



Department of
Job and Family Services



OHIO JOB OUTLOOK

Employment Projections

2020-2030

Table of Contents

Table of Contents	1
Overview	2
Ohio Population Trends	3
Ohio Industry Employment	6
Ohio Occupational Employment.....	11
Technical Notes	18
Appendix Tables	20
A - Ohio Business Types by Industry Sector	21
B - Ohio Employment Projections Report by Major Industry	22
C - Ohio's Top 30 Industries with the Fastest Job Growth.....	23
D - Ohio's Top 30 Industries with the Most New Jobs.....	24
E - Ohio's Industry Employment Projections Report	25
F - Ohio Occupational Employment Projections by Occupational Group.....	31
G - Ohio's Fastest Growing Occupations.....	32
H - Occupations in Ohio with the Most Annual Openings	33
I - Ohio Occupations with at least 1,000 Self-Employed.....	34
J - Ohio Occupational Employment.....	36
K - Ohio Occupational Education and Training Classification	55

Ohio Job Outlook to 2030

Overview

Employment projections are a key product of the Ohio Department of Job and Family Services' Bureau of Labor Market Information. The bureau completes 10-year employment projections every two years and two-year employment projections annually. The projections are based on the most current data available at the time they are made; they are estimates of future employment assuming there are no changes in the current situation. People who use this information include individuals planning their education, training, and careers; educational program planners developing training courses and curricula; administrators and legislators responsible for government policies; and business executives planning marketing and personnel strategies.

One key use of the long-term employment projections is in the identification of Ohio Top Jobs. Statistical thresholds for wage, growth, and annual openings determine the baseline list of occupations used.¹ The list of Top Jobs is for operational and implementation purposes, specifically to foster cross-agency alignment and to better target job matching and career planning services through **OhioMeansJobs.com**.

This report presents Ohio employment projections from 2020 to 2030. It is divided into three sections. The "Ohio Population Trends" section presents population projections and historical labor force participation rates. The "Ohio Industry Employment" section presents employment projections for Ohio's goods-producing and service-providing industries. The "Ohio Occupational Employment" section presents employment projections for occupations and occupational groups.

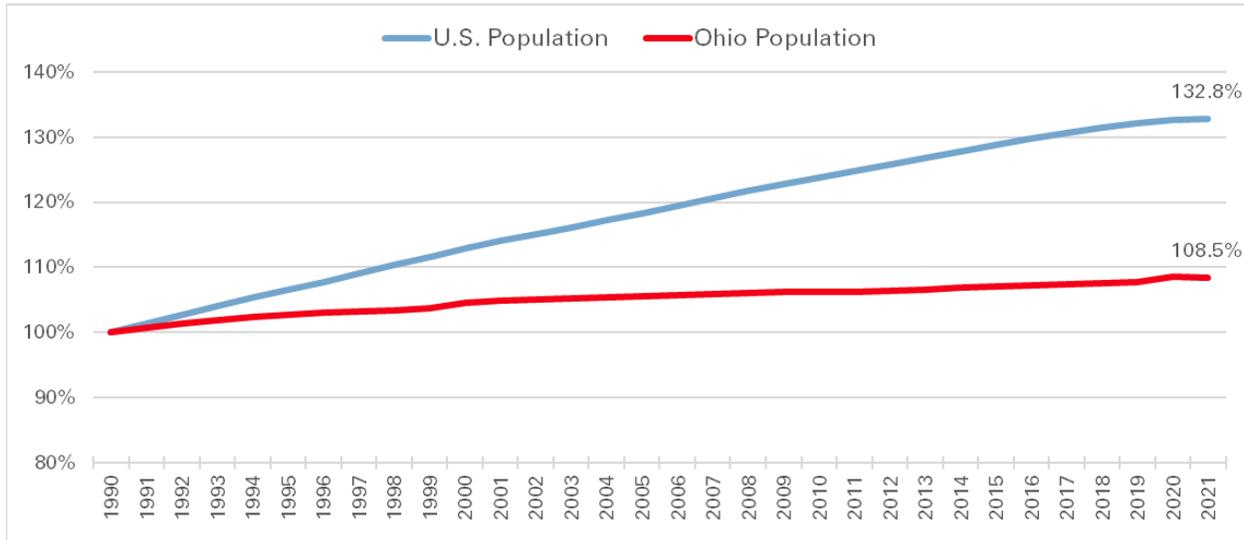
Overall, the Ohio economy is expected to add 257,000 additional jobs between 2020 and 2030, with an expected 641,000 job openings annually. The health care and social assistance services industry is expected to add the most jobs, and a large portion of job growth will come from health care occupations. Read more to learn about the growth expectations for Ohio's industries and occupations.

¹ Additional factors included are employment patterns for key industry clusters, employer job-forecasting survey data, and assessments by a review committee.

Ohio Population Trends

Historically, Ohio’s population has grown more slowly than the national average. As shown in Figure 1, Ohio’s population grew 8.5% from 1990 to 2021 while the U.S. population grew 32.8%. From 2000 to 2021, the national population grew 17.6% while Ohio’s population grew 3.7%.

Figure 1. Population Growth as a Percentage from 1990



Source: U.S. Census Bureau and U.S. Bureau of Economic Analysis

Ohio’s slower-than-average growth is expected to continue (Figure 2). Projected 10-year population growth rates for the U.S. are 7.4%, with the projected working age population (age 16 and older) expected to grow at a rate of 8.5%. In comparison, Ohio’s total population is expected to grow 0.3% in 10 years, and the working-age population will see 0.5% growth. The oldest population group (65 and older) is expected to grow 31.3% for the entire U.S. and is expected to increase by 18.4% in Ohio. However, the 25-to-64 age group is expected to decline in Ohio by 5.5% and is expected to increase nationally by 2.8%.

Figure 2. U.S. and Ohio Population Projections (in thousands)

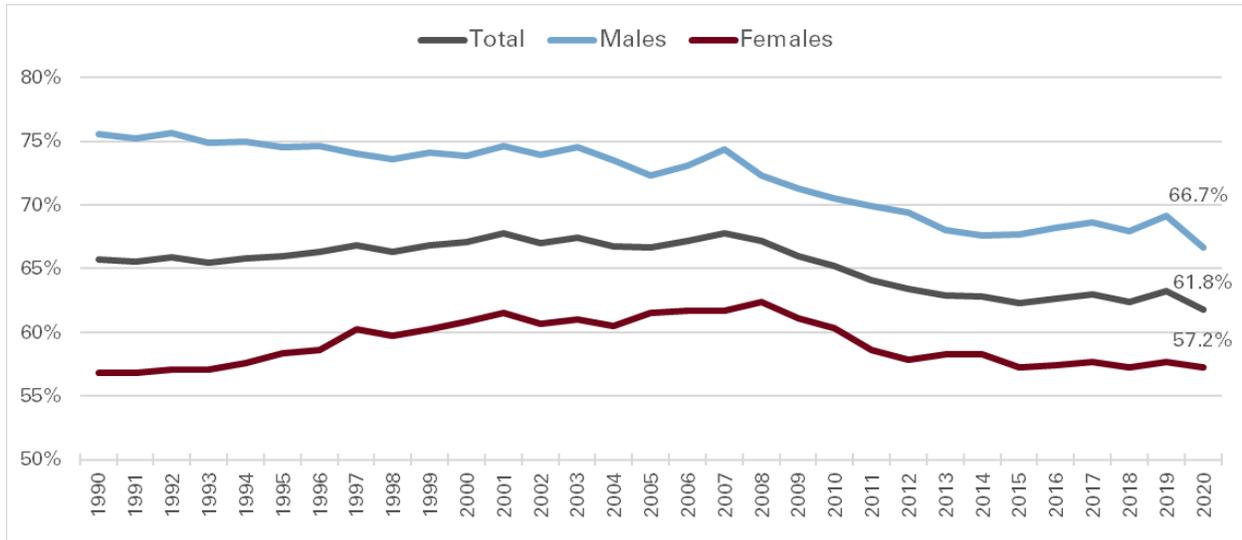
	2020	2025	2030	% Change 2020-2030
U.S.				
Total Population	334,503	347,335	359,402	7.4%
Working-Age Population	268,750	280,749	291,500	8.5%
Age 25 to 64	173,379	175,664	178,228	2.8%
Age 65 and over	56,441	65,920	74,107	31.3%
Ohio				
Total Population	11,575	11,599	11,615	0.3%
Working-Age Population	9,271	9,316	9,318	0.5%
Age 25 to 64	5,874	5,678	5,551	-5.5%
Age 65 and over	2,011	2,244	2,382	18.4%

Source: Ohio Department of Development and U.S. Census Bureau

Even though the total and working-age populations in Ohio have been growing, labor force participation rates have been declining. This means fewer people in the working-age population are working or actively looking for work. In Late 2006 through early 2007, , the labor force participation rate for Ohio peaked at 67.7%; by 2020 it had dropped to 61.8%.

Figure 3 shows the labor force participation rates for men, women, and the total working-age population from 2000 to 2020.

Figure 3. Ohio Labor Force Participation Rates by Gender – 2000 to 2020



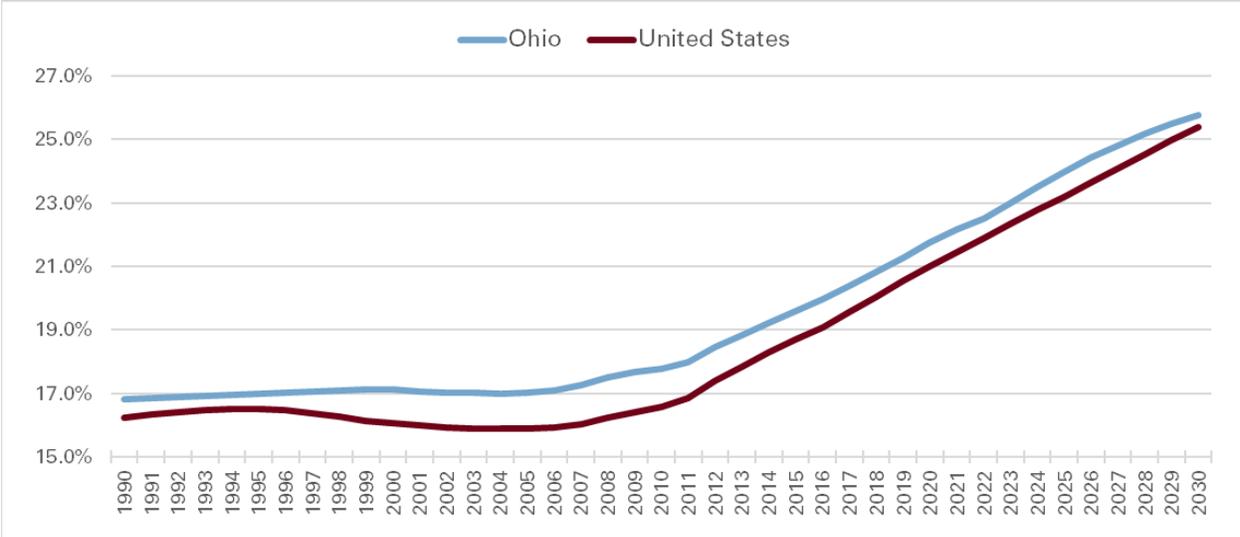
Source: Bureau of Labor Statistics

The decline in labor force participation is part of a national trend. At first glance, it appears recent recessions may have caused steep declines in participation rates. During these recessions, some individuals were discouraged and stopped looking for work, which means they were no longer part of the labor force. Many of these individuals rejoined the labor force as the economy recovered. Other factors are driving the decline in labor force participation. The strongest factor, one that began at the height of the recession, was the beginning of retirements for the baby boom generation. In 2008, the first of the baby boomers turned 62 and became eligible for Social Security; in 2011, they turned 65. Nationally, about 10,000 baby boomers turn 65 each day.² Even though they have retired, they are still part of the working age population. If they are not employed and not actively looking for work, they count against the labor force participation rate. Continuing retirements among the baby boomers will push labor force participation rates lower.

