and Extraction Occupations                    | 2533        | 1564        | 670         |
| Healthcare Support Occupations                             | 1122        | 761         | 666         |
| Sales and Related Occupations                              | 815         | 406         | 444         |
| Food Preparation and Serving Related Occupations           | 814         | 682         | 411         |
| Farming, Fishing, and Forestry Occupations                 | 446         | 297         | 403         |
| Community and Social Service Occupations                   | 199         | 198         | 399         |
| Healthcare Practitioners and Technical Occupations         | 445         | 254         | 263         |
| Management Occupations                                     | 366         | 217         | 257         |
| Installation, Maintenance, and Repair Occupations          | 765         | 487         | 242         |
| Personal Care and Service Occupations                      | 116         | 92          | 150         |
| Business and Financial Operations Occupations              | 377         | 354         | 74          |
| Architecture and Engineering Occupations                   | 201         | 173         | 67          |
| Education, Training, and Library Occupations               | 106         | 75          | 62          |
| Arts, Design, Entertainment, Sports, and Media Occupations | 87          | 197         | 48          |
| Computer and Mathematical Occupations                      | 183         | 116         | 39          |
| Life, Physical, and Social Science Occupations             | 82          | 41          | 16          |
| Legal Occupations  | 11          | 11          | 5           |
| Source: MACC, Staff Assisted Job Orders                    |             |             |             |

The top five occupations with the largest annual openings through 2028 include Combined Food Preparation and Serving Workers, including Fast Food; Cashiers; Retail Salespersons; Personal Care Aides; and Waiters and Waitresses. Other occupations with large projected annual openings and which pay higher wages than the top five include Construction Laborers, Heavy and Tractor-Trailer Truck Drivers, and Registered Nurses.

**Figure 12:** Annual Openings by Occupation 2018-2028.

Table displays occupations with a high number of Total Annual Openings between 2018 and 2028. Includes Estimated and Projected Employment.)

| <b>Annual Openings by Occupation</b>                               |                             |                             |                     |                         |                        |
|--|-----------------------------|-----------------------------|---------------------|-------------------------|------------------------|
| <b>Occupational Projections 2018-2028</b>                          |                             |                             |                     |                         |                        |
| <b>Occupation</b>  | <b>Estimated Employment</b> | <b>Projected Employment</b> | <b>Annual Exits</b> | <b>Annual Transfers</b> | <b>Annual Openings</b> |
| Combined Food Preparation and Serving Workers, Including Fast Food | 21,719                      | 25,286                      | 1,874               | 2,311                   | 4,542                  |
| Cashiers   | 19,963                      | 18,832                      | 1,731               | 1,928                   | 3,546                  |
| Retail Salespersons  | 22,889                      | 22,550                      | 1,306               | 2,013                   | 3,285                  |
| Personal Care Aides  | 13,192                      | 17,313                      | 1,127               | 999                     | 2,538                  |
| Waiters and Waitresses   | 11,771                      | 12,399                      | 839                 | 1,481                   | 2,383                  |
| Office Clerks, General   | 19,122                      | 18,343                      | 1,047               | 1,195                   | 2,164                  |
| Laborers and Freight, Stock, and Material Movers, Hand             | 11,783                      | 12,868                      | 557                 | 1,155                   | 1,820                  |
| Construction Laborers  | 13,681                      | 14,583                      | 473                 | 1,099                   | 1,662                  |
| Customer Service Representatives                                   | 11,822                      | 12,119                      | 575                 | 1,020                   | 1,625                  |
| Heavy and Tractor-Trailer Truck Drivers                            | 13,127                      | 13,921                      | 557                 | 981                     | 1,617                  |
| Registered Nurses  | 21,433                      | 24,619                      | 639                 | 591                     | 1,549                  |
| Janitors and Cleaners, Except Maids and Housekeeping Cleaners      | 8,516                       | 9,379                       | 547                 | 631                     | 1,264                  |
| Cooks, Restaurant  | 6,655                       | 8,052                       | 390                 | 650                     | 1,180                  |
| Maids and Housekeeping Cleaners                                    | 8,018                       | 8,364                       | 580                 | 523                     | 1,138                  |
| Nursing Assistants   | 8,758                       | 9,469                       | 490                 | 531                     | 1,092                  |
| Stock Clerks and Order Fillers                                     | 7,812                       | 8,025                       | 401                 | 653                     | 1,075                  |

Nearly all the top 15 occupations (figure 13) ranked by annual growth rate are contained within two occupational clusters: Healthcare Support Occupations and Healthcare Practitioners and Technical Occupations. These two clusters include such occupations as Personal Care Aides, Home Health Aides, Respiratory Therapists, Physician Assistants, Nurse Practitioners, Psychiatric Aides, and Physical Therapists.

**Figure 13:** Annual Job Growth Rate for Select Occupations 2018-2028.

(Table contains top occupations by Annual Growth rate for the years 2018-2028.)

| <b>Annual Job Growth Rate for Selected Occupations</b> |                     |                         |                        |                           |
|--|---------------------|-------------------------|------------------------|---------------------------|
| <b>Occupational Projections 2018-2028</b>              |                     |                         |                        |                           |
| <b>Occupation</b>                                      | <b>Annual Exits</b> | <b>Annual Transfers</b> | <b>Annual Openings</b> | <b>Annual Growth Rate</b> |
| Personal Care Aides                                    | 13,192              | 17,313                  | 2,538                  | 2.8                       |
| Software Developers, Applications                      | 1,169               | 1,530                   | 131                    | 2.7                       |
| Home Health Aides                                      | 2,088               | 2,642                   | 320                    | 2.4                       |
| Respiratory Therapists                                 | 1,130               | 1,417                   | 96                     | 2.3                       |
| Physician Assistants                                   | 790                 | 988                     | 71                     | 2.3                       |
| Nurse Practitioners                                    | 1,131               | 1,411                   | 96                     | 2.2                       |
| Speech-Language Pathologists                           | 800                 | 996                     | 68                     | 2.2                       |
| Taxi Drivers and Chauffeurs                            | 2,003               | 2,461                   | 288                    | 2.1                       |
| Physical Therapist Assistants                          | 689                 | 845                     | 111                    | 2.1                       |
| Cooks, Restaurant                                      | 6,655               | 8,052                   | 1,180                  | 1.9                       |
| Rehabilitation Counselors                              | 1,526               | 1,844                   | 205                    | 1.9                       |
| Psychiatric Aides                                      | 1,645               | 1,981                   | 238                    | 1.9                       |
| Marriage and Family Therapists                         | 391                 | 469                     | 52                     | 1.8                       |
| Tree Trimmers and Pruners                              | 471                 | 564                     | 76                     | 1.8                       |
| Physical Therapists                                    | 1,464               | 1,748                   | 95                     | 1.8                       |

In general, employers assess employees based on three categories: Knowledge, Skills, and Abilities.

### A. Knowledge

With fast growing technology and globalized trends dominating the workplace, knowledge is imperative. According to the late management guru Peter Drucker, “Today, knowledge has power. It controls access to opportunity and advancement.” It is always a basic need for everyone. If someone has a better knowledge base, he or she will acquire confidence and work more effectively. That’s why employers prefer their employees to be knowledgeable in order to perform a job properly.

Employers are also willing to send employees to advanced training classes, because “An investment in knowledge always pays the best interest” (Benjamin Franklin).

**Table 1:** Model Knowledge, Skills, & Ability for Registered Nurse  
(Table 1 shows the top Knowledge, Skills, and Abilities needed for Registered Nurses.)

| KNOWLEDGE  | SKILLS  | ABILITIES  |
|--|---|--|
| <ul style="list-style-type: none"> <li>• Health               <ul style="list-style-type: none"> <li>• Medicine &amp; dentistry</li> <li>• Therapy &amp; counseling</li> </ul> </li> <li>• Business               <ul style="list-style-type: none"> <li>• Customer Service</li> </ul> </li> <li>• Math &amp; Science               <ul style="list-style-type: none"> <li>• Psychology</li> <li>• Arithmetic, algebra, geometry, calculus</li> </ul> </li> <li>• Arts &amp; Humanities               <ul style="list-style-type: none"> <li>• English language</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Basic Skills               <ul style="list-style-type: none"> <li>• Listening to others, not interrupting, and asking good questions</li> <li>• Talking to others</li> </ul> </li> <li>• Social               <ul style="list-style-type: none"> <li>• Understanding people's reactions</li> <li>• Looking for ways to help people</li> </ul> </li> <li>• Problem Solving               <ul style="list-style-type: none"> <li>• Noticing a problem and figuring out the best way to solve it</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Verbal               <ul style="list-style-type: none"> <li>• Communicate by speaking</li> <li>• Listen &amp; understand what people say</li> </ul> </li> <li>• Ideas and Logic               <ul style="list-style-type: none"> <li>• Notice when problem happens</li> <li>• Make a general rules from detailed information</li> </ul> </li> <li>• Attention               <ul style="list-style-type: none"> <li>• Do two or more thing att the same time</li> <li>• Focus to do something without distracted</li> </ul> </li> <li>• Visual Understanding               <ul style="list-style-type: none"> <li>• Quickly compare groups of letters, numbers, pictures, or other things</li> </ul> </li> </ul> |

With the intensive growth of Healthcare and Social Assistance industries through 2022, the need for education and higher—skill workers is anticipated. Table 2 shows, that for a nurse, therapist, or physician assistant, knowledge of medicine is a must (ranks 86 to 98 out of 100). Fluent English is necessary to understand medical terminology and communicate with patients and medical staff.

Customer and Personal Services knowledge is also important for Registered Nurses and LPNs (86 of 100 and Physical Therapists (87 of 100) because of the close relationships formed between nurse and patient.

**Table 2:** Knowledge Assessment for Top 5 Healthcare Occupations  
(Table 2 assesses the knowledge needed for the top five healthcare occupations.)

| Knowledge                    | Registered Nurses | Occupational Therapists | Licensed Nurses | Physical Therapists | Physician Assistants |
|------------------------------|-------------------|-------------------------|-----------------|---------------------|----------------------|
| Customer & Personal Services | 86                | 76                      | 86              | 87                  | 83                   |
| English Languages            | 81                | 82                      | 82              | 77                  | 84                   |
| Psychology                   | 84                | 92                      | 82              | 83                  | 87                   |
| Medicine & Dentistry         | 89                | 86                      | 92              | 93                  | 98                   |
| Therapy & Counseling         | 78                | 92                      | 75              | 82                  | 84                   |

Similarly, Table 3 shows that Critical Thinking, Problem Solving, and Programming Skills are essential for people working in the computer science field (rank from 70—90 of 100). However, several skills in certain jobs are not evaluated depending on the field and skill value. Table 3 shows only the most required skills that rank from 70 to 100. The higher ranking, the more important the skill.

**Table 3:** Skill Assessment for Top 5 Computer Occupations (Table 3 provides skills assessment for the top five computer-related occupations.)

| Skills                  | User Support Specialist 15-1151 | System Analysts 15-1121 | Programmer 15-1131 | Software developers 15-1132 | Network Admins 15-1142 |
|-------------------------|---------------------------------|-------------------------|--------------------|-----------------------------|------------------------|
| Analysis                |                                 | 70                      | 70                 | 75                          | 75                     |
| Active Listening        | 80                              | 70                      | 70                 |                             | 70                     |
| Speaking                | 80                              | 70                      |                    |                             | 70                     |
| Critical Thinking       | 75                              | 75                      | 72                 | 70                          | 75                     |
| Reading Comprehension   | 78                              | 70                      | 80                 |                             | 75                     |
| Complex Problem Solving | 70                              |                         | 72                 | 78                          | 72                     |
| Programming             | n/a                             | n/a                     | 90                 | 78                          | 70                     |

Numerous occupations in West Virginia require licensing. This is to ensure the competency of those practicing these professions, and in many cases the safety of those utilizing their services. There are approximately 110 occupations that require licensure in the State of West Virginia, eleven of which are in-demand occupations. The majority of these In-demand occupations are found in the healthcare field, such as Physician Assistant, Registered Nurse, Licensed Practical Nurse, Pharmacist, Physical Therapy Assistant, Radiologic Technologist, and Dental Hygienist. The remaining in-demand occupations that require licensing include Accountant, Attorney, Elementary School Teacher, and Social Worker.

## B. WORKFORCE ANALYSIS

The Unified or Combined State Plan must include an analysis of the current workforce, including individuals with barriers to employment, as defined in section 3 of WIOA.\* This population must include individuals with disabilities among other groups\*\* in the State and across regions identified by the State. This includes: Individuals with barriers to employment include displaced homemakers; low-income individuals; Indians, Alaska Natives, and Native Hawaiians; individuals with disabilities, including youth who are individuals with disabilities; older individuals; ex-offenders; homeless individuals, or homeless children and youths; youth who are in or have aged out of the foster care system; individuals who are English language learners, individuals who have low levels of literacy, and individuals facing substantial cultural barriers; farmworkers (as defined at section 167(i) of WIOA and Training and Employment Guidance Letter No. 35-14); individuals within 2 years of exhausting lifetime eligibility under the Temporary Assistance for Needy Families program; single parents (including single pregnant women); and long-term unemployed individuals. \*\* Veterans, unemployed workers, and youth, and others that the State may identify.