² <http://www.pewresearch.org/daily-number/baby-boomers-retire/>

A second factor affecting participation rates is an overall decline in labor force participation among many demographic groups. For example, labor force participation among prime-age men (ages 25 to 54) has continued to decline for nearly 70 years since 1954.³ Figure 4 shows the percentage of those 65 and older in the working-age population projected to 2030.

Figure 4. Percentage of Working-Age Population Age 65 and Older



Source: IHS Markit Ltd and U.S. Census

³ <https://data.bls.gov/timeseries/LNS11300061>

Ohio Industry Employment

This section shows projected employment changes for a variety of industry classifications. Business establishments are classified into industries according to the primary goods and services they produce or provide, using the North American Industry Classification System (NAICS). For example, factories assembling cars are classified in the motor vehicle manufacturing industry, and supermarkets are in the grocery store industry. See Appendix Table A for examples of types of businesses by NAICS classification. NAICS has several levels of classification, each giving a more detailed picture of each industry. This report presents industry employment projections at the NAICS sector and industry-group levels to illustrate expected changes.⁴

Industry Sectors

Industries typically are grouped in two broad categories: goods-producing, which produce physical products, and service-providing, which are all other industries. The goods-producing industry sectors are agriculture, forestry, fishing and hunting; mining, quarrying, and oil and gas extraction; construction; and manufacturing. The service-providing industry sectors are wholesale trade; retail trade; transportation and warehousing; utilities; information; finance and insurance; real estate and rental and leasing; professional, scientific, and technical services⁵; management of companies and enterprises; administrative and support and waste management and remediation services⁶; educational services; health care and social assistance; arts, entertainment, and recreation; accommodation and food services; other services (except public administration); and government.

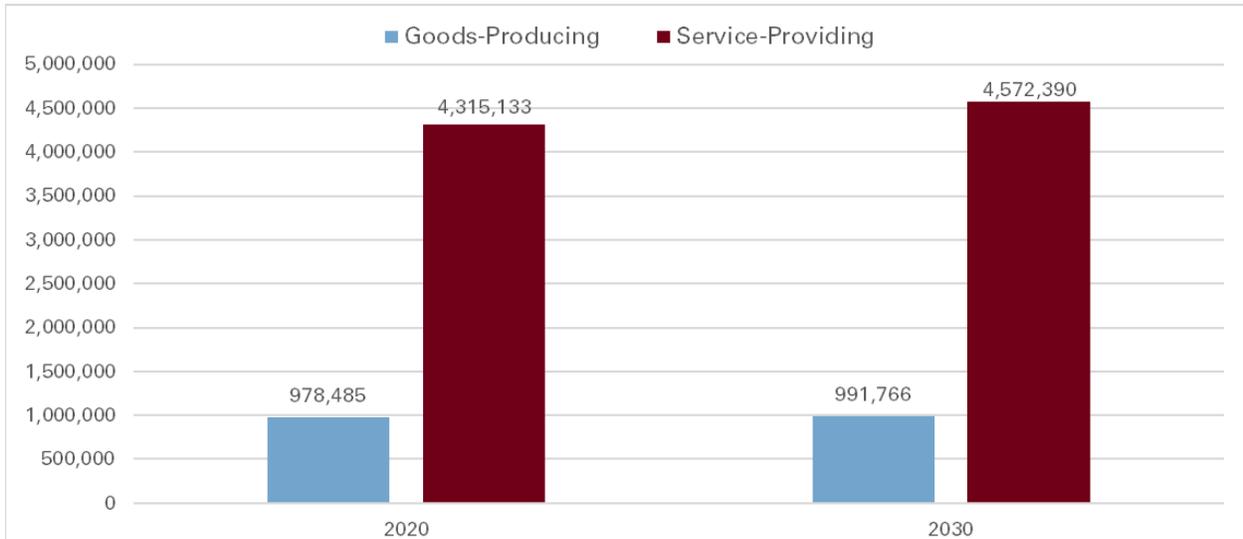
⁴ NAICS consists of the following industry levels: 11 supersectors (individual two-digit NAICS or several two-digit NAICS grouped together); 20 sectors (individual two-digit NAICS); 99 subsectors (three-digit NAICS); 312 industry groups (four-digit NAICS); 713 industries (five-digit NAICS); and 1,065 detailed NAICS (six-digit NAICS).

⁵ Short title, "Professional and technical services" used in charts / tables.

⁶ Short title, "Administrative and waste services" used in charts / tables.

Figure 5 details employment projections for goods-producing and service-providing industries. Overall, the number of jobs for Ohioans is expected to rise from 5.567 million in 2020 to 5.824 million by 2030, an increase of more than 257,000 jobs. Service-providing industries are expected to add 257,257 jobs, an increase of 6.0%. Goods-producing industries are expected to add 13,281 jobs, an increase of 1.4%.⁷

Figure 5. Ohio Industry Employment Outlook

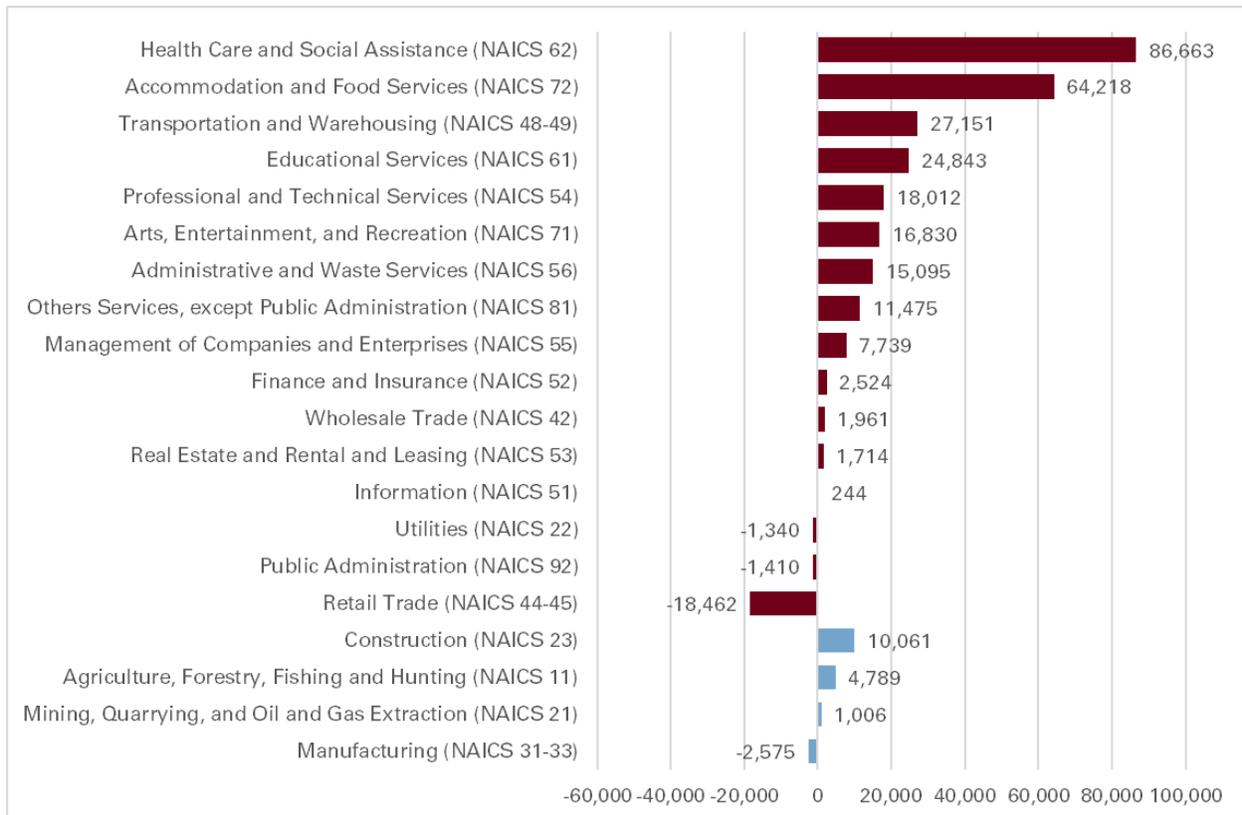


Source: Ohio Bureau of Labor Market Information

⁷ Self-employed and other workers whose jobs fall outside of traditional industry classifications are expected to lose 13,282 jobs, a decrease of 4.9%.

Figure 6 shows the employment change expected for each industry sector between 2020 and 2030. Service-providing industries are denoted by a dark red bar; goods-producing industries have a blue bar. Among the goods-producing sectors, construction is projected to grow by 10,061 jobs, and manufacturing is projected to shrink by 2,575 jobs. Growth among the service-providing sectors will be led by the health care and social assistance industry, which is expected to add more than 86,000 jobs, a 10.6% increase. The accommodation and food services industry is expected to add more than 64,000 jobs. The transportation and warehousing industry, as well as educational services, are expected to add more than 27,000 and 24,000 jobs respectively. However, retail trade is expected to shrink by more than 18,000 jobs. See Appendix Table B for industry projections by absolute and percent change.

Figure 6. Ohio Employment Outlook by Industry Sector, 2020-2030



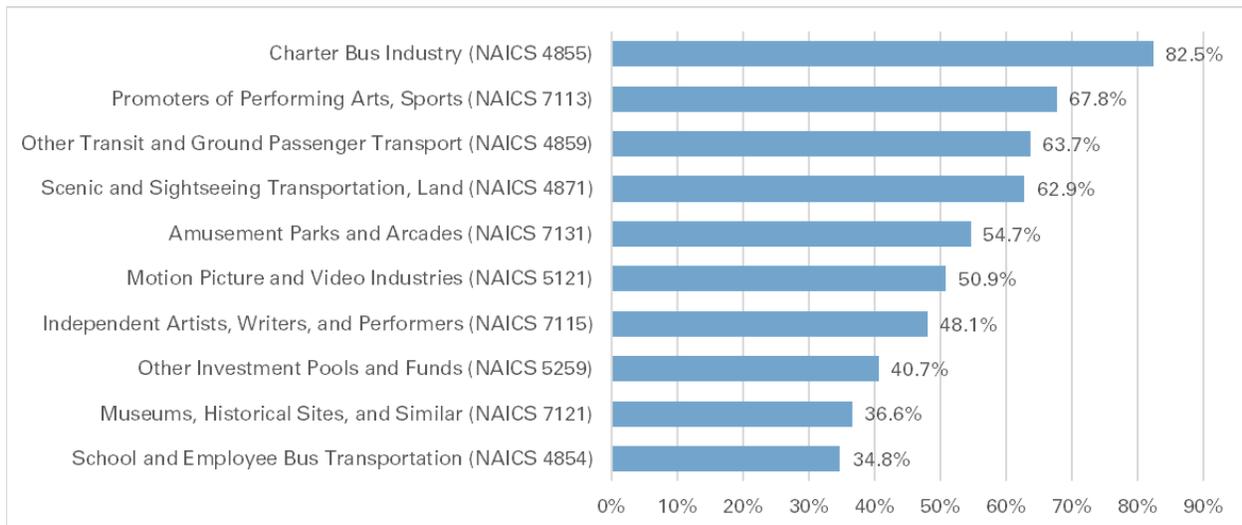
Source: Ohio Bureau of Labor Market Information

High-Growth Industry Groups: Within the sectors are industry groups of related industries; these industry groups within sectors can change in different ways. Figure 7 shows the 10 industry groups expected to grow the fastest from 2020 to 2030. Each is expected to grow between 34.8 and 82.5%.

The fastest-growing industry group is projected to be the charter bus industry (NAICS 4855), with an increase of 82.5%. This industry group is in the transportation and warehousing sector. Three other fastest-growing industry groups are also in that sector: other transit and ground passenger transportation (NAICS 4859), with a 63.7% increase; scenic and sightseeing transportation, land (NAICS 4871), with a 62.9% increase; and school and employee bus transportation (NAICS 4854) with a 34.8% increase.

The arts, entertainment, and recreation sector also has four industry groups represented in the fastest-growing list, as they rebound from pandemic-related losses. These industries include promoters of performing arts, sports, and similar events (NAICS 7113), with an increase of 67.8%; amusement parks and arcades (NAICS 7131), with an increase of 54.7%; independent artists, writers, and performers (NAICS 7115), with an increase of 48.1%; and museums, historical sites, and similar institutions (NAICS 7121), with an increase of 36.6%. See Appendix Table C for a list of the top 30 industry groups with the fastest expected growth.

Figure 7. Top 10 Ohio Industry Groups with the Fastest Job Growth

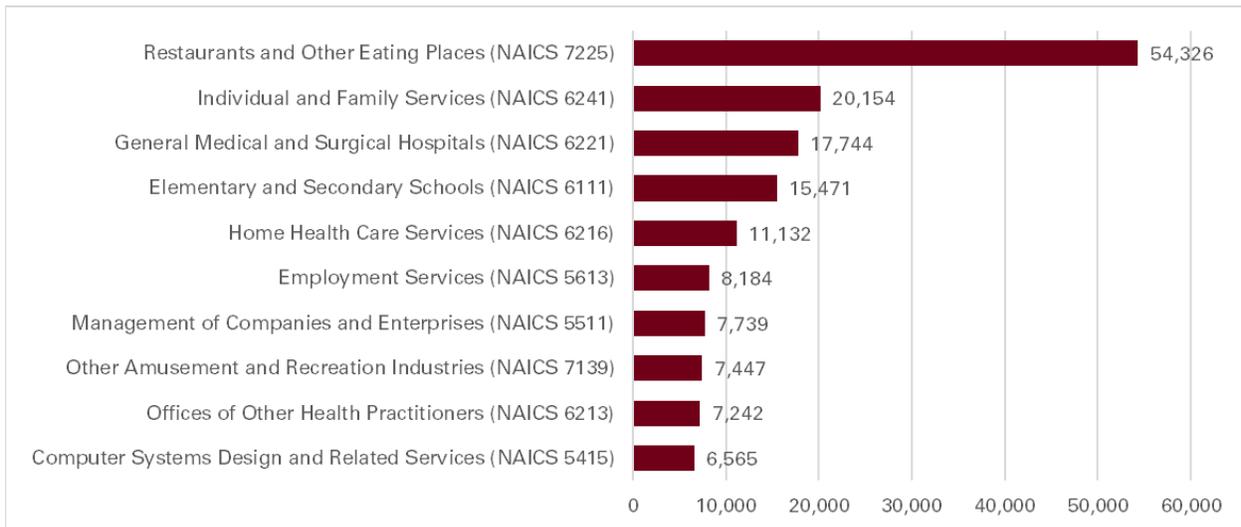


Source: Ohio Bureau of Labor Market Information

Most New Jobs: Although some industry groups are expected to experience high rates of job growth, the groups themselves may be small and, therefore, offer a smaller number of jobs. By the same token, large industry groups with lower expected percentage growths may offer a large number of additional jobs. This is illustrated in Figure 8 by restaurants and other eating places (NAICS 7225). This industry group employed nearly 354,000 workers in 2020; it is expected to add more than 54,000 new jobs by 2030, a 15.4% increase. By contrast, individual and family services (NAICS 6241), which employed more than 62,000 workers in 2020, is expected to add more than 20,000 jobs by 2030, a 32.3% increase.

The 10 industry groups projected to add the most new jobs are shown in Figure 8; they are expected to add 156,004, or 60.6%, of new jobs by 2030. See Appendix Table D for a complete list of the top 30 private-sector industries with the most new jobs.

Figure 8. Ohio Industries Adding the Most New Jobs, 2020-2030



Source: Ohio Bureau of Labor Market Information

See Appendix Table E for a complete look at industry projections by NAICS classification levels.

Ohio Occupational Employment

The employment outlook for individual occupations is affected by the industries that employ them. Some occupations, such as registered nurses, tire builders, and structural iron workers, are highly concentrated in a few industries; demand for those occupations depends on the health of those industries. Other occupations, such as secretaries and computer systems analysts, are present in many industries; demand for those occupations is more closely tied to changes in the economy. Changes in technology, business practices, and operations affect how employers structure staffing to improve productivity. For example, technological advances will continue to reduce the need for such occupations as telephone operators, typists, travel agents, and order clerks.

Understanding the employment outlook of occupations is important for career planning. As some occupations are expected to grow and others are expected to shrink, Ohio developed a list of Top Jobs occupations to assist in career planning. Along with other information, the employment outlook of occupations provides the baseline data for the Top Jobs list using statistical thresholds for wages, annual openings, and growth. The Top Jobs list is available and utilized throughout **OhioMeansJobs.com** to better target job matching and career planning services provided on the website. This section presents the job outlook in Ohio by type of work and required education and training levels.

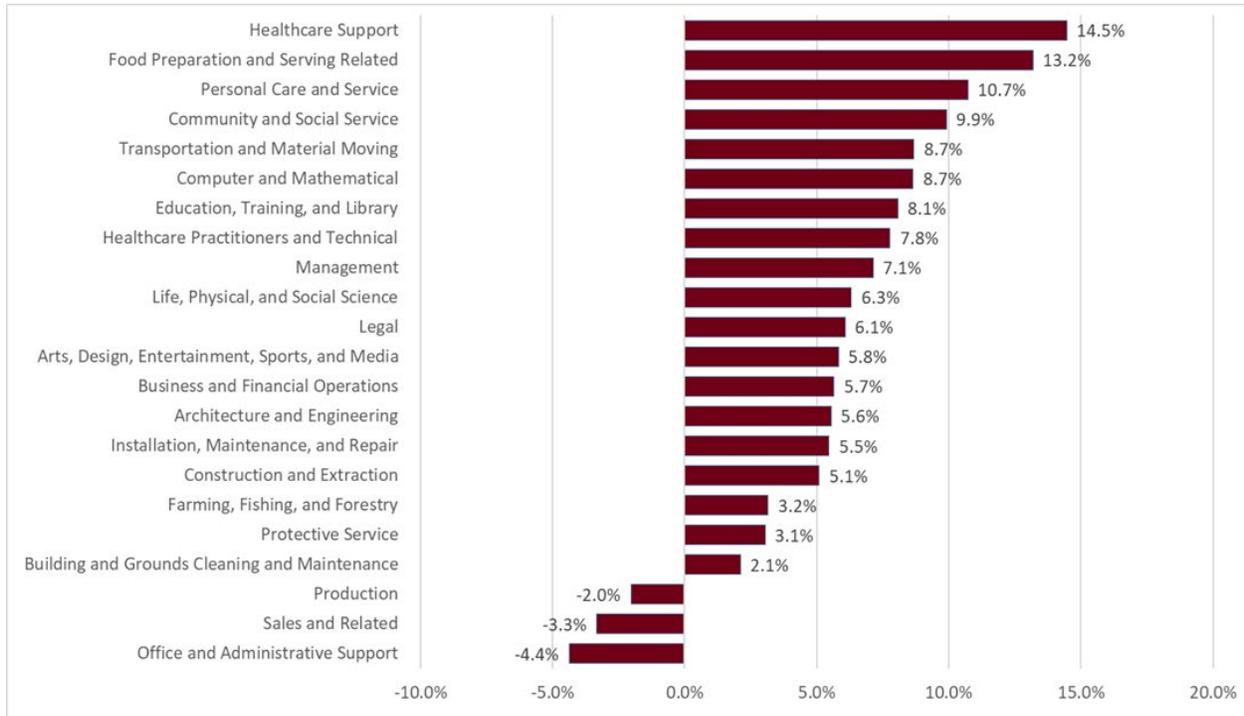
Occupations are classified using the Standard Occupational Classification (SOC) system, which has 22 groups of occupations with related types of work. For example, one occupational group consists of managerial occupations. Within each occupational group are specific occupations, each with different requirements for knowledge, skills, abilities, and duties. Occupations are classified at the six-digit SOC level. See Appendix Table F for a comprehensive look at occupational projections by occupational group.