### I. EMPLOYMENT AND UNEMPLOYMENT

Provide an analysis of current employment and unemployment data, including labor force participation rates, and trends in the State.

### II. LABOR MARKET TRENDS

Provide an analysis of key labor market trends, including across existing industries and occupations.

### III. EDUCATION AND SKILL LEVELS OF THE WORKFORCE

Provide an analysis of the educational and skill levels of the workforce.

### IV. SKILL GAPS

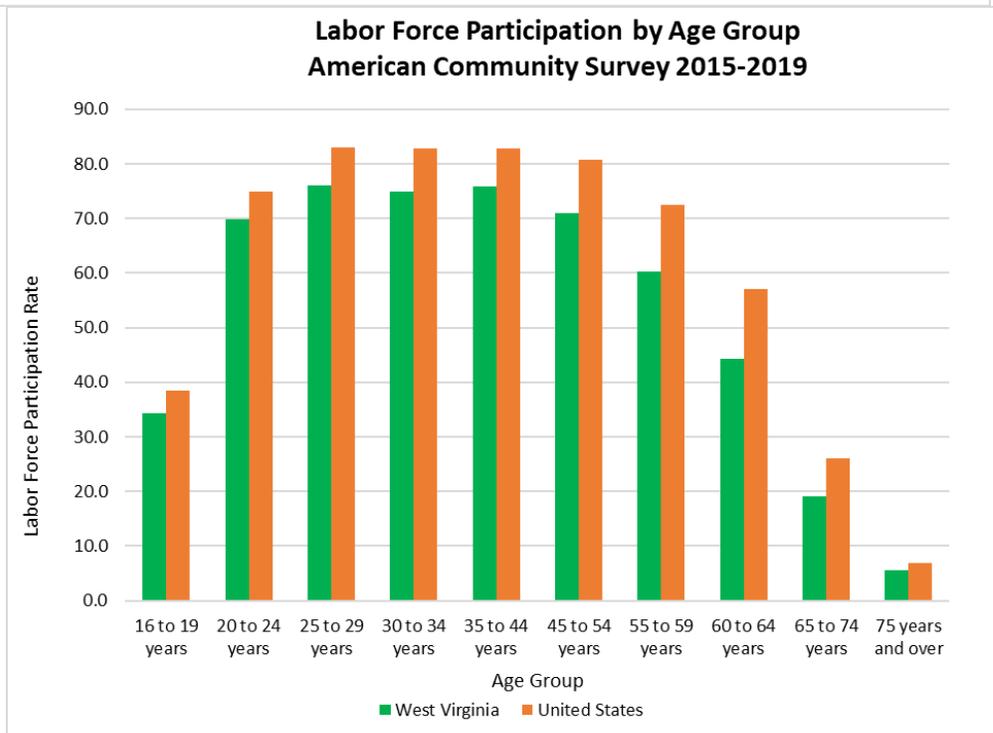
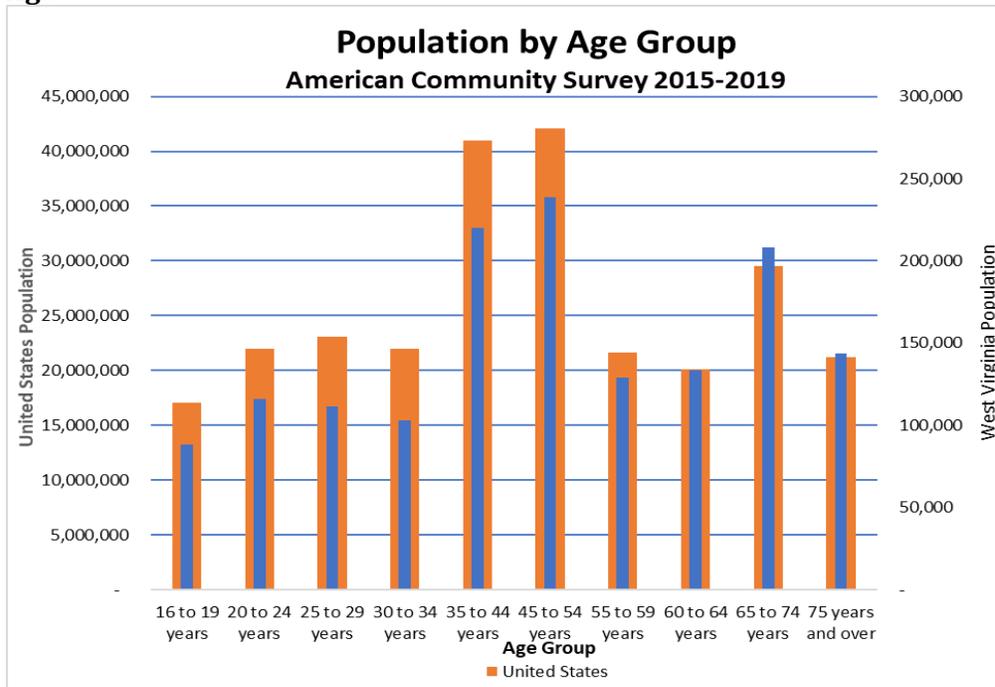
Describe apparent 'skill gaps'.

#### **(I) Employment and Unemployment**

(ii) Labor Market Trends. Provide an analysis of key labor market trends, including across existing industries and occupations.

#### **Demographics of the State's Economy**

## Age



The U.S. Census Bureau's 2019 5-year estimates American Community Survey records West Virginia's population 16 years of age and older at 1,491,316. Approximately 53.3 percent of this total is in the labor force. The employment to population ratio is 49.7 percent, while the unemployment rate for this population is 6.5 percent.

West Virginians aged 16 to 19 are estimated to number 88,179, or 34.3 percent in the labor force.

The employment to population ratio for this group is 27.0 percent, and the unemployment rate is 21.0 percent, the highest unemployment rate among all age groups. Many teenagers have difficulty finding or keeping employment because of lack of work experience, and because some employers are unwilling to hire teens due to labor laws and the inconvenience of scheduling around school functions and extracurricular activities.

The number of 20 to 24 years of age is estimated at 115,710. Of these, 69.8 percent are in the labor force. The employment to population ratio for this group is 60.8 percent, while the unemployment rate is 12.9 percent.

The number of state residents 25 to 29 years old is estimated at 111,245. The labor force participation rate is 76.0 percent, the highest among the established age groups, and just slightly higher than the age group containing residents aged 35 to 44 years. The employment to population ratio is 69.2 percent, while the unemployment rate for this group is 8.7 percent.

West Virginians aged 30 to 34 years are estimated at 102,871. The labor force participation rate is 74.9 percent, and the employment to population ratio is 69.1 percent. The unemployment rate for this group is 7.3 percent.

The age group of those 35 to 44 years old contained 220,301 residents. The labor force participation rate is 75.9 percent. The employment to population ratio is 71.4 percent, the highest among the established age groups. The unemployment rate is 5.7 percent.

The group containing those aged 45 to 54 years is estimated at 238,533. The labor force participation rate is 71.0 percent, and the employment to population ratio is 67.9 percent. The unemployment rate for this age group is 4.3 percent.

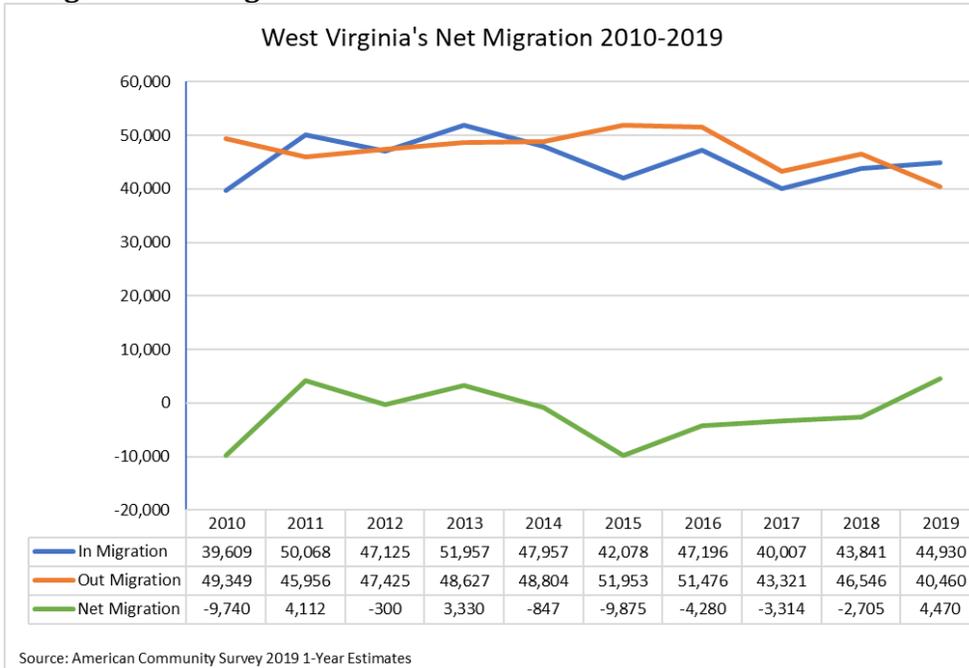
The group containing residents aged 55 to 59 is estimated at 128,759. The labor force participation rate is 60.3 percent and the employment to population ratio is 58.5 percent. The unemployment rate is 2.9 percent.

West Virginians aged 60 to 64 years numbered 133,604, with a labor force participation rate of 44.3 percent. The employment to population ratio is 43.0 percent, with an unemployment rate of 3.1 percent.

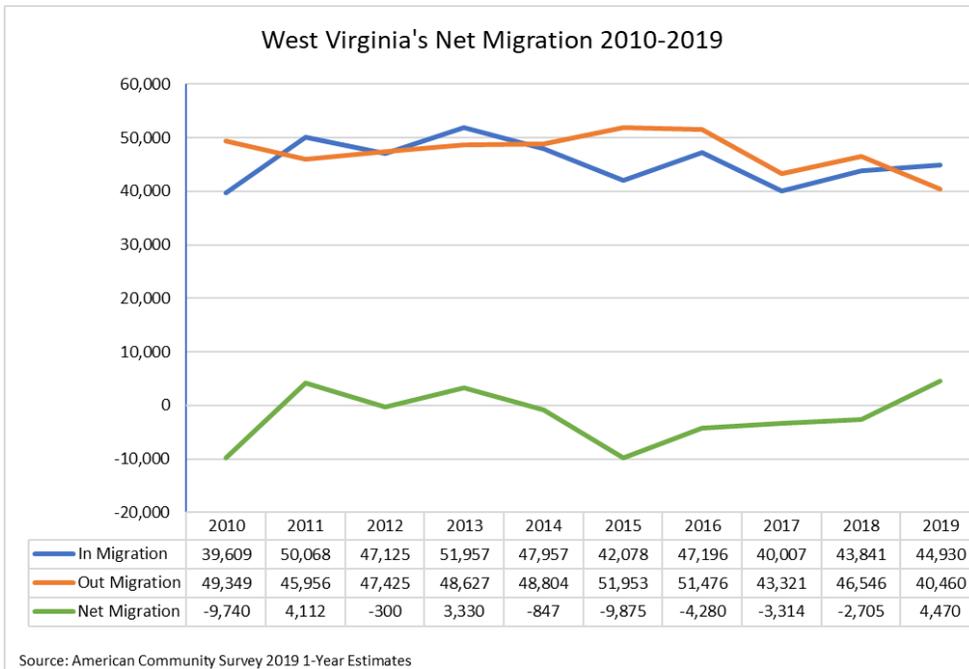
The group containing those 65 to 74 years of age is estimated at 208,258, with a labor force participation rate of 19.2 percent. The employment to population ratio is 18.7 percent, and the unemployment rate is 2.7 percent, tied with the age group of 75 and older for the lowest unemployment rate among all the age groups.

The number of West Virginia residents aged 75 and over is estimated at 143,856. The labor force participation rate is 5.5 percent, and the employment to population ratio is 5.4 percent. The unemployment rate is 2.7 percent.

## West Virginia's Net Migration



Between 2010 and 2019, West Virginia experienced an increase of 5,321 in in migration and a decline of 8,889 in out migration. In 2019, in migration (44,930) was greater than out migration (40,460), by a difference of 4,470. This has not occurred since 2013.