Ohio is expected to add 257,000 jobs from 2020 to 2030, but perhaps more important to individuals searching for jobs is the expected number of annual job openings. On average, Ohio's economy is expected to have over 641,000 job openings annually. Over 4% of annual job openings will result from the creation of new jobs. About 38% of annual job openings will result from the need to replace workers who leave the labor force, usually upon retirement; the remaining 58% of openings will result from the need to replace workers who switch occupations.

The data in this report was compiled and analyzed during the COVID-19 pandemic. (See Data Limitations on page 19 for more information.)

Fastest-Growing Occupational Groups: Figure 9 shows the projected fastest-growing occupational groups. Healthcare support occupations are expected to grow the most, at 14.5%. The next-fastest growing occupational group is food preparation and serving related, at 13.2%. See Appendix Table G for a list of Ohio’s fastest-growing occupations.

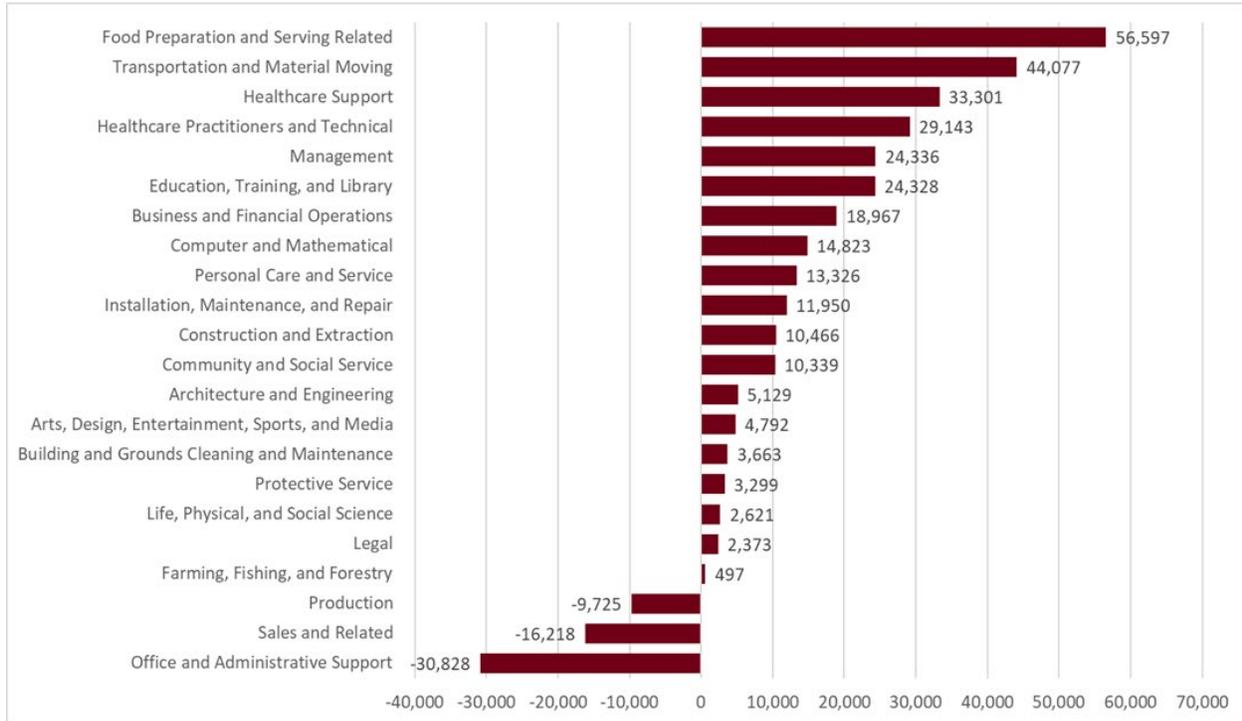
Figure 9. Ohio Rate of Employment Change by Major Occupational Group, 2020-2030



Source: Ohio Bureau of Labor Market Information

Occupational Groups with the Most New Jobs: As with industries, fast-growing occupational groups may be relatively small and may not add as many new jobs as larger groups that are growing more slowly. The food preparation and serving related occupational group is expected to add 56,597 jobs. Over two out of every 10 new jobs will be in the food preparation and serving related occupational group. Figure 10 shows the major occupational groups ranked in terms of number of jobs.

Figure 10. Projected Employment Change by Occupational Group, 2020-2030



Source: Ohio Bureau of Labor Market Information

Occupations with the Most Annual Openings: New job growth is one component of occupational demand, but needs arising from transfers out of occupations and exits from the labor force result in a larger number of job openings. About 96% of the job openings from 2020 to 2030 are expected to result from the need to replace workers who leave the labor force or switch occupations. Even shrinking occupations have replacement needs, and they may provide substantial opportunities for employment.

Figure 11 shows the top 10 occupations with the most projected annual openings. Of the top 10, fast food and counter workers (SOC 35-3023) leads with an expected 34,067 annual openings. Rounding out the top five are retail salespersons (SOC 41-2031); laborers and freight, stock, and material movers, hand (SOC 53-7062); cashiers (SOC 41-2011); and stockers and order fillers (SOC 53-7065).

See Appendix Table H for the full list of occupations with the most annual openings.

Figure 11. Occupations in Ohio with the Most Projected Annual Openings, 2020-2030

Occupational Title	Total Annual Openings	Median Wage May 2021
Fast Food and Counter Workers (SOC 35-3023)	34,067	\$10.70
Retail Salespersons (SOC 41-2031)	18,044	\$12.99
Laborers and Freight, Stock, and Material Movers, Hand (SOC 53-7062)	17,182	\$16.37
Cashiers (SOC 41-2011)	16,985	\$10.96
Stockers and Order Fillers (SOC 53-7065)	15,683	\$14.39
Home Health and Personal Care Aides (SOC 31-1120)	15,212	\$11.54
Waiters and Waitresses (SOC 35-3031)	14,795	\$9.87
Customer Service Representatives (SOC 43-4051)	14,435	\$17.89
Office Clerks, General (SOC 43-9061)	11,362	\$17.85
Janitors and Cleaners, Except Maids and Housekeeping Cleaners (SOC 37-2011)	11,018	\$14.06

Source: Ohio Bureau of Labor Market Information

Self-Employment: The number of self-employed individuals varies widely by occupation.

Appendix Table I provides a list of the 58 occupations that have at least 1,000 self-employed workers. The self-employed percentages range from 1.0% for laborers and freight, stock, and material movers, hand (SOC 53-7062) to 70.6% for psychologist, all other (SOC 19-3039).

Figure 12 shows occupations in which more than half the people employed in that occupation are self-employed.

Figure 12. Occupations with High Self-Employment, 2020

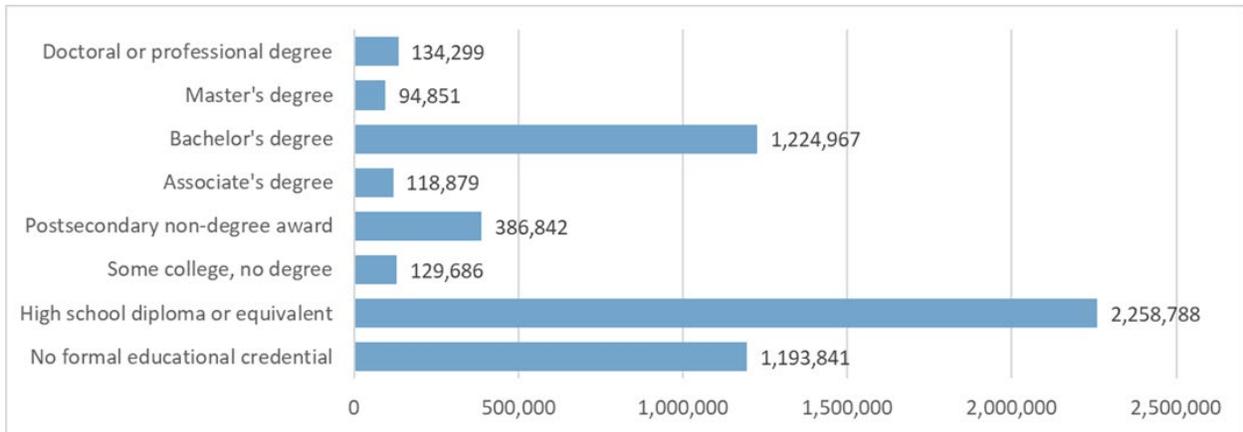
Occupational Title	2020 Employment	Self-Employed	Percent Self- Employed
Psychologists, All Other (SOC 19-3039)	1,468	1,036	70.6%
Writers and Authors (SOC 27-3043)	3,531	2,413	68.3%
Photographers (SOC 27-4021)	3,773	2,414	64.0%
Art Directors (SOC 27-1011)	1,959	1,146	58.5%
Real Estate Sales Agents (SOC 41-9022)	12,597	7,259	57.6%

Source: Ohio Bureau of Labor Market Information

Education and Training: Each occupation has typical education levels associated with it, although in practice workers in an occupation may have a range of educational experience. Some occupations have specific requirements associated with licensure or certification. Knowledge of the typical education level associated with an occupation can be useful for career planning and job seeking.

Figure 13 shows the distribution of jobs by their typical education level in 2020. That year, over 62% of all jobs had a typical education level of a high school diploma or less. About 38% of jobs had a typical education level of some form of post-secondary education, which could be anything from a certificate to an advanced degree. Over 26% of jobs had a bachelor’s degree or higher as a typical education.

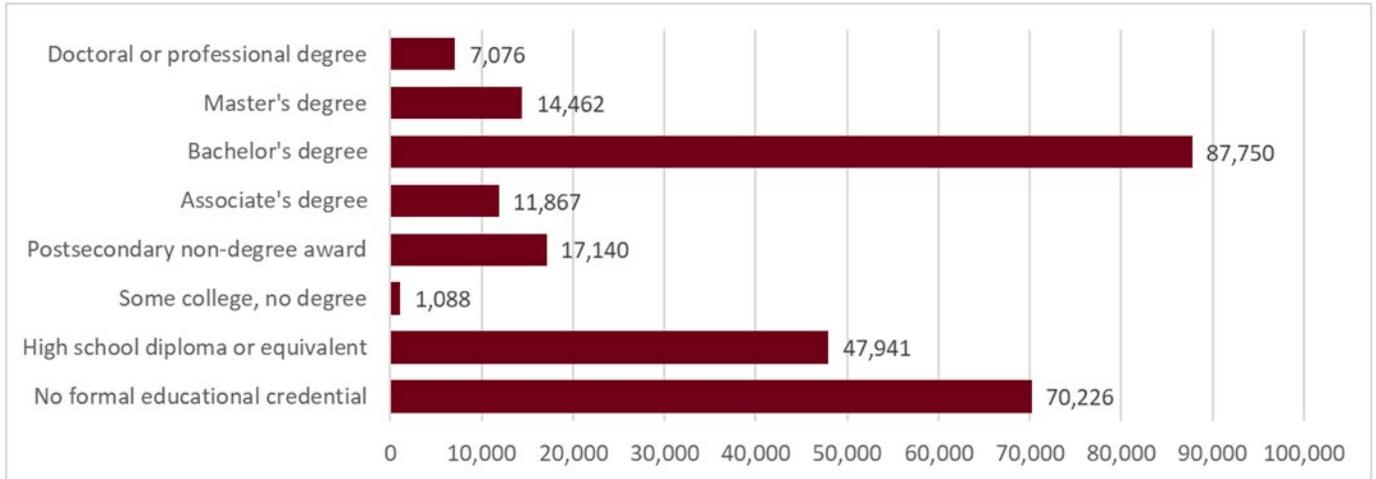
Figure 13. 2020 Employment by Typical Education Levels



Source: Ohio Bureau of Labor Market Information

Figure 14 shows projected net job growth by education level. About 46% of the net job growth from 2020 to 2030 is expected to be in occupations typically associated with a high school diploma or less. Fifty-four percent of net job growth is anticipated in occupations typically associated with some form of post-secondary education. A predicted 42% of job growth will be in occupations typically associated with a bachelor's degree or higher.

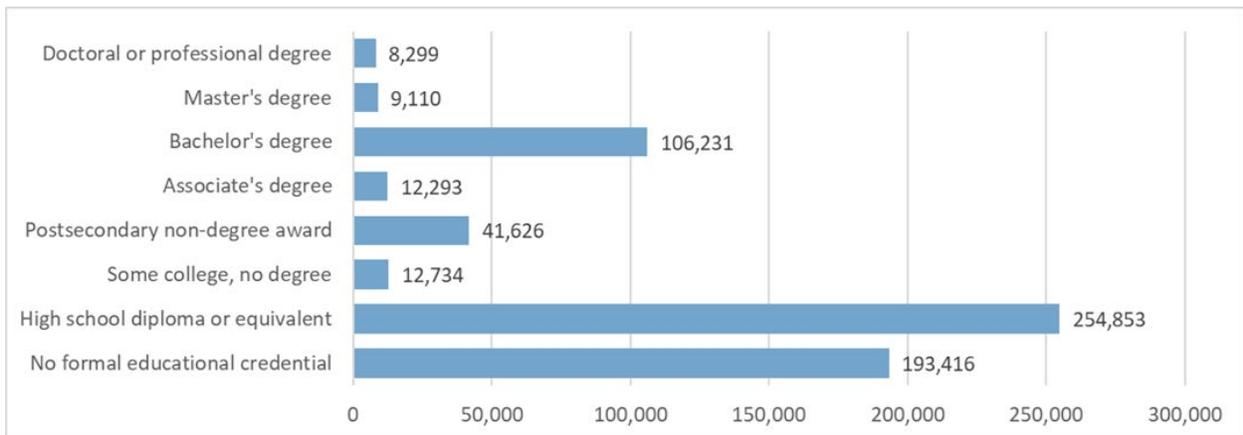
Figure 14. Projected Net Job Growth by Education Level, 2020-2030



Source: Ohio Bureau of Labor Market Information

An anticipated 70.2% of annual job openings will be in occupations associated with a high school diploma or less. See Figure 15.

Figure 15. Estimated Annual Job Openings by Education Level, 2020-2030



Source: Ohio Bureau of Labor Market Information

For detailed data regarding annual openings for occupations with employment of 100 or more, see Appendix Table J. This table also includes employment, wage, and education and training information.

Appendix Table K provides a detailed list of the educational and training classifications for all occupations.

Technical Notes

The Ohio long-term industry and occupational forecasts were derived primarily from data produced by the Occupational Employment Statistics (OES) and the Quarterly Census of Employment and Wages (QCEW) programs. The forecasts were funded by a grant from the U.S. Department of Labor (DOL).

Industry Employment Forecasts

The forecasting models utilized a historical monthly employment series from the QCEW program data through December 2018. Industry groups with three- or four-digit North American Industry Classification System (NAICS) codes were chosen. Industry employment projections were made at the four-digit NAICS industry level using a variety of models, including single-equation regression models. These models related Ohio industry employment to national industry employment and other key economic determinants for Ohio, especially income and population.

Occupational Employment Forecasts

Occupational estimates were derived from an industry-occupation matrix. From a three-year OES survey cycle, industry staffing patterns were generated based on the Standard Occupational Classification coding structure. Occupational patterns for work arrangements outside the scope of the OES program (including agriculture, private household, self-employed and unpaid family workers) were developed using U.S. national staffing patterns and U.S. Census of Agriculture information.

Wages

The median wage estimates were produced using OES data, which are based on a semiannual mail survey. The survey gathers employment and wage data for specific occupations by geographic area and industry. Statewide Ohio wages were used when available.

Annual Openings

To project occupational openings, Ohio uses national separation rates calculated by the U.S. Bureau of Labor Statistics caused by workers exiting the labor force due to retirement or other reasons (labor force exits) and separations caused by workers transferring to different occupations (occupational transfers). Projections of separations are combined with projections of employment change to determine occupational openings.

Educational and Training Classifications

DOL's educational and training classification system consists of three categories: (1) typical education needed for entry, (2) commonly required work experience in related occupations, and (3) typical on-the-job training needed to obtain competency in the occupation. For complete definitions, see <https://www.bls.gov/emp/documentation/education/tech.htm>.

Data Limitations

Every effort was made to ensure the accuracy of the projections, but data and forecasts are subject to error. The information in this report is best used as an indicator of employment trends, not as an exact count or prediction. It should be used in combination with other data sources and information. While every attempt is made to incorporate current and near-future events – such as business closings, corporate layoffs, openings, and expansions – it's not possible to know everything that might happen. Events that may take place after the projection period or announcements concerning closings, layoffs, openings, and expansions known after projections were completed are not reflected in the forecasts. Also, legislative policy could cause employment to change. Events such as these will likely cause the actual employment numbers to vary significantly from these projections. This report provides estimates

of the number of jobs, not the number of employees. It makes no distinctions for employment characteristics such as full-time, part-time, or secondary jobs.

For additional information or questions, visit OhioLMI.com, email ContactLMI@jfs.ohio.gov, or call (614) 752-9494.

Appendix Tables

Appendix Table A Ohio Business Types by Industry Sector

GOODS-PRODUCING (PRIVATE)	
MINING and LOGGING	Mining and support activities, oil and gas extraction, cutting and transporting timber
CONSTRUCTION	Construction of buildings; heavy and civil engineering (bridges, roads); and specialty trade contractors (pouring concrete, site preparation, plumbing, painting, and electrical work)
MANUFACTURING	
Durable Goods	Nonmetal and metal products, machinery, computers and electronics, appliances, transportation equipment, furniture, medical, and wood products
Non-durable Goods	Food, printing, chemicals (toiletries), plastics, textiles, paper, apparel, leather, petroleum, and coal products
SERVICE-PROVIDING (PRIVATE)	
TRADE, TRANSPORTATION, and UTILITIES	
Wholesale Trade	Wholesalers of durable and nondurable goods, business to business electronic markets, and sales representatives
Retail Trade	Auto dealers, building and garden supply centers, furniture, electronic, appliance, food, health, gasoline, clothing, sporting, hobby, book, and music stores
Transportation, Warehousing and Utilities	Transportation (air, rail, water, truck, transit, pipeline, scenic, and sightseeing); private postal services, couriers, warehousing, and storage; utilities (power, natural gas distribution, water, and sewage)
INFORMATION	Publishing, motion picture, sound recording, broadcasting, phone services, data processing and hosting, news, libraries, and internet
FINANCIAL ACTIVITIES	
Finance and Insurance	Banks, securities, insurance, funds, and trusts
Real Estate, Rental, and Leasing	Real estate agents; rental and leasing of automobiles, consumer goods, and machinery
PROFESSIONAL and BUSINESS SERVICES	
Professional, Scientific, and Technical Services	Legal services, accounting, bookkeeping, architectural, engineering, design, computer system design, scientific research, advertising, marketing, photography, translation, and veterinary
Management of Companies and Enterprises	Holding companies, corporate offices, and management offices
Admin. Support and Waste Mgmt. Services	Administrative management (hotel management) and facilities support; employment placement, executive search, temporary help, and professional employer organizations; document preparation, telephone call centers, collection agencies, travel arrangement, security, pest control, janitorial, landscaping, carpet cleaning, packing and labeling, trade show organizer, and auctioneers
EDUCATIONAL and HEALTH SERVICES	
Educational Services	Private schools and universities and support services for education (college selection, test preparation, and guidance counseling)
Health Care and Social Assistance	Private ambulatory health, hospitals, nursing and residential care, and social assistance (care for children, elderly, and disabled, emergency relief, vocational and rehabilitation services)
LEISURE and HOSPITALITY	
Arts, Entertainment, and Recreation	Performing arts, spectator sports, museums, historical sites, zoos, parks, amusement, and gambling
Accommodation and Food Services	Hotels, RV parks, food, and drinking places
OTHER SERVICES	Repair (autos, electronics, machinery, and appliances); personal (hair, nail, skin, weight reduction, and tattoos); funeral homes; dry-cleaning and laundry services; pet care, parking lots, astrology, coin machines, dating, escort, future telling, life coaching, and personal fitness trainer; associations (churches, grant making, social advocacy, and unions)
GOVERNMENT (PUBLIC)	
Federal Government	Civilian federal employees including the U.S. Postal Service
State Government	Includes state universities and hospitals
Local Government	Includes local schools, community colleges, and local hospitals; township, city, and county employees such as fire fighters and park rangers