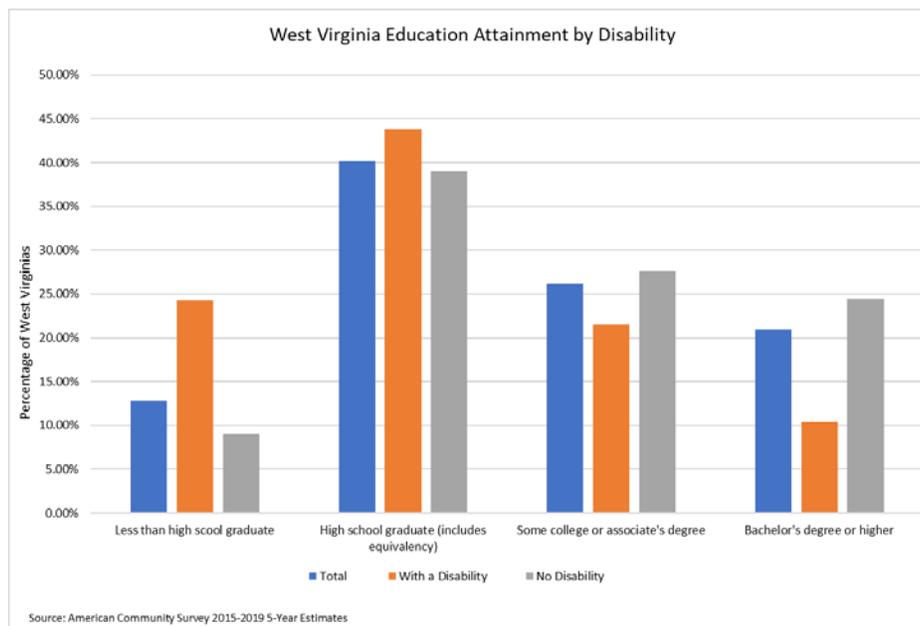
The age group of 25 to 29 year olds experienced the greatest out migration (7,216), followed by the group of those 20 to 24 years of age (6,280). It appears that many West Virginia residents leave the state to seek employment after completing their education.

## Disability

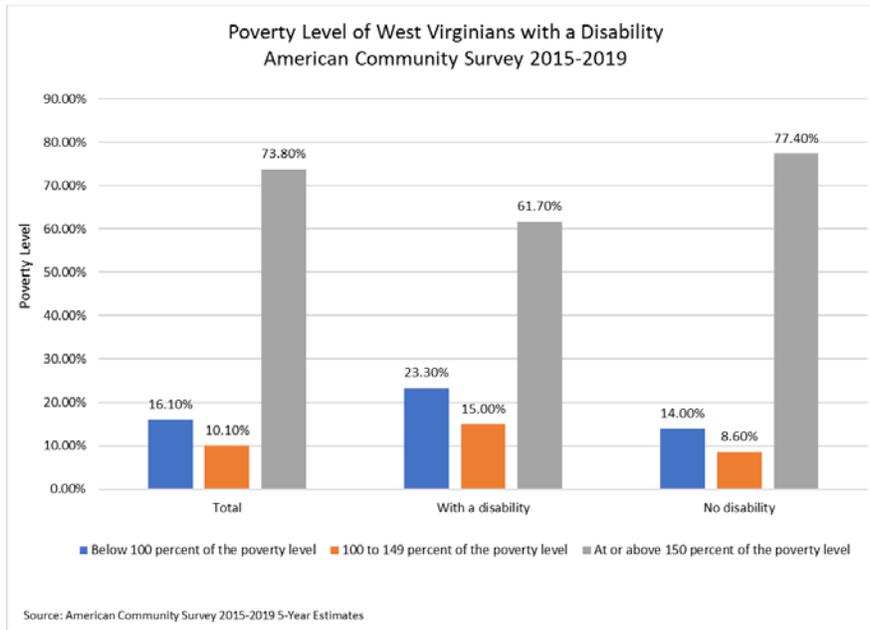
According to the U.S. Census Bureau's 2019 American Community Survey, West Virginia's total civilian noninstitutionalized population 16 years of age and older is estimated at 1,463,067, with 331,409 having a disability and 1,131,658 having no disability. Of this total noninstitutionalized population, 50.6 percent are employed. The percentage of those with some form of disability who are employed is 18.1 percent. The percentage of those with no disability who are employed is estimated to be 60.2 percent.

The percent of the total civilian noninstitutionalized population not in the labor force is estimated at 45.8 percent. The percentage of those with some form of disability who are not in the labor force is 79.4 percent. The employed population 16 and over is estimated to be 740,908. Of this number, 59,991 are estimated to have a disability, while 680,917 are estimated as having no disability.

The total number of West Virginians 25 years of age and older is 1,261,483, with 315,418 having a disability and 946,065 having no disability. The number of West Virginians 25 and older holding less than a high school diploma or its equivalent is approximately 12.8 percent. The percentage of West Virginians with a disability who did not graduate from high school is estimated at 24.3 percent.



Those state residents 25 years of age and older with a high school diploma, GED, or alternative are estimated at 40.2 percent. An estimated 43.8 percent of residents with a disability are contained in this group. The percent of the population 25 and over with some college or an Associate's degree is approximately 26.1 percent. An estimated 21.5 percent of residents with some college or an associate degree also has a disability. The portion of the population 25 and older who hold a Bachelor's degree or higher is 20.9 percent. An estimated 10.4 percent of West Virginians with a disability are contained within this group.



The West Virginia population 16 years of age and older for whom the poverty status is determined during the 2019 survey is estimated to be 1,447,012, with 330,557 estimated to have a disability and 1,116,455 having no disability. Approximately 16.1 percent of this total civilian noninstitutionalized population is below 100 percent of the poverty level. An estimated 23.3 percent in this group report a disability. Those West Virginians at 100 to 149 percent of the poverty level registered at 10.1 percent. An estimated 15.0 percent within this group report a disability. Persons at or above 150 percent of the poverty level are estimated at 73.8 percent. An estimated 61.7 percent of persons reporting a disability are contained within this category.

## Sex and Race

| <b>West Virginia Population by Sex and Race</b>  |                       |                      |                        |
|--|-----------------------|----------------------|------------------------|
| Race   | Total<br>(Ages 20-64) | Male<br>(Ages 20-64) | Female<br>(Ages 20-64) |
| White Alone                                      | 979,397               | 487,116              | 492,281                |
| Black or African American alone                  | 42,021                | 24,508               | 17,513                 |
| American Indian and Alaska Native alone          | 2,471                 | 1,108                | 1,363                  |
| Asian alone                                      | 10,001                | 4,671                | 5,330                  |
| Native Hawaiian and Other Pacific Islander alone | 296                   | 46                   | 250                    |
| Some other race alone                            | 4,615                 | 2,838                | 1,777                  |
| Two or more races                                | 12,222                | 6,088                | 6,134                  |
| <b>Total</b>                                     | <b>1,051,023</b>      | <b>526,375</b>       | <b>524,648</b>         |

Source: American Community Survey 2015-2019 5-Year Estimates

West Virginia's population of residents 20 to 64 years of age is approximately 1,051,023, with an estimated 68.1 percent in the labor force. The employment to population ratio for this group is 63.8 percent. The estimated unemployment rate for those aged 20 through 64 is 6.2 percent.

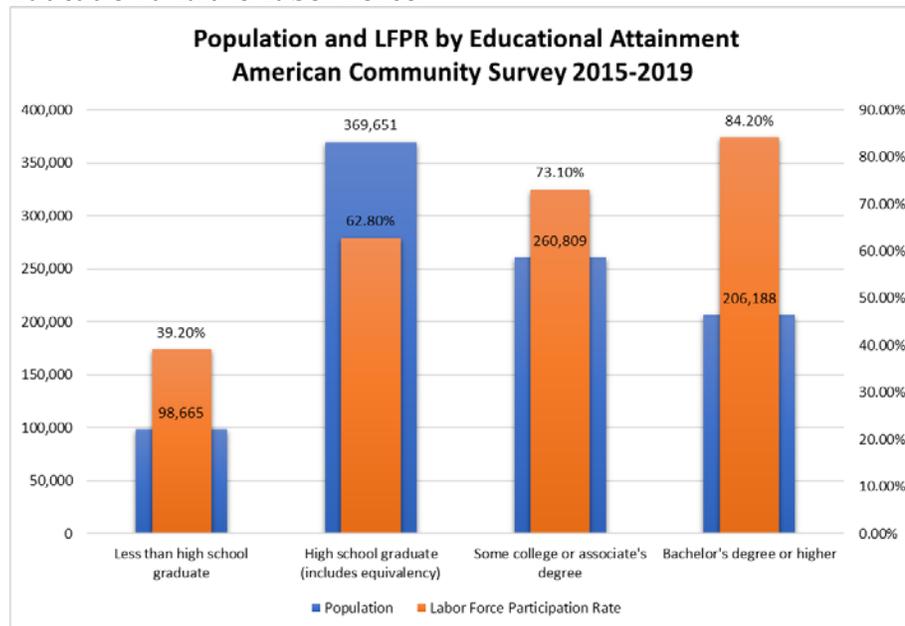
The population of those aged 20 to 64 years broken out by sex is 526,375 males and 524,648 females. It is estimated that 72.4 percent of males are in the labor force, while 63.8 percent of females are in the labor force. The employment to population ratio for males aged 20 through 64 is 67.2 percent and 60.4 percent for females. The estimated unemployment rate for males is 6.9 percent and 5.4 percent for females.

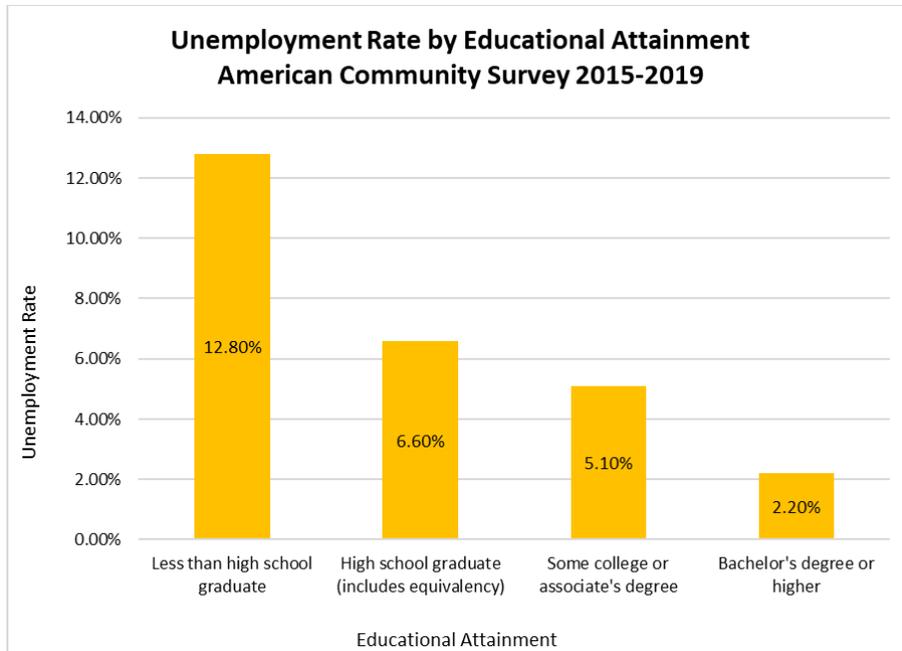
West Virginia's population 16 years and over broken out by race and Hispanic or Latino origin stood at 1,491,316 during the 2015-2019 estimate period. Of this total, 1,396,967 are White alone, 54,975 are Black or African American alone, 3,318 are American Indian and Alaskan native alone, 12,380 are Asian alone, 387 are Native Hawaiian and other Pacific Islander alone, 5,756 are some other race alone, and 17,533 are two or more races. The total of Hispanic or Latino origin of any race stood at 20,294, and White alone, not Hispanic or Latino stood at 1,382,818.

### Race and the Labor Force

Data by race for West Virginia's labor force are as follows: 53.2 percent of the White alone population is in the labor force, with an unemployment rate of 6.4 percent. 53.5 percent of the Black or African American alone population is in the labor force, with an unemployment rate of 10.5 percent. 64.0 percent of the Asian alone population is in the labor force, with an unemployment rate of 3.6 percent. 43.6 percent of the American Indian and Alaska Native alone population is in the labor force, with an unemployment rate of 9.3 percent. 52.2 percent of the Native Hawaiian and Other Pacific Islander alone population is in the labor force with an unemployment rate of 45.5 percent. 59.2 percent of Hispanic or Latino origin (of any race) is in the labor force, with an unemployment rate of 4.6 percent. 56.4 percent of some other race alone population is in the labor force, with an unemployment rate of 5.5 percent. 51.1 percent of two or more races population is in the labor force, with an unemployment rate of 10.6 percent.

### Education and the Labor Force





Per the American Community Survey 5-Year Estimates (2015-2019), the total number of West Virginians ages 25-64 is 935,313. The estimated number who did not graduate from high school is 98,665 (10.5%) with 39.2% in the labor force, and an unemployment rate of 12.8 percent. This group exhibits the lowest amount of employment among the categories of educational attainment.