Appendix Table B
Ohio Employment Projections Report by Major Industry, 2020–2030

Industry	2020 Annual Employment	2030 Projected Employment	Change in Employment 2020-2030	Percent Change 2020-2030
Total	5,567,009	5,824,265	257,256	4.6%
Goods-Producing Industries	978,485	991,766	13,281	1.4%
Agriculture, Forestry, Fishing, and Hunting	97,782	102,571	4,789	4.9%
Mining	9,019	10,025	1,006	11.2%
Construction	218,719	228,780	10,061	4.6%
Manufacturing	652,965	650,390	-2,575	-0.4%
Service-Providing Industries	4,315,133	4,572,390	257,257	6.0%
Wholesale Trade	225,643	227,604	1,961	0.9%
Retail Trade	532,066	513,604	-18,462	-3.5%
Transportation and Warehousing	229,146	256,297	27,151	11.9%
Utilities	18,425	17,085	-1,340	-7.3%
Information	63,857	64,101	244	0.4%
Finance and Insurance	240,961	243,485	2,524	1.1%
Real Estate and Rental and Leasing	62,229	63,943	1,714	2.8%
Professional and Technical Services	262,081	280,093	18,012	6.9%
Management of Companies and Enterprises	138,081	145,820	7,739	5.6%
Administrative and Waste Services	297,168	312,263	15,095	5.1%
Educational Services	415,068	439,911	24,843	6.0%
Health Care and Social Assistance	813,811	900,474	86,663	10.7%
Arts, Entertainment, and Recreation	61,826	78,656	16,830	27.2%
Accommodation and Food Services	404,259	468,477	64,218	15.9%
Other Services (Except Government)	205,681	217,156	11,475	5.6%
Government	344,831	343,421	-1,410	-0.4%
Self-Employed and Unpaid Family Workers	273,391	260,109	-13,282	-4.9%

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, December 2022.

Appendix Table C
Ohio's Top 30 Industries* with the Fastest Job Growth, 2020-2030

NAICS	Industry	2020 Annual Employment	2030 Projected Employment	Change in Employment 2020-2030	Percent Change 2020-2030
7121	Museums, Historical Sites, and Similar Institution	6,166	8,424	2,258	36.6%
8129	Other Personal Services	8,714	11,733	3,019	34.7%
6241	Individual and Family Services	62,472	82,626	20,154	32.3%
6116	Other Schools and Instruction	10,027	13,082	3,055	30.5%
4541	Electronic Shopping and Mail Order Houses	20,801	26,670	5,869	28.2%
4881	Support Activities for Air Transportation	5,177	6,628	1,451	28.0%
7224	Drinking Places (Alcoholic Beverages)	10,852	13,621	2,769	25.5%
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	9,268	11,577	2,309	24.9%
8134	Civic and Social Organizations	14,580	18,046	3,466	23.8%
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals	9,089	11,156	2,067	22.7%
6213	Offices of Other Health Practitioners	33,120	40,362	7,242	21.9%
7132	Gambling Industries	5,417	6,580	1,163	21.5%
6232	Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities	31,020	37,487	6,467	20.9%
5619	Other Support Services	10,193	12,285	2,092	20.5%
6244	Child Day Care Services	29,035	34,936	5,901	20.3%
7139	Other Amusement and Recreation Industries	37,346	44,793	7,447	19.9%
7211	Traveler Accommodation	25,065	30,050	4,985	19.9%
6222	Psychiatric and Substance Abuse Hospitals	5,847	6,982	1,135	19.4%
5416	Management, Scientific, and Technical Consulting Services	34,278	40,785	6,507	19.0%
6216	Home Health Care Services	60,645	71,777	11,132	18.4%
6117	Educational Support Services	22,239	26,277	4,038	18.2%
5611	Office Administrative Services	19,689	22,919	3,230	16.4%
3361	Motor Vehicle Manufacturing	20,700	23,935	3,235	15.6%
6214	Outpatient Care Centers	32,580	37,606	5,026	15.4%
7225	Restaurants and Other Eating Places	353,893	408,219	54,326	15.4%
5182	Data Processing, Hosting, and Related Services	8,764	10,078	1,314	15.0%
3344	Semiconductor and Other Electronic Component Manufacturing	7,624	8,765	1,141	15.0%
6215	Medical and Diagnostic Laboratories	6,638	7,586	948	14.3%
5112	Software Publishers	8,226	9,398	1,172	14.3%
5621	Waste Collection	6,072	6,910	838	13.8%

* Industries with 5,000 or more workers.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, December 2022.

Appendix Table D
Ohio's Top 30 Industries with the Most New Jobs, 2020-2030

NAICS	Industry	2020 Annual Employment	2030 Projected Employment	Change in Employment 2020-2030	Percent Change 2020-2030
7225	Restaurants and Other Eating Places	353,893	408,219	54,326	15.4%
6241	Individual and Family Services*	62,472	82,626	20,154	32.3%
6221	General Medical and Surgical Hospitals	265,811	283,555	17,744	6.7%
6111	Elementary and Secondary Schools	270,007	285,478	15,471	5.7%
6216	Home Health Care Services	60,645	71,777	11,132	18.4%
5613	Employment Services	115,851	124,035	8,184	7.1%
5511	Management of Companies and Enterprises	138,081	145,820	7,739	5.6%
7139	Other Amusement and Recreation Industries	37,346	44,793	7,447	19.9%
6213	Offices of Other Health Practitioners	33,120	40,362	7,242	21.9%
5415	Computer Systems Design and Related Services	64,079	70,644	6,565	10.3%
5416	Management, Scientific, and Technical Consulting Services	34,278	40,785	6,507	19.0%
6232	Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities	31,020	37,487	6,467	20.9%
6211	Offices of Physicians	94,550	100,944	6,394	6.8%
6244	Child Day Care Services	29,035	34,936	5,901	20.3%
4541	Electronic Shopping and Mail Order Houses*	20,801	26,670	5,869	28.2%
6214	Outpatient Care Centers	32,580	37,606	5,026	15.4%
7211	Traveler Accommodation	25,065	30,050	4,985	19.9%
5242	Agencies, Brokerages, and Other Insurance Related Activities	45,450	49,960	4,510	9.9%
6233	Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly	36,148	40,639	4,491	12.4%
6117	Educational Support Services	22,239	26,277	4,038	18.2%
4921	Couriers	29,297	33,293	3,996	13.6%
8134	Civic and Social Organizations	14,580	18,046	3,466	23.8%
3361	Motor Vehicle Manufacturing	20,700	23,935	3,235	15.6%
5611	Office Administrative Services	19,689	22,919	3,230	16.4%
6113	Colleges, Universities, and Professional Schools	90,944	94,081	3,137	3.5%
9993	Local Government, Excluding Education and Hospitals	211,082	214,199	3,117	1.5%
6116	Other Schools and Instruction*	10,027	13,082	3,055	30.5%
8129	Other Personal Services*	8,714	11,733	3,019	34.7%
7224	Drinking Places (Alcoholic Beverages)*	10,852	13,621	2,769	25.5%
2382	Building Equipment Contractors	71,650	74,176	2,526	3.5%

*Industries expected to have the most new jobs and growth rates of at least 25%.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, December 2022.

Appendix Table E
Ohio's Industry* Employment Projections Report, 2020-2030

NAICS	Industry	2020 Annual Employment	2030 Projected Employment	Change in Employment 2020-2030	Percent Change 2020-2030
Total All Industries		5,567,009	5,824,265	257,256	4.6%
	Agriculture, Forestry, Fishing, and Hunting	97,782	102,571	4,789	4.9%
	Mining	9,019	10,025	1,006	11.2%
213	Support Activities for Mining	3,945	5,013	1,068	27.1%
	Construction	218,719	228,780	10,061	4.6%
236	Construction of Buildings	47,998	50,768	2,770	5.8%
2361	Residential Building Construction	20,837	22,146	1,309	6.3%
2362	Nonresidential Building Construction	27,161	28,622	1,461	5.4%
237	Heavy and Civil Engineering Construction	28,997	30,386	1,389	4.8%
2371	Utility System Construction	15,991	16,785	794	5.0%
2373	Highway, Street, and Bridge Construction	10,660	11,159	499	4.7%
238	Specialty Trade Contractors	141,724	147,626	5,902	4.2%
2381	Foundation, Structure, and Building Exterior Contractors	28,632	29,928	1,296	4.5%
2382	Building Equipment Contractors	71,650	74,176	2,526	3.5%
2383	Building Finishing Contractors	20,657	21,764	1,107	5.4%
2389	Other Specialty Trade Contractors	20,785	21,758	973	4.7%
	Manufacturing	652,965	650,390	-2,575	-0.4%
311	Food Manufacturing	59,280	59,244	-36	-0.1%
3114	Fruit and Vegetable Preserving and Specialty Manufacturing	11,493	11,266	-227	-2.0%
3115	Dairy Product Manufacturing	8,036	8,031	-5	-0.1%
3116	Animal Slaughtering and Processing	11,114	11,587	473	4.3%
3118	Bakeries and Tortilla Manufacturing	11,349	11,254	-95	-0.8%
3119	Other Food Manufacturing	10,277	10,290	13	0.1%
312	Beverage and Tobacco Product Manufacturing	9,713	10,159	446	4.6%
321	Wood Product Manufacturing	12,539	12,906	367	2.9%
3219	Other Wood Product Manufacturing	9,383	9,690	307	3.3%
322	Paper Manufacturing	20,267	19,562	-705	-3.5%
3222	Converted Paper Product Manufacturing	18,167	17,771	-396	-2.2%
323	Printing and Related Support Activities	18,511	14,652	-3,859	-20.9%
325	Chemical Manufacturing	45,863	46,173	310	0.7%
3250A1	Chemical Manufacturing (3251, 3252, 3253, and 3259 only)	21,468	20,750	-718	-3.3%
3250A2	Chemical Manufacturing (3255 and 3256 only)	18,599	19,226	627	3.4%
3254	Pharmaceutical and Medicine Manufacturing	5,796	6,197	401	6.9%
326	Plastics and Rubber Products Manufacturing	54,581	51,800	-2,781	-5.1%
3261	Plastics Product Manufacturing	42,333	40,408	-1,925	-4.6%
3262	Rubber Product Manufacturing	12,248	11,392	-856	-7.0%
327	Nonmetallic Mineral Product Manufacturing	25,530	24,811	-719	-2.8%
331	Primary Metal Manufacturing	34,241	32,703	-1,538	-4.5%
3311	Iron and Steel Mills and Ferroalloy Manufacturing	9,332	8,796	-536	-5.7%
3312	Steel Product Manufacturing from Purchased Steel	7,117	6,829	-288	-4.1%
3315	Foundries	9,839	9,676	-163	-1.7%
332	Fabricated Metal Product Manufacturing	92,187	93,128	941	1.0%
3320A1	Fabricated Metal Product Manufacturing (3321, 3322, 3325, 3326, and 3329 only)	31,842	31,542	-300	-0.9%