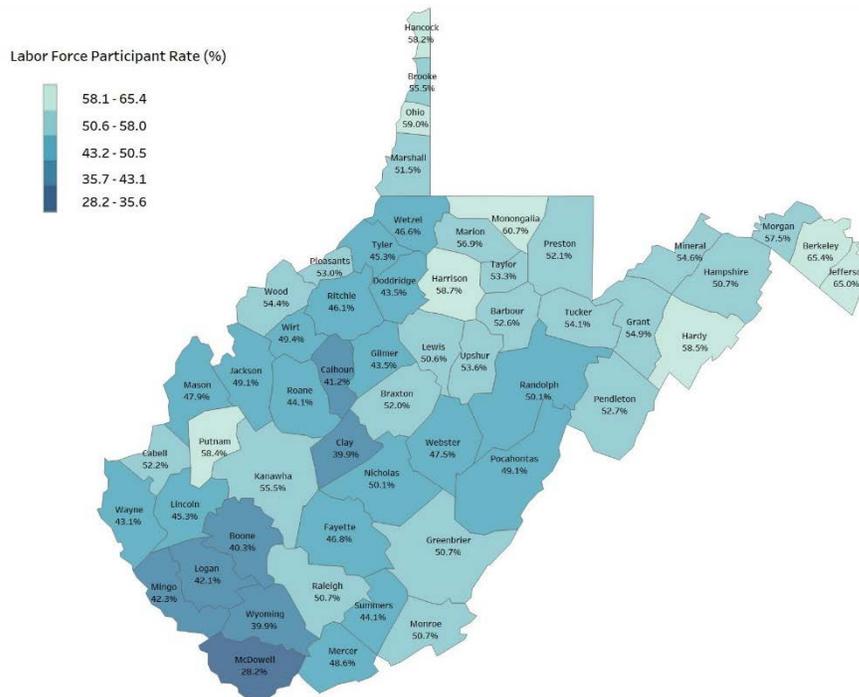
Those with a high school or equivalent education number 369,651, with 62.8% in the labor force and an unemployment rate of 6.6 percent. Those with some college or an associate's degree number 260,809, with 73.1 percent in the labor force and an unemployment rate of 5.1 percent. Those with a Bachelor's degree or higher number 206,188, with 84.2% in the labor force and an unemployment rate of 2.2 percent.

### Population Forecast\*

West Virginia's overall population is expected to decline at a rate of 0.2 percent a year through 2026. Regionally, it is anticipated that the most significant population decreases will occur primarily in west central and southwestern West Virginia, while portions of the Eastern Panhandle and northeastern West Virginia are expected to grow. Correspondingly, the greatest employment gains are expected in the regions experiencing population growth.

\*WVU BBER

## Labor Force



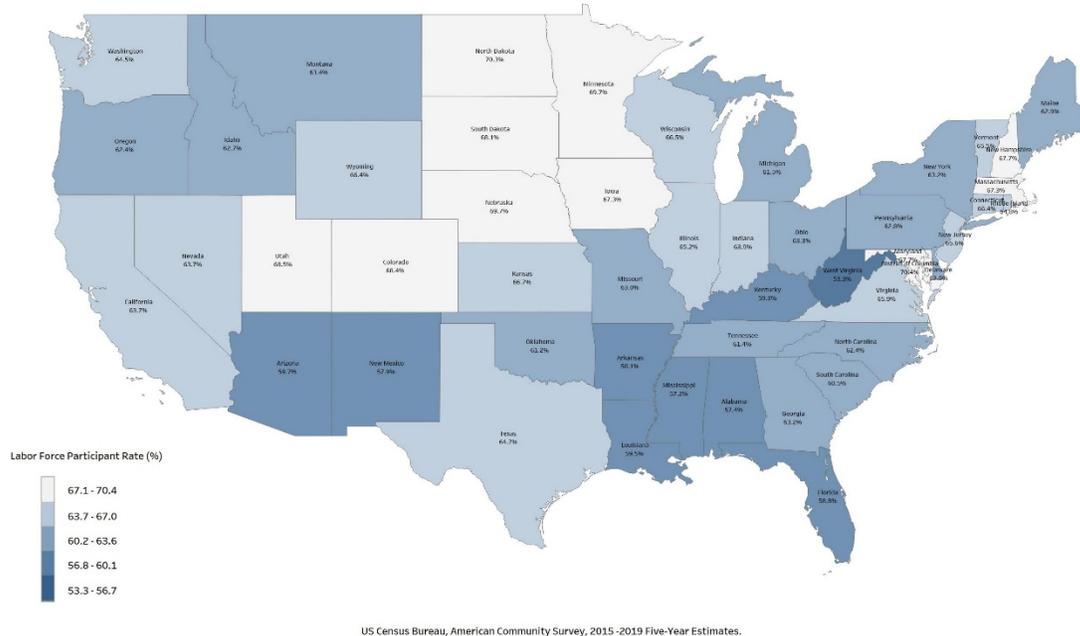
US Census Bureau, American Community Survey, 2015-2019 Five-Year Estimates.

The labor force participation rate (LFPR) in West Virginia registered at 53.3 percent in 2019, the lowest in the nation. The national labor force participation rate stood at 63.4 percent.

Less than one-half (41.8%) of West Virginia counties recorded a labor force participation rate less than 50.0 percent during the 2015-2019 period. Several of these counties are located in the southern

coalfields of West Virginia (Workforce Development Regions 1 & 2.) McDowell County recorded a labor force participation rate of 28.2 percent, the lowest in the state. Other southern counties with a labor force participation rate less than 50 percent included Wyoming (39.9%), Boone (40.3%), Logan (42.1%), Mingo (42.3%), Wayne (43.1%), Summers (44.1%), Lincoln (45.3%), Fayette (46.8%), and Mercer (48.6%).

Three counties in the state recorded a labor force participation rate greater than 60.0 percent. Monongalia County recorded a labor force participation rate of 60.7 percent, while Berkeley (65.4%) and Jefferson (65.0%) recorded labor force participation rates greater than that of the United States (63.4%).



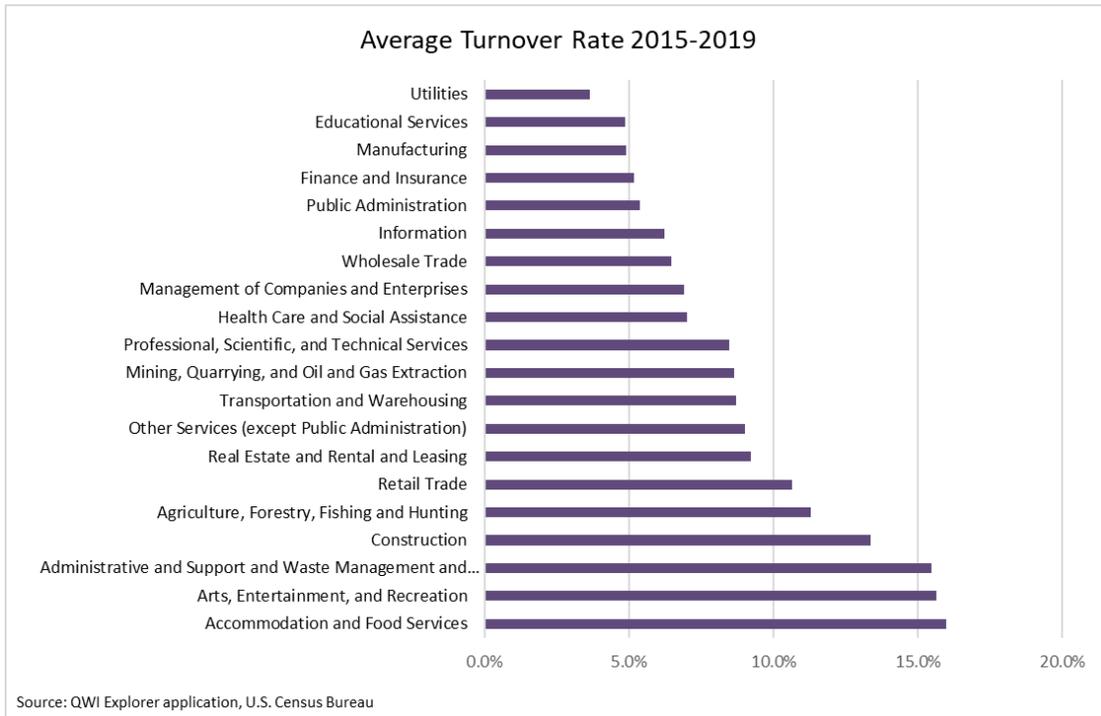
US Census Bureau, American Community Survey, 2015-2019 Five-Year Estimates.

According to the Bureau of Labor Statistics, the U.S. labor force is projected to increase by 8.9 million, from 160.7 million people in 2020 to 169.6 million people in 2030. Several factors, including population decline, uncertainty around population migration patterns in the coming decade, and an aging workforce continue to affect the state’s projected labor force as well. Workforce-related factors include the discouraged worker effect, health-related limitations, and retirement.

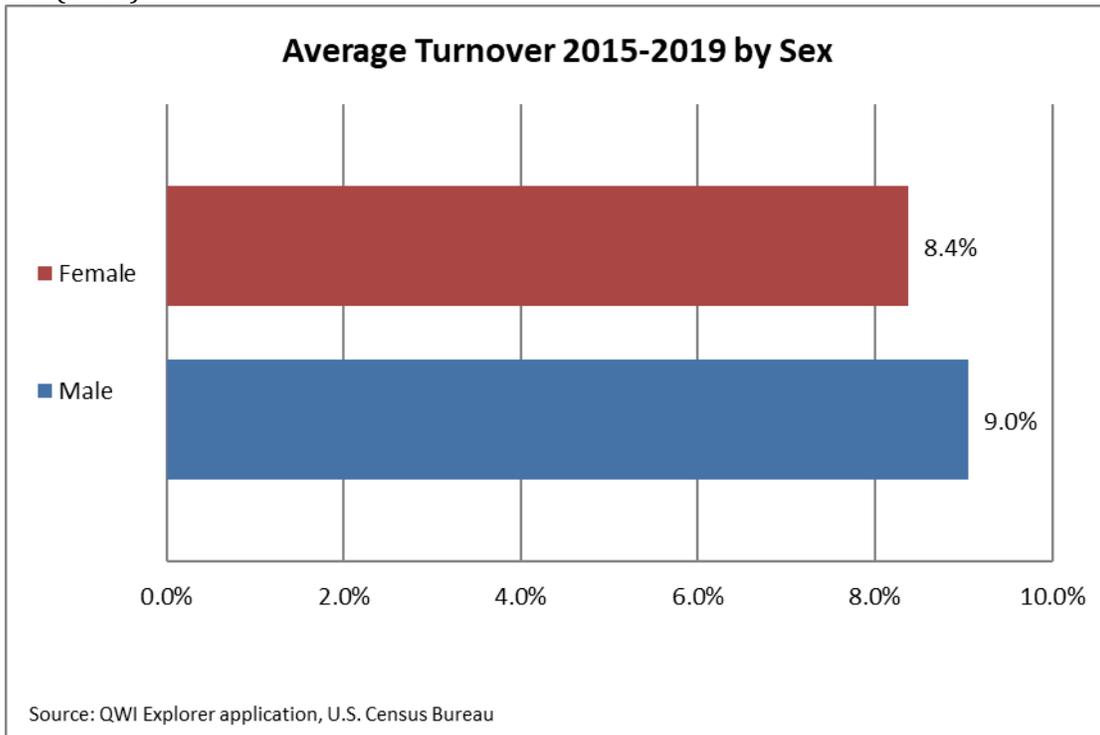
Turnover rates are another important aspect to consider in reviewing employment trends. Turnover rates can vary by industry and by a variety of demographic characteristics, such as education, race, sex, and age. In West Virginia, between 2015 and 2019 industry sectors with the highest average turnover rates included Accommodation and Food Services; Arts, Entertainment, and Recreation; Administrative and Support and Waste Management and Remediation Services; Construction; and Agriculture, Forestry, Fishing, and Hunting. Sectors with the lowest turnover rates included Utilities, Educational Services, Manufacturing, Finance and Insurance, and Public Administration. High turnover rates in industry sectors can indicate a number of possibilities, including, but not limited to, seasonality, short business cycles, part-time employment status, employee dissatisfaction, low wages, and health risks.

**Figure 14: Average Turnover Rates 2015-2019.**

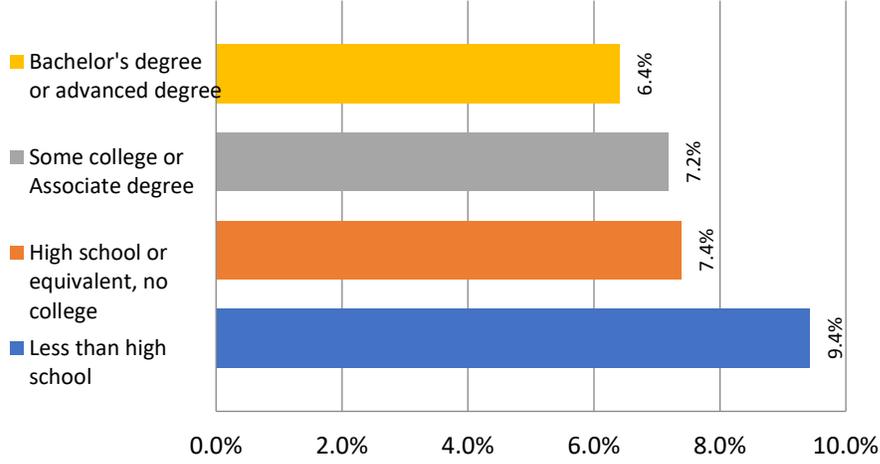
(Bar Graph reveals a list of industries ranked from lowest to highest turnover rates for the period 2015-2019.)



Between 2015 and 2019, turnover rates were higher among males (9.0%) compared with females (8.4%).



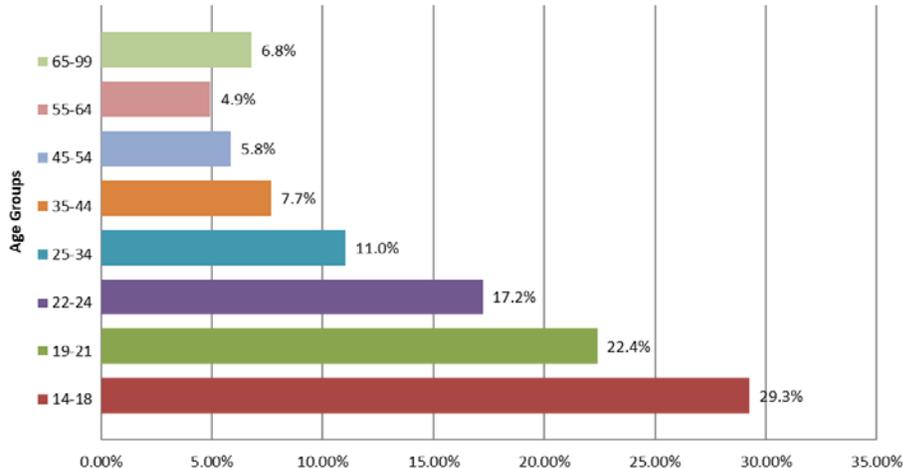
## West Virginia Turnover Rate by Education Level 2015-2019



Source: QWI Explorer application, U.S.

Regarding race, turnover rates were lowest among Whites (8.5%) and Asians (9.6%); The highest turnover rate was among Two or More Races (13.9%), followed by Native Hawaiian or Other Pacific Islander (13.8%), American Indian or Alaskan Native (13.3%), and Black or African-American (12.6%).

## Average Turnover Rate 2015-2019 by Age



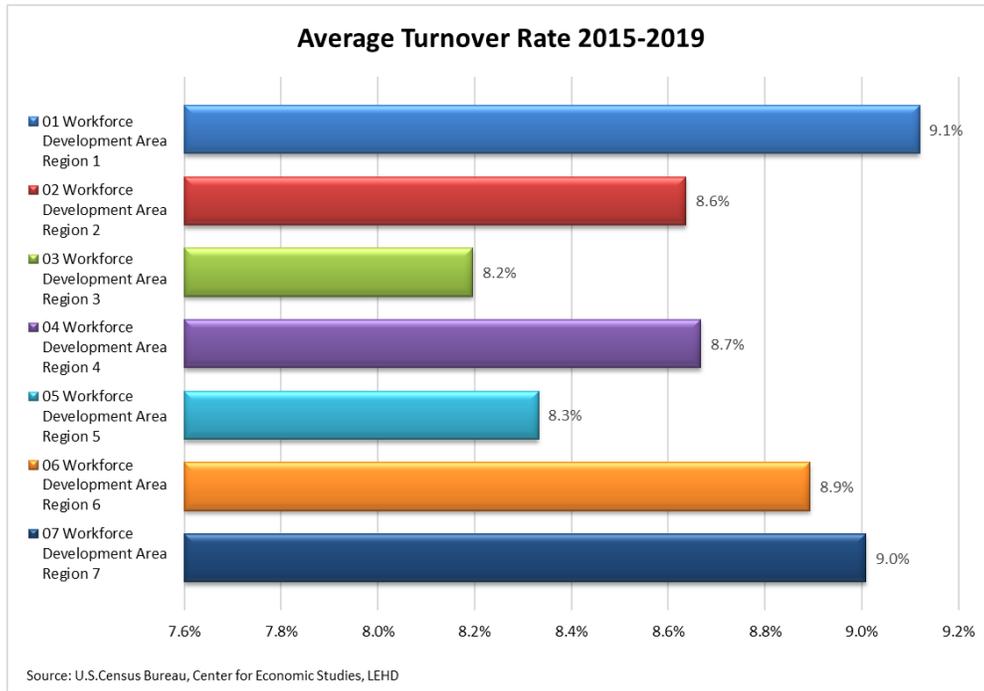
Source: QWI Explorer application, U.S. Census Bureau

Turnover rates were highest among the age group of 14-18 years of age (29.3%), followed by the age group 19-21 (22.4%), and age group 22-24 (17.2%). Turnover rates were lowest for the age group 55-64 years of age (4.9%).

Also, higher levels of education correspond with lower rates of job turnover, where between 2015 and 2019, the average turnover rate of those with less than a high school diploma was 9.4 percent compared with 6.4 percent for those with a Bachelor's degree or advanced degree.

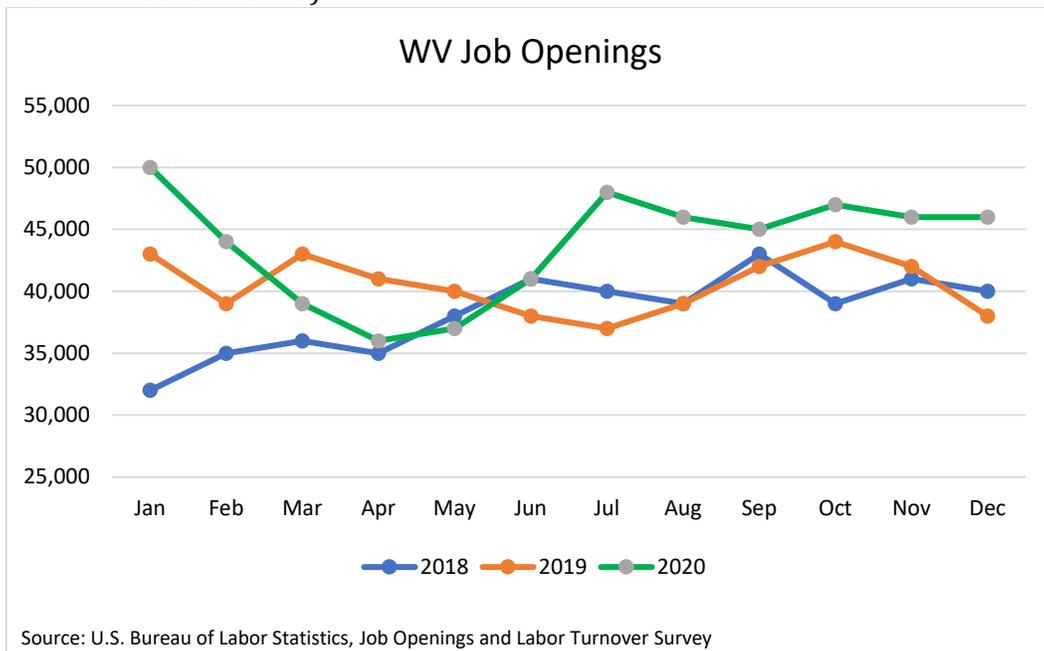
From a regional perspective, overall employment turnover rates from 2015 through 2019 ranged from 9.1 percent in Workforce Development Region 1, to 8.2 percent in Workforce Development Region 3.

**Figure 15: Average Turnover Rates for WIOA Regions 2015-2019.**  
 (Bar Graph reflects turnover rates for the seven WIOA regions for the years 2015-2019.)

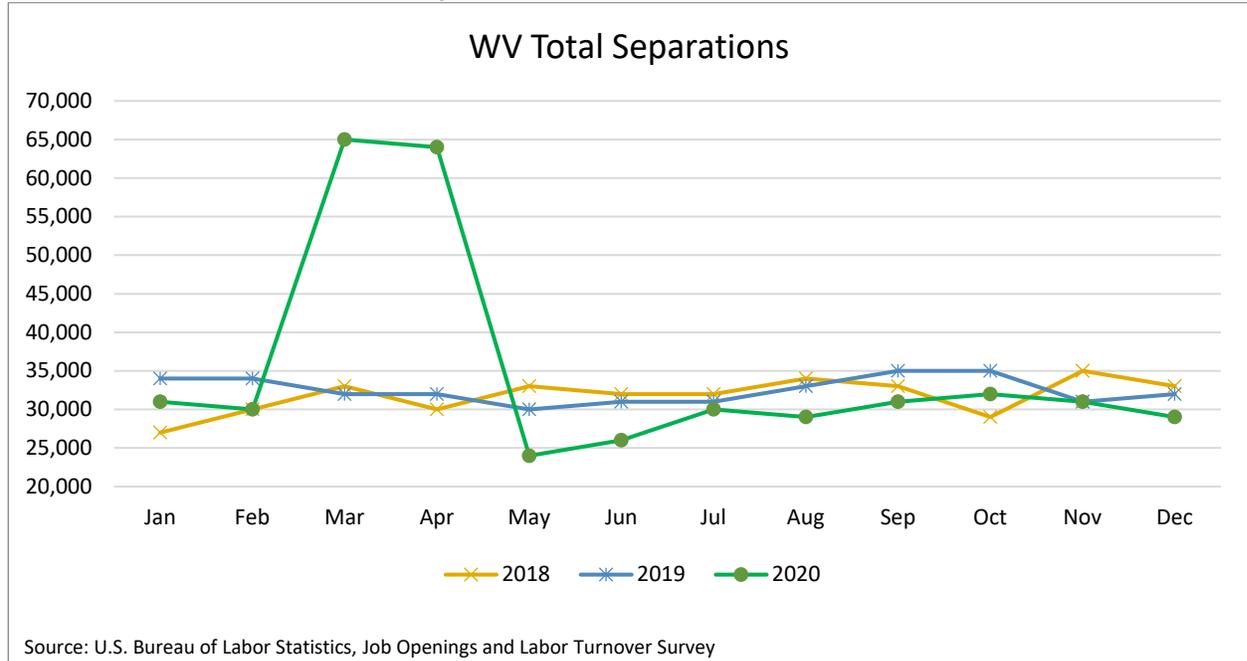


**JOLTS Data**

**Figure 16: West Virginia Job Openings 2018-2020.**  
 (Graph reflects job openings from the Job Openings and Labor Turnover Survey conducted by the U. S. Bureau of Labor Statistics.)



**Figure 17:** West Virginia Total Separations 2018-2020.  
 (Graph reflects total separations from the Job Openings and Labor Turnover Survey conducted by the U. S. Bureau of Labor Statistics.)



The U.S. Bureau of Labor Statistics publishes monthly data on Total, Separations, Job Openings, and Quits, among other topics. This JOLTS (Job Openings and Labor Turnover Survey) data show job openings in West Virginia climbing in 2020, as employers seek to fill positions which became vacant during the COVID-19 pandemic. (Figure 16) Total Separations spiked in March of 2020 due to the onset of the pandemic, but recovered in May, falling below the number of separations during the two previous years. Additional data on this topic can be found at <https://data.bls.gov>

## Occupations

Among the seven Workforce Development Regions in West Virginia, occupations anticipating the greatest annual growth rates between 2018 and 2028 are largely healthcare and social services related. This trend can be attributed to the state’s aging population, the opioid epidemic, and the state’s high concentration of health issues including obesity, diabetes, heart disease, and tobacco use. Fortunately, many of these in-demand health care occupations require less extensive education or on-the-job training, such as an Associate’s degree for a Registered Nurse.

## Workforce Development Region 1 Occupational Employment Projections 2018-2028

| Occupational Projections 2018-2028                                 |  |
|--|--|
| Workforce Development Area 1                                       |  |
| Top 15 Occupations by Growth Rate                                  |  |
| Personal Care Aides  |  |
| Taxi Drivers and Chauffeurs  |  |
| Psychiatric Aides  |  |
| Cooks, Restaurant  |  |
| Phlebotomists  |  |
| Medical and Health Services Managers                               |  |
| Combined Food Preparation and Serving Workers, Including Fast Food |  |
| Medical Assistants   |  |
| Registered Nurses  |  |
| Fitness Trainers and Aerobics Instructors                          |  |
| Security Guards  |  |
| Landscaping and Groundskeeping Workers                             |  |
| Medical Secretaries  |  |
| First-Line Supervisors of Housekeeping and Janitorial Workers      |  |
| Billing and Posting Clerks   |  |

Three of the top five occupations with the greatest projected annual growth rate within WDR 1 are healthcare related and require only a small amount of training. These occupations are Personal Care Aides, Psychiatric Aides, and Phlebotomist. Other medical occupations making the list include Registered Nurses (requiring at least an Associate's degree), Medical Assistants, and Medical Secretaries. The two latter occupations may require a range of education levels, from a high school diploma or equivalent to an Associate's degree.