Appendix Table E - cont'd.
Ohio's Industry* Employment Projections Report, 2020-2030

NAICS	Industry	2020 Annual Employment	2030 Projected Employment	Change in Employment 2020-2030	Percent Change 2020-2030
3320A2	Fabricated Metal Product Manufacturing (3323 and 3324 only)	25,299	26,291	992	3.9%
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	23,368	23,743	375	1.6%
3328	Coating, Engraving, Heat Treating, and Allied Activities	11,678	11,552	-126	-1.1%
333	Machinery Manufacturing	74,379	76,203	1,824	2.5%
3330A1	Machinery Manufacturing (3331, 3332, 3334, and 3339 only)	46,682	48,500	1,818	3.9%
3335	Metalworking Machinery Manufacturing	20,672	20,872	200	1.0%
334	Computer and Electronic Product Manufacturing	20,652	21,065	413	2.0%
3344	Semiconductor and Other Electronic Component Manufacturing	7,624	8,765	1,141	15.0%
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	10,250	9,628	-622	-6.1%
335	Electrical Equipment, Appliance, and Component Manufacturing	25,439	25,702	263	1.0%
3353	Electrical Equipment Manufacturing	7,528	7,281	-247	-3.3%
3359	Other Electrical Equipment and Component Manufacturing	6,158	6,818	660	10.7%
336	Transportation Equipment Manufacturing	113,067	116,366	3,299	2.9%
3361	Motor Vehicle Manufacturing	20,700	23,935	3,235	15.6%
3362	Motor Vehicle Body and Trailer Manufacturing	8,161	8,388	227	2.8%
3363	Motor Vehicle Parts Manufacturing	64,631	65,583	952	1.5%
3364	Aerospace Product and Parts Manufacturing	17,935	17,018	-917	-5.1%
337	Furniture and Related Product Manufacturing	14,553	14,827	274	1.9%
3370A1	Furniture and Related Product Manufacturing (3371 and 3372 only)	13,906	14,237	331	2.4%
339	Miscellaneous Manufacturing	20,787	20,522	-265	-1.3%
3391	Medical Equipment and Supplies Manufacturing	8,706	8,203	-503	-5.8%
3399	Other Miscellaneous Manufacturing	12,081	12,319	238	2.0%
	Wholesale Trade	225,643	227,604	1,961	0.9%
423	Merchant Wholesalers, Durable Goods	135,459	137,547	2,088	1.5%
4230A1	Merchant Wholesalers, Durable Goods (4232, 4233, 4235, 4236, 4237, and 4239 only)	57,204	59,384	2,180	3.8%
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	15,264	15,744	480	3.1%
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	28,508	27,527	-981	-3.4%
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	34,483	34,892	409	1.2%
424	Merchant Wholesalers, Nondurable Goods	73,361	73,101	-260	-0.4%
4240A1	Merchant Wholesalers, Nondurable Goods (4244 and 4248 only)	31,507	32,075	568	1.8%
4240A2	Merchant Wholesalers, Nondurable Goods (4242 and 4246 only)	20,191	20,158	-33	-0.2%
4240A3	Merchant Wholesalers, Nondurable Goods (4241, 4247, and 4249 only)	17,644	16,866	-778	-4.4%
425	Wholesale Electronic Markets and Agents and Brokers	16,823	16,956	133	0.8%

Appendix Table E – cont’d.
Ohio’s Industry* Employment Projections Report, 2020–2030

NAICS	Industry	2020 Annual Employment	2030 Projected Employment	Change in Employment 2020-2030	Percent Change 2020-2030
	Retail Trade	532,066	513,604	-18,462	-3.5%
441	Motor Vehicle and Parts Dealers	73,947	76,364	2,417	3.3%
4411	Automobile Dealers	46,153	47,769	1,616	3.5%
4413	Automotive Parts, Accessories, and Tire Stores	23,313	23,708	395	1.7%
442	Furniture and Home Furnishings Stores	11,556	11,850	294	2.5%
4421	Furniture Stores	6,307	6,316	9	0.1%
4422	Home Furnishings Stores	5,249	5,534	285	5.4%
443	Electronics and Appliance Stores	14,441	12,268	-2,173	-15.1%
444	Building Material and Garden Equipment and Supplies Dealers	54,523	56,124	1,601	2.9%
4441	Building Material and Supplies Dealers	47,285	48,719	1,434	3.0%
4442	Lawn and Garden Equipment and Supplies Stores	7,238	7,405	167	2.3%
445	Food and Beverage Stores	101,269	92,051	-9,218	-9.1%
4450A1	Food and Beverage Stores (4451 and 4452 only)	97,241	88,258	-8,983	-9.2%
446	Health and Personal Care Stores	33,970	32,433	-1,537	-4.5%
447	Gasoline Stations	35,415	33,988	-1,427	-4.0%
448	Clothing and Clothing Accessories Stores	27,734	26,150	-1,584	-5.7%
4481	Clothing Stores	19,482	18,365	-1,117	-5.7%
4482	Shoe Stores	5,264	5,082	-182	-3.5%
451	Sporting Goods, Hobby, Book, and Music Stores	15,718	14,199	-1,519	-9.7%
4511	Sporting Goods, Hobby, and Musical Instrument Stores	14,418	13,272	-1,146	-8.0%
452	General Merchandise Stores	108,678	100,867	-7,811	-7.2%
453	Miscellaneous Store Retailers	26,760	23,827	-2,933	-11.0%
4530A1	Miscellaneous Store Retailers (4532 and 4533 only)	13,117	10,678	-2,439	-18.6%
4539	Other Miscellaneous Store Retailers	11,248	11,305	57	0.5%
454	Nonstore Retailers	28,055	33,483	5,428	19.4%
4541	Electronic Shopping and Mail Order Houses	20,801	26,670	5,869	28.2%
	Transportation and Warehousing	229,146	256,297	27,151	11.9%
481	Air Transportation	9,818	10,146	328	3.3%
4812	Nonscheduled Air Transportation	6,079	6,269	190	3.1%
484	Truck Transportation	70,054	72,918	2,864	4.1%
485	Transit and Ground Passenger Transportation	7,825	11,435	3,610	46.1%
488	Support Activities for Transportation	20,658	23,578	2,920	14.1%
4881	Support Activities for Air Transportation	5,177	6,628	1,451	28.0%
4885	Freight Transportation Arrangement	7,744	8,301	557	7.2%
492	Couriers and Messengers	34,026	39,321	5,295	15.6%
4921	Couriers	29,297	33,293	3,996	13.6%
4922	Local Messengers and Local Delivery	4,729	6,028	1,299	27.5%
493	Warehousing and Storage	77,343	88,911	11,568	15.0%
	Utilities	18,425	17,085	-1,340	-7.3%
2211	Electric Power Generation, Transmission and Distribution	11,651	10,609	-1,042	-8.9%
2212	Natural Gas Distribution	5,448	5,055	-393	-7.2%

Appendix Table E - cont'd.
Ohio's Industry* Employment Projections Report, 2020-2030

NAICS	Industry	2020 Annual Employment	2030 Projected Employment	Change in Employment 2020-2030	Percent Change 2020-2030
	Information	63,857	64,101	244	0.4%
511	Publishing Industries, except Internet	18,987	19,062	75	0.4%
5111	Newspaper, Periodical, Book, and Directory Publishers	10,761	9,664	-1,097	-10.2%
5112	Software Publishers	8,226	9,398	1,172	14.3%
515	Broadcasting (except Internet)	5,499	5,397	-102	-1.9%
5151	Radio and Television Broadcasting	5,430	5,328	-102	-1.9%
517	Telecommunications	21,164	17,800	-3,364	-15.9%
518	Data Processing, Hosting, and Related Services	8,764	10,078	1,314	15.0%
519	Other Information Services	6,203	6,939	736	11.9%
	Finance and Insurance	240,961	243,485	2,524	1.1%
522	Credit Intermediation and Related Activities	94,115	89,199	-4,916	-5.2%
5220A1	Credit Intermediation and Related Activities (5221 And 5223 only)	75,082	69,793	-5,289	-7.0%
5222	Nondepository Credit Intermediation	19,033	19,406	373	2.0%
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	19,859	21,763	1,904	9.6%
524	Insurance Carriers and Related Activities	125,713	131,194	5,481	4.4%
5241	Insurance Carriers	80,263	81,234	971	1.2%
5242	Agencies, Brokerages, and Other Insurance Related Activities	45,450	49,960	4,510	9.9%
	Real Estate and Rental and Leasing	62,229	63,943	1,714	2.8%
531	Real Estate	45,515	47,188	1,673	3.7%
532	Rental and Leasing Services	16,071	16,118	47	0.3%
5320A1	Rental and Leasing Services (5322, 5323, and 5324 only)	9,447	8,880	-567	-6.0%
5321	Automotive Equipment Rental and Leasing	6,624	7,238	614	9.3%
	Professional, Scientific, and Technical Services	262,081	280,093	18,012	6.9%
5411	Legal Services	30,520	30,337	-183	-0.6%
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	30,505	31,135	630	2.1%
5413	Architectural, Engineering, and Related Services	41,500	41,711	211	0.5%
5414	Specialized Design Services	6,688	7,114	426	6.4%
5415	Computer Systems Design and Related Services	64,079	70,644	6,565	10.3%
5416	Management, Scientific, and Technical Consulting Services	34,278	40,785	6,507	19.0%
5417	Scientific Research and Development Services	18,969	21,250	2,281	12.0%
5418	Advertising, Public Relations, and Related Services	11,468	10,671	-797	-7.0%
5419	Other Professional, Scientific, and Technical Services	24,074	26,446	2,372	9.9%
	Management of Companies and Enterprises	138,081	145,820	7,739	5.6%
	Administrative and Support and Waste Management and Remediation Services	297,168	312,263	15,095	5.1%
561	Administrative and Support Services	279,687	292,679	12,992	4.7%
5611	Office Administrative Services	19,689	22,919	3,230	16.4%
5613	Employment Services	115,851	124,035	8,184	7.1%

Appendix Table E – cont’d.
Ohio’s Industry* Employment Projections Report, 2020–2030