## Workforce Development Region 2 Occupational Employment Projections 2018-2028

| Occupational Projections 2018-2028                                 |  |
|--|--|
| Workforce Development Area 2                                       |  |
| Top 15 Occupations by Growth Rate                                  |  |
| Personal Care Aides  |  |
| Rehabilitation Counselors  |  |
| Cooks, Restaurant  |  |
| Taxi Drivers and Chauffeurs  |  |
| Psychiatric Aides  |  |
| Veterinary Assistants and Laboratory Animal Caretakers             |  |
| Phlebotomists  |  |
| Medical and Health Services Managers                               |  |
| Combined Food Preparation and Serving Workers, Including Fast Food |  |
| Management Analysts  |  |
| Billing and Posting Clerks   |  |
| Medical Assistants   |  |
| Registered Nurses  |  |
| Landscaping and Groundskeeping Workers                             |  |
| First-Line Supervisors of Housekeeping and Janitorial Workers      |  |

Three of the top five occupations with the greatest projected annual growth rate within WDR 2 are health care or social services related. These include Personal Care Aides, Rehabilitation Counselors, and Psychiatric Aides. Personal Care Aides and Psychiatric Aides require very little formal education or training, while Rehabilitation Counselors can have a wide spectrum of education requirements depending upon the employer. A small number of Rehabilitation Counselors have only a high school diploma or equivalent, while just over one-half nationally have a Bachelor's degree. Other medical occupations found on the list included Registered Nurses, Phlebotomists, and Medical Assistants, occupations that have education and training requirements ranging from basic post-secondary training to an Associate's degree.

## Workforce Development Region 3 Occupational Employment Projections 2018-2028

| Occupational Projections 2018-2028  |  |
|---|--|
| Workforce Development Area 3  |  |
| Top 15 Occupations by Growth Rate   |  |
| Personal Care Aides   |  |
| Taxi Drivers and Chauffeurs   |  |
| Cooks, Restaurant   |  |
| Phlebotomists   |  |
| Psychiatric Technicians   |  |
| Medical Assistants  |  |
| Combined Food Preparation and Serving Workers, Including Fast Food        |  |
| Medical and Health Services Managers                                      |  |
| Management Analysts   |  |
| Registered Nurses   |  |
| First-Line Supervisors of Housekeeping and Janitorial Workers             |  |
| Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers |  |
| Security Guards   |  |
| Financial Managers  |  |
| Janitors and Cleaners, Except Maids and Housekeeping Cleaners             |  |

Three of the top five occupations with the greatest growth rate in WDR 3 are healthcare related. These included Personal Care Aides, Phlebotomists, and Psychiatric Technicians. These three occupations require limited training, which may range from a high school diploma or equivalent to more formalized training for a phlebotomist. Other medical occupations projected to have a higher growth rate include Medical Assistants (vocational training to Associate's degree), Medical and Health Services Managers, and Registered Nurses (requiring an Associate's degree through advanced post-graduate work)

## Workforce Development Region 4 Occupational Employment Projections 2018-2028

| Occupational Projections 2018-2028                                 |  |
|--|--|
| Workforce Development Area 4                                       |  |
| Top 15 Occupations by Growth Rate                                  |  |
| Personal Care Aides  |  |
| Home Health Aides  |  |
| Cooks, Restaurant  |  |
| Management Analysts  |  |
| Helpers--Production Workers  |  |
| Combined Food Preparation and Serving Workers, Including Fast Food |  |
| Medical Assistants   |  |
| Registered Nurses  |  |
| Landscaping and Groundskeeping Workers                             |  |
| Industrial Machinery Mechanics                                     |  |
| Janitors and Cleaners, Except Maids and Housekeeping Cleaners      |  |
| Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop           |  |
| Food Preparation Workers   |  |
| Nursing Assistants   |  |
| Licensed Practical and Licensed Vocational Nurses                  |  |

The top five occupations with the greatest projected annual growth in WDR 4 include Personal Care Aides, Home Health Aides, Restaurant Cooks, Management Analysts, and Helpers-Production Workers. Most of these occupations require little formalized education or training. However, Management Analysts require a more advanced training, ranging from post-baccalaureate certificate through a Master's degree. There are several medical occupations contained on the list, including Medical Assistants, Registered Nurses, Nursing Assistants, and Licensed Practical and Licensed Vocational Nurses, with educational requirements ranging from simple on the job training through an advanced degree.

## Workforce Development Region 5 Occupational Employment Projections 2018-2028

| Occupational Projections 2018-2028                                 |
|--|
| Workforce Development Area 5                                       |
| Top 15 Occupations by Growth Rate                                  |
| Personal Care Aides  |
| Taxi Drivers and Chauffeurs  |
| Cooks, Restaurant  |
| Rehabilitation Counselors  |
| Medical Assistants   |
| Combined Food Preparation and Serving Workers, Including Fast Food |
| Registered Nurses  |
| Weighers, Measurers, Checkers, and Samplers, Recordkeeping         |
| Residential Advisors   |
| Billing and Posting Clerks   |
| Janitors and Cleaners, Except Maids and Housekeeping Cleaners      |
| Food Service Managers  |
| Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop           |
| Nursing Assistants   |
| Chemical Equipment Operators and Tenders                           |

Three of the top five occupations with the greatest projected annual growth rate within WDR 5 are healthcare/social services related. These include Personal Care Aides, Rehabilitation Counselors, and Medical Assistants, requiring a range of education and training, from a high school diploma and on-the-job training through a Master's degree in some cases. Two of the higher wage occupations on this list are Registered Nurses and Chemical Equipment Operators and Tenders, with a high school diploma and advanced on the job training for a Chemical Equipment Operator and Tender. Registered Nurses require at least an Associate's degree.

## Workforce Development Region 6 Occupational Employment Projections 2018-2028

| Occupational Projections 2018-2028                                 |
|--|
| Workforce Development Area 6                                       |
| Top 15 Occupations by Growth Rate                                  |
| Personal Care Aides  |
| Software Developers, Applications                                  |
| Taxi Drivers and Chauffeurs  |
| Home Health Aides  |
| Market Research Analysts and Marketing Specialists                 |
| Rehabilitation Counselors  |
| Cooks, Restaurant  |
| Financial Managers   |
| Physical Therapists  |
| Psychiatric Technicians  |
| Phlebotomists  |
| Medical Assistants   |
| Veterinary Assistants and Laboratory Animal Caretakers             |
| Combined Food Preparation and Serving Workers, Including Fast Food |
| Computer Systems Analysts  |

Several healthcare-related occupations in WDR 6 have a high growth rate. These include Personal Care Aides, Home Health Aides, Physical Therapists, Psychiatric Technicians, Phlebotomists, and Medical Assistants. Education and training for these occupations range from a high school diploma and simple on-the-job training to an advanced degree and specialized medical training. Some of the higher wage occupations on this list include Software Developers, Applications; Computer Systems Analysts, and Financial Managers. Most employers require at least a Bachelor's degree for these occupations, although not all do.

## Workforce Development Region 7 Occupational Employment Projections 2018-2028

| Occupational Projections 2018-2028   |  |
|--|--|
| Workforce Development Area 7   |  |
| Top 15 Occupations by Growth Rate  |  |
| Personal Care Aides  |  |
| Software Developers, Applications  |  |
| Rehabilitation Counselors  |  |
| Cooks, Restaurant  |  |
| Industrial Machinery Mechanics   |  |
| Medical Assistants   |  |
| Combined Food Preparation and Serving Workers, Including Fast Food                         |  |
| Laborers and Freight, Stock, and Material Movers, Hand                                     |  |
| Management Analysts  |  |
| First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators |  |
| Registered Nurses  |  |
| Heavy and Tractor-Trailer Truck Drivers  |  |
| Landscaping and Groundskeeping Workers   |  |
| Social and Human Service Assistants  |  |
| Electricians   |  |

The top five occupations with the greatest projected annual growth rate in WDR 7 include Personal Care Aides; Software Developers, Applications; Rehabilitation Counselors; Restaurant Cooks; and Industrial Machinery Mechanics. Education requirements for these occupations range from a high school diploma and simple on-the-job training for a Personal Care Aide and Restaurant Cook to extensive on-the-job training for Industrial Machinery Mechanics, to a Master's degree for some Rehabilitation Counselors. Some additional high growth rate/high wage occupations include Registered Nurses, Heavy and Tractor-Trailer Truck drivers, and Electricians., all requiring vocational training, certification, or at least an Associate's degree.

**Education and Skill Levels of the Workforce. Provide an analysis of the educational and skill levels of the workforce.**

**Education**

| <b>Percent of Population Age 25 Years or Older With a Bachelor's Degree or Higher</b> |                |                      |                |
|---|----------------|----------------------|----------------|
| <b>State</b>  | <b>Percent</b> | <b>State</b>         | <b>Percent</b> |
| West Virginia   | 22.0           | Georgia              | 32.7           |
| Mississippi   | 22.5           | Montana              | 32.7           |
| Arkansas  | 24.0           | North Carolina       | 32.9           |
| Nevada  | 24.3           | Delaware             | 33.1           |
| Louisiana   | 24.9           | Hawaii               | 33.7           |
| Kentucky  | 25.6           | Nebraska             | 34.0           |
| Oklahoma  | 26.0           | Pennsylvania         | 34.1           |
| New Mexico  | 26.2           | Utah                 | 34.5           |
| Alabama   | 26.5           | Oregon               | 34.5           |
| Wyoming   | 27.4           | California           | 34.6           |
| Idaho   | 28.0           | Kansas               | 35.0           |
| Indiana   | 28.1           | Rhode Island         | 35.9           |
| South Carolina  | 28.8           | Washington           | 36.8           |
| Tennessee   | 28.9           | Illinois             | 37.0           |
| Alaska  | 29.3           | New Hampshire        | 38.2           |
| Arizona   | 29.5           | Minnesota            | 38.3           |
| South Dakota  | 30.2           | Vermont              | 38.8           |
| Ohio  | 30.2           | New York             | 38.9           |
| Florida   | 30.4           | Virginia             | 40.7           |
| Michigan  | 30.6           | Connecticut          | 41.3           |
| Texas   | 30.7           | Colorado             | 41.7           |
| Iowa  | 30.8           | Maryland             | 41.7           |
| Missouri  | 31.2           | New Jersey           | 42.4           |
| Wisconsin   | 32.0           | Massachusetts        | 46.4           |
| Maine   | 32.3           | District of Columbia | 61.5           |
| North Dakota  | 32.4           |                      |                |
|   |                |                      |                |
| United States   | 33.5           |                      |                |
| Source: US Census Bureau, ACS 2015-2019 5-year estimates                              |                |                      |                |

Over the coming decade, West Virginia's job market will continue its demand for jobs that require postsecondary education. Presently, based on 2019 data from the U.S. Census Bureau's American Community Survey (ACS), West Virginia ranks last in percent of population age 25 years or older with a Bachelor's degree or higher. As of 2019, 22.0 percent of West Virginians 25 and older have a Bachelor's degree or better compared to 33.5 percent nationally.

Based on WorkForce West Virginia’s employment projections (2018 - 2028), it is expected that occupations requiring a Bachelor’s degree or higher will increase 10,527 (Figure A). While projected growth in occupations through 2028 is weighted towards jobs requiring a high school diploma or equivalent, growth in occupations requiring postsecondary education is not far behind. Figures C and D show poverty rates among West Virginians dramatically declining and wages increasing as education levels increase. Occupations requiring a high school diploma or equivalent are anticipated to grow by only 10,168, while jobs requiring formal education beyond high school will increase by 19,039.

**Figure A: Projections by Level of Education**  
(Figure A shows employment projections based on eight education levels for the year 2028.)

| 2018 - 2028 Occupational Projections by Level of Education |                 |                     |                      |                     |
|--|-----------------|---------------------|----------------------|---------------------|
| Education Level  | 2018 Employment | 2018 % of Workforce | 2028                 |                     |
|  |                 |                     | Projected Employment | 2028 % of Workforce |
| No formal educational credential                           | 180,281         | 24.5%               | 190,113              | 24.5%               |
| High school diploma or equivalent                          | 301,691         | 41.0%               | 311,859              | 40.3%               |
| Some college, no degree                                    | 14,667          | 2.0%                | 14,728               | 1.9%                |
| Postsecondary non-degree award                             | 55,377          | 7.5%                | 59,057               | 7.6%                |
| Associate's degree   | 19,060          | 2.6%                | 20,646               | 2.7%                |
| Bachelor's degree  | 131,131         | 17.8%               | 141,658              | 18.3%               |
| Master's degree  | 13,317          | 1.8%                | 15,016               | 1.9%                |
| Doctoral or professional degree                            | 19,948          | 2.7%                | 21,434               | 2.8%                |
| <b>Total</b>   | <b>735,472</b>  |                     | <b>774,511</b>       |                     |

Beyond formal secondary and postsecondary education, some occupations require additional on-the-job training. The greatest growth through 2028 is expected for jobs requiring short-term on-the-job training (14,999). Figure B depicts the expected change by job training between 2018 and 2028. For most other categories, the relative share of employment is expected to change only slightly.

**Figure B: Projections by Training**  
(Figure B shows projected employment based on six levels of job training for the year 2028.)

| 2018 - 2028 Occupational Projections by Level of Training |                 |                     |                      |                     |
|---|-----------------|---------------------|----------------------|---------------------|
| Training Level  | 2018 Employment | 2018 % of Workforce | 2028                 |                     |
|   |                 |                     | Projected Employment | 2028 % of Workforce |
| Not Applicable/Not Available                              | 250,425         | 34.0%               | 268,723              | 34.7%               |
| Short-term on-the-job training                            | 312,654         | 42.5%               | 327,653              | 42.3%               |
| Moderate-term on-the-job training                         | 126,178         | 17.2%               | 129,777              | 16.8%               |
| Long-term on-the-job training                             | 25,768          | 3.5%                | 26,332               | 3.4%                |
| Apprenticeship  | 11,874          | 1.6%                | 12,586               | 1.6%                |
| Internship/residency                                      | 8,573           | 1.2%                | 9,440                | 1.2%                |
| <b>Total</b>  | <b>735,472</b>  |                     | <b>774,511</b>       |                     |

Education attainment scales with both poverty status and median annual earnings. As education levels increase, earnings increase, and, consequently, poverty decreases. In Figure C, data from the U.S. Census Bureau depict the relative poverty levels by education attainment. Poverty rates are higher for females than for males in every category, although the gap closes considerably for individuals with a Bachelor's degree or higher.

**Figure C:** Poverty Rate by Education Level

(Figure C depicts the poverty rate for West Virginians broken out by sex and four levels of education.)

| <b>West Virginia Poverty Rate by Education Level</b> |              |             |               |
|--|--------------|-------------|---------------|
| <b>Education Level</b>                               | <b>Total</b> | <b>Male</b> | <b>Female</b> |
| Less than high school graduate                       | 29.9%        | 27.4%       | 32.6%         |
| High school graduate (includes equivalency)          | 15.9%        | 13.3%       | 18.6%         |
| Some college or associate's degree                   | 12.1%        | 9.3%        | 14.3%         |
| Bachelor's degree or higher                          | 4.5%         | 4.2%        | 4.8%          |

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Similarities can be observed when comparing median annual earnings by educational attainment (Figure D). Again, higher levels of education correlate to higher levels of earnings, with females earning comparatively less in all categories.

**Figure D:** Median Annual Earnings by Education Level (Figure D depicts median annual earnings for West Virginians broken out by sex and levels of education.)

| <b>West Virginia Median Earnings by Education Level</b> |              |             |               |
|---|--------------|-------------|---------------|
| <b>Education Level</b>                                  | <b>Total</b> | <b>Male</b> | <b>Female</b> |
| Population 25 years and over with earnings              | \$34,438     | \$42,424    | \$27,777      |
| Less than high school graduate                          | \$21,292     | \$26,282    | \$15,450      |
| High school graduate (includes equivalency)             | \$29,353     | \$37,571    | \$22,263      |
| Some college or associate's degree                      | \$32,352     | \$43,719    | \$26,566      |
| Bachelor's degree                                       | \$44,906     | \$53,851    | \$39,036      |
| Graduate or professional degree                         | \$56,808     | \$71,106    | \$51,815      |

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Based on 2019 Census data, levels of employment correlate with levels of education (Figure E). The higher the level of education, the higher the level of participation in the labor force and, conversely, the lower the rate of unemployment. Individuals with less than a high school diploma had an unemployment rate (12.8%), substantially higher than that of individuals with a Bachelor's degree or higher (2.2%), more than twice the unemployment rate of individuals with only some college or an Associate's degree (5.1%), and nearly twice the unemployment rate of individuals with a high school diploma or equivalent (6.6%).

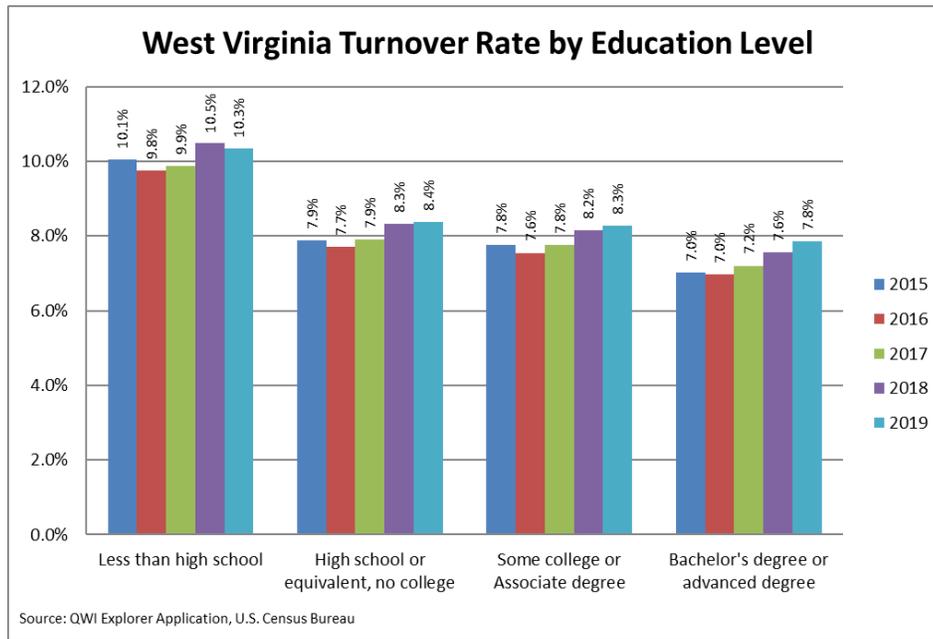
**Figure E: Employment Status by Education Level**  
 (Figure E depicts employment status of West Virginians based on educational attainment.)

| West Virginia Employment Status by Education Level |         |                                |                             |                   |
|--|---------|--------------------------------|-----------------------------|-------------------|
|  | Total   | Labor Force Participation Rate | Employment/Population Ratio | Unemployment rate |
| Less than high school graduate                     | 98,665  | 39.2%                          | 34.2%                       | 12.8%             |
| High school graduate (includes equivalency)        | 369,651 | 62.8%                          | 58.6%                       | 6.6%              |
| Some college or associate's degree                 | 260,809 | 73.1%                          | 69.1%                       | 5.1%              |
| Bachelor's degree or higher                        | 206,188 | 84.2%                          | 82.1%                       | 2.2%              |

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Also, as education levels increase, job turnover rates decrease. Using combined Census and BLS data for years 2015 through 2019, an average turnover rate was calculated (Figure F).

**Figure F: Turnover Rate by Education Level** (Figure F depicts turnover rates for West Virginians based on four levels of educational attainment.)



The education levels of West Virginians in the labor force, specifically those who were employed between 2015 and 2019 vary considerably by region of the state. During this five-year period, turnover rates for individuals with less than a high school diploma registered over nine percent each year. Turnover rates for individuals with a high school diploma or equivalent and with no college remained over seven percent during this period, climbing to 7.7 percent in 2019. Turnover rates for job holders with either some college or an Associate degree hovered around the seven percent level, climbing to 7.5 percent in 2019. Job holders with a Bachelor's degree or higher saw turnover rates hovering around the six percent level, although the rate has been steadily climbing during this period, and registered at 7.0 percent in 2019.

## Visit a Career Center.

### 1. BECKLEY

300 New River  
Town Center  
Beckley, WV 25802  
Phone: (304) 256-6796  
Fax: (304) 256-6805

### 2. GREENBRIER VALLEY

330 Red Oak  
Shopping Center, Suite 1  
Ronceverte, WV 24970  
Phone: (304) 647-7410  
Fax: (304) 647-7412

### 3. MERCER COUNTY

195 Davis St., Suite 104  
Princeton, WV 24740  
Phone: (304) 425-1896  
Fax: (304) 431-2517

### 4. SUMMERSVILLE

330 Northside Drive  
Suite 123  
Summersville, WV 26651  
Phone: (304) 872-0821  
Fax: (304) 872-0848

### 5. WELCH

110 Park Ave., Suite 300  
Welch, WV 24901  
Phone: (304) 436-2527  
Fax: (304) 436-6310

### 6. HUNTINGTON

2699 Park Ave., Suite 240  
Huntington, WV 25704  
Phone: (304) 528-5525  
Fax: (304) 528-5529

### 7. LOGAN

130 Stratton Street,  
2nd Floor  
Logan, WV 25601  
Phone: (304) 792-7010  
Fax: (304) 792-7023

### 8. CHARLESTON

1321 Plaza East  
Shopping Center  
Charleston, WV 25330  
Phone: (304) 558-0291  
Fax: (304) 558-1979

### 9. PARKERSBURG

300 Lakeview Center  
Parkersburg, WV 26101  
Phone: (304) 420-4625  
Fax: (304) 420-4615

### 10. WEIRTON

100 Municipal Plaza  
Suite 330  
Weirton, WV 26062  
Phone: (304) 794-2000  
Fax: (304) 794-2003

### 11. WHEELING

1275 Warwood Ave.  
Wheeling, WV 26003  
Phone: (304) 238-1035  
Fax: (304) 238-1034

### 12. CLARKSBURG

153 West Main Street  
Suite B  
Clarksburg, WV 26301  
Phone: (304) 627-2125  
Fax: (304) 627-2170

### 13. ELKINS

1023 North Randolph Ave.  
Elkins, WV 26241  
Phone: (304) 637-0257  
Fax: (304) 637-0263

### 14. FAIRMONT

416 Adams St., Suite 220  
Fairmont, WV 26554  
Phone: (304) 363-0654  
Fax: (304) 367-2779

### 15. MORGANTOWN

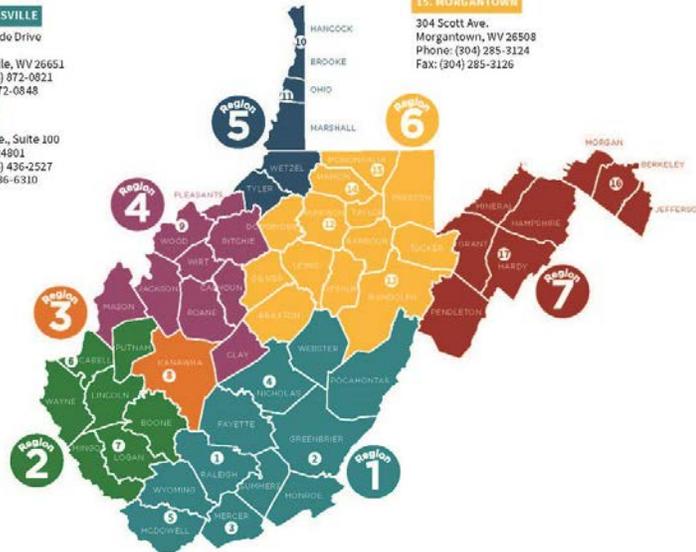
304 Scott Ave.  
Morgantown, WV 26508  
Phone: (304) 285-3124  
Fax: (304) 285-3126

### 16. MARTINSBURG

200 Viking Way  
Martinsburg, WV 25401  
Phone: (304) 267-0065  
Fax: (304) 267-0071

### 17. SOUTH BRANCH

151 Robert C Byrd  
Industrial Park Road  
Suite 1  
Moorefield, WV 26836  
Phone: (304) 538-3176  
Fax: (304) 538-3178



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(iii) Describe apparent 'skill gaps'.

The term Skills Gap, defined as “a significant mismatch between the needs of employers for skills and the current capabilities of available workforce”, has been a constant source of conversation and debate for many years. The unemployment rate is relatively high in West Virginia, and businesses have expressed concerns about finding skilled workers to fill vacancies.

### 1. Communication Skills

Communication skills are expected to have the greatest demand in West Virginia through 2022. Those specific skills are Active Listening, followed by Social Perceptiveness, Speaking, Service Orientation, and Reading Comprehension (Figure H). Active Listening may be defined as “giving full attention to what other people are saying, taking time to understand the points being made, asking questions appropriately, and not interrupting at inappropriate times”<sup>26</sup>. This simple and basic skill is necessary in many occupations, especially in healthcare and other service—related fields that require good communication and comprehension between service provider and customer. Over the next ten years, employers will need at least 452,472 employees with this skill,

while the current supply is 421,376. This means we need more than 30,000 people to acquire or develop this skill to meet the expected demand. The occupational group with the highest demand for this skill falls mostly in healthcare support occupations, with 12,000 workers, who share 38.75% of the total need.

**Figure H: Skills Gap 2012—2022**

(Figure H depicts the current and projected demand for selected skills through 2022)

Table 13: Skills Gap 2012-2022

| Skill                             | Current (2012) | Projected Demand (2012-2022) |
|-----------------------------------|----------------|------------------------------|
| Active Listening                  | 421,376        | 31,096                       |
| Social Perceptiveness             | 243,727        | 23,126                       |
| Speaking                          | 370,528        | 21,947                       |
| Service Orientation               | 226,134        | 20,974                       |
| Reading Comprehension             | 264,409        | 18,037                       |
| Critical Thinking                 | 237,638        | 17,753                       |
| Monitoring                        | 196,762        | 13,644                       |
| Writing                           | 153,770        | 13,284                       |
| Judgment and Decision Making      | 139,391        | 11,601                       |
| Coordination                      | 171,849        | 11,071                       |
| Time Management                   | 139,214        | 7,548                        |
| Complex Problem Solving           | 94,235         | 7,418                        |
| Active Learning                   | 99,526         | 7,052                        |
| Instructing                       | 73,040         | 4,507                        |
| Persuasion                        | 84,994         | 4,047                        |
| Learning Strategies               | 55,509         | 3,674                        |
| Negotiation                       | 82,699         | 3,252                        |
| Management of Personnel Resources | 64,843         | 2,260                        |
| Science                           | 14,555         | 1,968                        |
| Systems Analysis                  | 17,883         | 1,609                        |

The state’s workforce will require more than 66,000 additional employees to develop Social Perceptiveness, Speaking, and Service Orientation skills by 2022. These communication skills depict a substantial need, particularly in the healthcare support industry, in which occupations related to customer services are in high demand. Reading Comprehension is also an issue for many West Virginians in the workforce. This skill refers to the person’s ability to read and understand information presented in written form. Good readers interact with text, making and validating predictions, and connecting the text events to their knowledge and experiences. Generally, this skill, together with Critical Thinking and Writing are acquired during K—12 education.

Figure I: Skills Gap Distribution (Figure I depicts skill gaps by WIOA regions.)

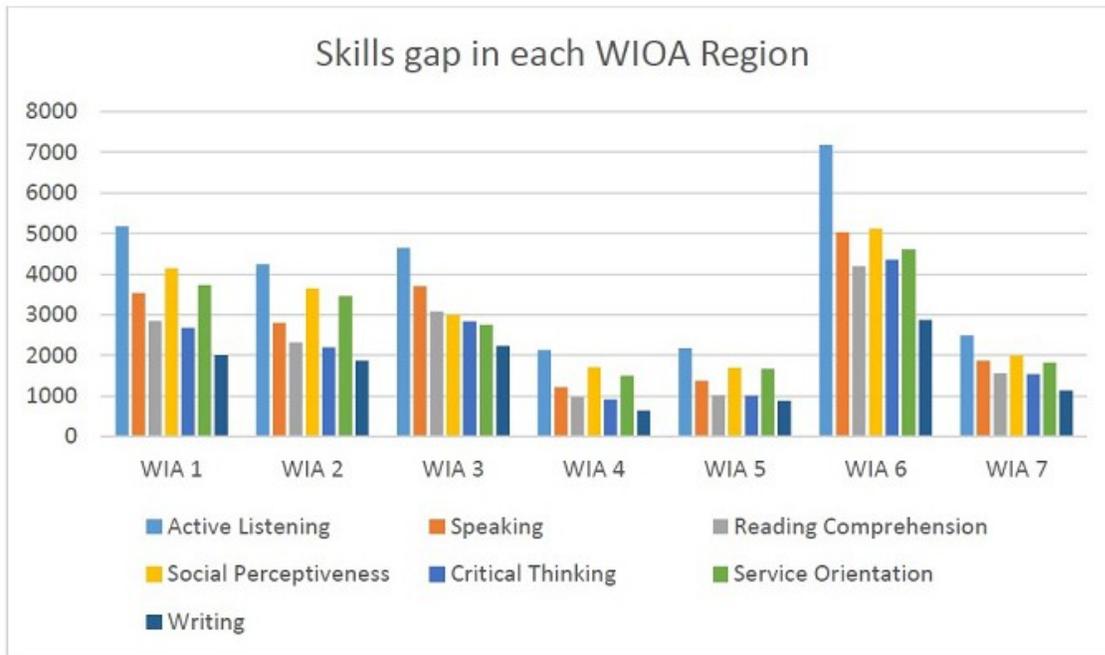


Figure I depicts how skill gaps vary by region. While Active Listening is still the highest need in all WIOA regions, the demand for other skills vary. Social Perceptiveness and Service Orientation take second and third places in almost all WIOA regions. The need for Speaking and Reading Comprehension skills rank second and third respectively in Kanawha County (WIOA Region 3).

**Figure J:** Gain/Loss of Workers in Each WIA Region/Statewide by Educational Attainment Level 2008—2014

(Figure J presents gains and losses of workers in each WIOA region by educational attainment for the period 2008-2014.)

Table 14: Gain/Loss of Workers in Each WIA Region/Statewide; by Educational Attainment Level, 2008-2014

| Education Attainment  | Region 1 | Region 2 | Region 3 | Region 4 | Region 5 | Region 6 | Region 7 | West Virginia |
|---|----------|----------|----------|----------|----------|----------|----------|---------------|
| Bachelor's degree or advanced degree                              | 287      | 1251     | -2712    | -661     | -740     | 2693     | 3156     | 3274          |
| Some college or Associate degree                                  | 2266     | 3375     | 468      | -52      | -146     | 8742     | 4838     | 19489         |
| High school or equivalent, no college                             | -892     | 50       | -1479    | -2305    | -2573    | 5650     | 2355     | 806           |
| Less than high school   | 1020     | 1317     | 1299     | 58       | 237      | 4001     | 1465     | 9399          |
| Educational attainment not available (workers aged 24 or younger) | -1471    | -1711    | -2820    | -1094    | -679     | 2630     | 0        | -5145         |

3. Knowledge and Ability also create a big effect on Skill gaps

As we examine the skills gap, it will be important to understand the relationship among Knowledge, Skills, and Abilities. Knowledge is a level of information or experience that an individual must have to be qualified for a position. Skills are learned or trained, and can be developed through the transfer of knowledge. Abilities are the enduring attributes of the individual that influence performance. A person’s ability can affect their capacity to perform the job. Many recruiters use KSAs (Knowledge, Skills, and Abilities) to determine who the best applicants are among candidates.

Among West Virginia’s workforce, the greatest gap in knowledge is Customer and Personal Service (see Figure K). More than 30,000 positions will be needed by 2022 that require competency with the principles and processes for providing customer and personal services; including customer needs assessment and evaluation of customer satisfaction. English, surprisingly, is the second— highest knowledge gap requirement. The growing healthcare sector needs at least 10,000 employees who have knowledge in Psychology and Medicine and Dentistry. The occupations that require most Medical knowledge are Registered Nurses (2,543 employees), Licensed Practical Nurses (1,174 employees), and Medical Assistants (783 employees). An estimated 8,000 Personal Care Aides, Home Health Aides, and Customer Service Representatives are in positions that require knowledge of Customer and Personal Service and English.

**Figure K: Knowledge Gaps**

(Table K depicts projected knowledge gaps for the period 2012 through 2022.

*Table 18: Knowledge Gaps*

| <i>Knowledge</i>                     | <i>Current Supply<br/>(2012)</i> | <i>Projected Demand<br/>(2012-2022)</i> |
|--------------------------------------|----------------------------------|---|
| <i>Customer and Personal Service</i> | 459,393                          | 30,223                                  |
| <i>English Language</i>              | 337,443                          | 21,759                                  |
| <i>Psychology</i>                    | 99,876                           | 11,434                                  |
| <i>Medicine and Dentistry</i>        | 58,389                           | 10,212                                  |
| <i>Education and Training</i>        | 96,791                           | 7,887                                   |
| <i>Therapy and Counseling</i>        | 47,018                           | 7,030                                   |
| <i>Clerical</i>                      | 134,190                          | 6,877                                   |
| <i>Mathematics</i>                   | 141,926                          | 6,753                                   |
| <i>Administration and Management</i> | 104,652                          | 4,004                                   |
| <i>Computers and Electronics</i>     | 62,692                           | 3,741                                   |
| <i>Biology</i>                       | 15,190                           | 2,833                                   |
| <i>Sociology and Anthropology</i>    | 14,013                           | 1,762                                   |
| <i>Law and Government</i>            | 35,844                           | 1,723                                   |
| <i>Personnel and Human Resources</i> | 40,745                           | 1,578                                   |
| <i>Sales and Marketing</i>           | 59,761                           | 1,422                                   |

By 2022, West Virginia employers will need more than 30,000 employees who have the ability to comprehend and express information orally (see Figure L). Additionally, people with Problem Sensitivity will also be in high demand (27,885 in total). Aside from communication abilities, people with visual acuity will be in demand (20,362 employees).

**Figure L: Ability Gaps**

(Figure L depicts projected ability gaps for the period 2012 through 2022.)

Table 19: Ability Gaps

| Ability                 | Current Supply (2012) | Projected Demand (2012-2022) |
|-------------------------|-----------------------|------------------------------|
| Oral Comprehension      | 505,813               | 32,277                       |
| Oral Expression         | 463,645               | 31,114                       |
| Problem Sensitivity     | 363,326               | 27,885                       |
| Speech Recognition      | 369,577               | 22,908                       |
| Written Comprehension   | 293,906               | 20,475                       |
| Speech Clarity          | 344,121               | 20,376                       |
| Near Vision             | 324,976               | 20,362                       |
| Written Expression      | 257,974               | 17,358                       |
| Deductive Reasoning     | 222,431               | 16,966                       |
| Inductive Reasoning     | 176,235               | 14,034                       |
| Information Ordering    | 204,793               | 12,460                       |
| Category Flexibility    | 37,053                | 3,368                        |
| Fluency of Ideas        | 47,899                | 3,072                        |
| Originality             | 44,242                | 1,801                        |
| Multi-limb Coordination | 96,420                | 1,257                        |

Skill gaps for West Virginia (2012—2022)

The skill with greatest expected demand and gap is active listening. Literacy and communication skills top the list, comprising four out of the top five skills. Active listening is followed by social perceptiveness, speaking, service orientation and reading comprehension. The complete list skills projected to be in demand can be found in Figure H.

Content skill ranking for most of the WIOA Regions follow the same pattern as the state. Active listening is, by far, the highest demand skill across all WIOA Regions. All four communication skills (i.e., active listening, social perceptiveness, speaking, and reading comprehension) rank in the top five in each region with the exception of Region 6, where critical thinking moved into the top 5, replacing reading comprehension.

Appendix

A. Knowledge

O\*Net generates 33 requirements related to knowledge for all occupations in United States as shown in Figure M.

**Figure M: Knowledge Requirements**  
 (Figure M provides definitions of O\*Net knowledge terms.)

| Knowledge                     | Knowledge Description  |
|-------------------------------|--|
| Administration and Management | Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.   |
| Biology                       | Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.   |
| Building and Construction     | Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.  |
| Chemistry                     | Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods. |
| Clerical                      | Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.  |
| Communications and Media      | Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.  |
| Computers and Electronics     | Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.  |
| Customer and Personal Service | Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.  |
| Design                        | Knowledge of design techniques, tools, and principals involved in production of precision technical plans, blueprints, drawings, and models.   |
| Economics and Accounting      | Knowledge of economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data.  |
| Education and Training        | Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.  |
| Engineering and Technology    | Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.   |
| English Language              | Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.   |
| Fine Arts                     | Knowledge of the theory and techniques required to compose, produce, and perform works of music, dance, visual arts, drama, and sculpture.   |
| Food Production               | Knowledge of techniques and equipment for planting, growing, and harvesting food products (both plant and animal) for consumption, including storage/handling techniques.  |
| Foreign Language              | Knowledge of the structure and content of a foreign (non-English) language including the meaning and spelling of words, rules of composition and grammar, and pronunciation.   |
| Geography                     | Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.  |
| History and Archeology        | Knowledge of historical events and their causes, indicators, and effects on civilizations and cultures.  |
|                               | Knowledge of laws, legal codes, court procedures, precedents, government regulations,  |

## B. Skills

Like knowledge, skills can be learned and developed with experience. More than that, through study, a skill represents a person's ability to develop knowledge, enhancing his or her capacity to perform the work. Each occupation requires different skills with different levels of importance. Generally, employers evaluate their employees' skills based on 6 groups: Basic, Social, Resource Management, System, Technical, and Complex Problem Solving Skills (Figure N).

**Figure N:** Skill Requirements  
(Figure N provides definitions of O\*Net Skills terms.)

| Group                          | Description   | Skills  |
|--------------------------------|---|---|
| Basic Skills                   | Developed capacities that facilitate learning or the more rapid acquisition of knowledge  | Active Learning, Active Listening, Critical Thinking, Learning Strategies, Mathematic, Monitoring, Reading Comprehension, Science, Speaking, and Writing  |
| Social Skills                  | Developed capacities used to work with people to achieve goals  | Coordination, Instructing, Negotiation, Persuasion, Service Orientation, Social Perceptiveness  |
| Complex Problem Solving Skills | Developed capacities used to solve novel, ill-defined problems in complex, real-world settings  | Complex Problem Solving   |
| Technical Skills               | Developed capacities used to design, set-up, operate, and correct malfunctions involving application of machines or technological systems | Equipment Maintenance, Equipment Selection, Installation, Operation and Control, Operation Monitoring, Operation Analysis, Programming, Quality Control Analysis, Repairing, Technology Design, Troubleshooting |
| System Skills                  | Developed capacities used to understand, monitor, and improve socio-technical systems   | Judgment and Decision Making, System Analysis, System Evaluation  |
| Resource Management Skills     | Developed capacities used to allocate resources efficiently   | Management of Financial Resources, Management of Material Resources, Management of Personnel Resources, Time Management   |

## C. Ability

Ability is what someone is capable of doing. Employers assess their employees' ability based on 52 elements in 4 groups (Figure O).

**Figure O:** Ability Assessment (Figure O provides definitions of O\*Net Ability terms)