NAICS	Industry	2020 Annual Employment	2030 Projected Employment	Change in Employment 2020-2030	Percent Change 2020-2030
5614	Business Support Services	33,593	32,534	-1,059	-3.2%
5616	Investigation and Security Services	22,903	24,026	1,123	4.9%
5617	Services to Buildings and Dwellings	70,482	69,549	-933	-1.3%
5619	Other Support Services	10,193	12,285	2,092	20.5%
562	Waste Management and Remediation Service	17,481	19,584	2,103	12.0%
5621	Waste Collection	6,072	6,910	838	13.8%
5622	Waste Treatment and Disposal	4,814	5,279	465	9.7%
5629	Remediation and Other Waste Management Services	6,595	7,395	800	12.1%
	Educational Services	415,068	439,911	24,843	6.0%
6111	Elementary and Secondary Schools	270,007	285,478	15,471	5.7%
6112	Junior Colleges	17,653	16,741	-912	-5.2%
6113	Colleges, Universities, and Professional Schools	90,944	94,081	3,137	3.5%
6116	Other Schools and Instruction	10,027	13,082	3,055	30.5%
6117	Educational Support Services	22,239	26,277	4,038	18.2%
	Health Care and Social Assistance	813,811	900,474	86,663	10.7%
621	Ambulatory Health Care Services	267,053	300,079	33,026	12.4%
6211	Offices of Physicians	94,550	100,944	6,394	6.8%
6212	Offices of Dentists	29,299	30,886	1,587	5.4%
6213	Offices of Other Health Practitioners	33,120	40,362	7,242	21.9%
6214	Outpatient Care Centers	32,580	37,606	5,026	15.4%
6215	Medical and Diagnostic Laboratories	6,638	7,586	948	14.3%
6216	Home Health Care Services	60,645	71,777	11,132	18.4%
6219	Other Ambulatory Health Care Services	10,221	10,918	697	6.8%
622	Hospitals	280,747	301,693	20,946	7.5%
6221	General Medical and Surgical Hospitals	265,811	283,555	17,744	6.7%
6222	Psychiatric and Substance Abuse Hospitals	5,847	6,982	1,135	19.4%
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals	9,089	11,156	2,067	22.7%
623	Nursing and Residential Care Facilities	157,491	161,896	4,405	2.8%
6231	Nursing Care Facilities (Skilled Nursing Facilities)	86,280	80,423	-5,857	-6.8%
6232	Residential Intellectual & Developmental Disability, Mental Health, and Substance Abuse Facilities	31,020	37,487	6,467	20.9%
6233	Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly	36,148	40,639	4,491	12.4%
624	Social Assistance	108,520	136,806	28,286	26.1%
6241	Individual and Family Services	62,472	82,626	20,154	32.3%
6242	Community Food and Housing, and Emergency and Other Relief Services	6,692	7,567	875	13.1%
6243	Vocational Rehabilitation Services	10,321	11,677	1,356	13.1%
6244	Child Day Care Services	29,035	34,936	5,901	20.3%
	Arts, Entertainment, and Recreation	61,826	78,656	16,830	27.2%
711	Performing Arts, Spectator Sports, and Related Industries	8,980	12,799	3,819	42.5%
7113	Promoters of Performing Arts, Sports, and Similar Events	3,266	5,480	2,214	67.8%
712	Museums, Historical Sites, and Similar Institutions	6,166	8,424	2,258	36.6%

Appendix Table E - cont'd.
Ohio's Industry* Employment Projections Report, 2020-2030

NAICS	Industry	2020 Annual Employment	2030 Projected Employment	Change in Employment 2020-2030	Percent Change 2020-2030
713	Amusement, Gambling, and Recreation Industries	46,680	57,433	10,753	23.0%
7131	Amusement Parks and Arcades	3,917	6,060	2,143	54.7%
7132	Gambling Industries	5,417	6,580	1,163	21.5%
7139	Other Amusement and Recreation Industries	37,346	44,793	7,447	19.9%
	Accommodation and Food Services	404,259	468,477	64,218	15.9%
721	Accommodation, including Hotels and Motels	26,761	32,203	5,442	20.3%
7211	Traveler Accommodation	25,065	30,050	4,985	19.9%
722	Food Services and Drinking Places	377,498	436,274	58,776	15.6%
7223	Special Food Services	12,753	14,434	1,681	13.2%
7224	Drinking Places (Alcoholic Beverages)	10,852	13,621	2,769	25.5%
7225	Restaurants and Other Eating Places	353,893	408,219	54,326	15.4%
	Other Services (Except Government)	205,681	217,156	11,475	5.6%
811	Repair and Maintenance	47,142	51,816	4,674	9.9%
8111	Automotive Repair and Maintenance	32,031	34,046	2,015	6.3%
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	9,268	11,577	2,309	24.9%
812	Personal and Laundry Services	47,470	52,373	4,903	10.3%
8121	Personal Care Services	23,001	24,389	1,388	6.0%
8122	Death Care Services	6,408	6,389	-19	-0.3%
8123	Dry Cleaning and Laundry Services	9,347	9,862	515	5.5%
8129	Other Personal Services	8,714	11,733	3,019	34.7%
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	95,815	98,659	2,844	3.0%
8131	Religious Organizations	59,821	59,480	-341	-0.6%
8134	Civic and Social Organizations	14,580	18,046	3,466	23.8%
8139	Business, Professional, Labor, Political, and Similar Organizations	12,739	11,789	-950	-7.5%
814	Private Households	15,254	14,308	-946	-6.2%
	Government	344,831	343,421	-1,410	-0.4%
	State Government, Excluding Education and Hospitals	52,006	48,591	-3,415	-6.6%
	Local Government, Excluding Education and Hospitals	211,082	214,199	3,117	1.5%
	Self-Employed and Unpaid Family Workers, All Jobs	273,391	260,109	-13,282	-4.9%

*Industries with 5,000 or more workers.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, December 2022.

Appendix Table F
Ohio Occupational Employment Projections by Occupational Group, 2020–2030

Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Total
	2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers		
Total, All Occupations	5,567,009	5,824,265	257,256	4.6%	25,726	243,077	372,428	641,231	
Management Occupations	340,876	365,212	24,336	7.1%	2,434	11,323	17,707	31,464	
Business and Financial Operations Occupations	334,640	353,607	18,967	5.7%	1,897	9,021	20,137	31,055	
Computer and Mathematical Occupations	171,126	185,949	14,823	8.7%	1,482	3,698	8,810	13,990	
Architecture and Engineering Occupations	92,374	97,503	5,129	5.6%	513	2,222	4,437	7,172	
Life, Physical, and Social Science Occupations	41,492	44,113	2,621	6.3%	262	903	2,940	4,105	
Community and Social Service Occupations	104,187	114,526	10,339	9.9%	1,034	3,769	6,989	11,792	
Legal Occupations	38,999	41,372	2,373	6.1%	237	1,110	1,585	2,932	
Education, Training, and Library Occupations	301,227	325,555	24,328	8.1%	2,433	12,180	14,054	28,667	
Arts, Design, Entertainment, Sports, and Media Occupations	82,243	87,035	4,792	5.8%	479	3,333	5,391	9,203	
Healthcare Practitioners and Technical Occupations	374,761	403,904	29,143	7.8%	2,914	9,984	11,759	24,657	
Healthcare Support Occupations	229,958	263,259	33,301	14.5%	3,330	14,428	15,250	33,008	
Protective Service Occupations	107,975	111,274	3,299	3.1%	330	5,122	6,926	12,378	
Food Preparation and Serving Related Occupations	429,256	485,853	56,597	13.2%	5,660	35,039	46,688	87,387	
Building and Grounds Cleaning and Maintenance Occupations	172,921	176,584	3,663	2.1%	366	9,863	12,823	23,052	
Personal Care and Service Occupations	124,074	137,400	13,326	10.7%	1,333	8,185	10,111	19,629	
Sales and Related Occupations	488,481	472,263	-16,218	-3.3%	-1,622	24,287	37,837	60,502	
Office and Administrative Support Occupations	706,653	675,825	-30,828	-4.4%	-3,083	32,786	42,941	72,644	
Farming, Fishing, and Forestry Occupations	15,664	16,161	497	3.2%	50	664	1,805	2,519	
Construction and Extraction Occupations	205,151	215,617	10,466	5.1%	1,047	6,252	14,357	21,656	
Installation, Maintenance, and Repair Occupations	218,593	230,543	11,950	5.5%	1,195	7,083	14,131	22,409	
Production Occupations	478,706	468,981	-9,725	-2.0%	-972	17,480	33,617	50,125	
Transportation and Material Moving Occupations	507,652	551,729	44,077	8.7%	4,408	24,343	42,132	70,883	

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, December 2022.

Appendix Table G
Ohio's Fastest Growing Occupations*, 2020–2030

Occupational Title	Percent Change	Total Annual Openings	Median Wage May 2021
Nurse Practitioners (SOC 29-1171)	48.5%	1,095	\$49.67
Ushers, Lobby Attendants, and Ticket Takers (SOC 39-3031)	42.7%	809	\$10.99
Cooks, Restaurant (SOC 35-2014)	42.0%	7,269	\$13.87
Statisticians (SOC 15-2041)	34.6%	118	\$36.17
Actors (SOC 27-2011)	31.7%	129	\$9.44
Occupational Therapy Assistants (SOC 31-2011)	31.3%	759	\$29.51
Nonfarm Animal Caretakers (SOC 39-2021)	29.4%	1,857	\$11.01
Medical and Health Services Managers (SOC 11-9111)	28.7%	1,709	\$47.38
Physician Assistants (SOC 29-1071)	28.6%	414	\$49.29
Logisticians (SOC 13-1081)	28.3%	920	\$37.03
Passenger Vehicle Drivers, Except Bus Drivers, Transit and Intercity (SOC 53-3058)	27.9%	2,902	\$18.05 ^^
Information Security Analysts (SOC 15-1212)	26.7%	467	\$47.62
Data Scientists and Mathematical Science Occupations, All Other (SOC 15-2098)	26.6%	264	\$30.03 ^^
Physical Therapist Assistants (SOC 31-2021)	26.5%	1,028	\$29.60
Interpreters and Translators (SOC 27-3091)	26.2%	547	\$23.29
Fitness Trainers and Aerobics Instructors (SOC 39-9031)	25.4%	1,980	\$14.39
Tour and Travel Guides (SOC 39-7010)	25.0%	165	\$13.81
Computer Numerically Controlled Tool Programmers (SOC 51-9162)	24.8%	306	\$27.68
Home Health and Personal Care Aides (SOC 31-1120)	24.0%	15,212	\$11.54
Speech-Language Pathologists (SOC 29-1127)	23.8%	583	\$37.71
Preschool Teachers, Except Special Education (SOC 25-2011)	23.6%	1,820	\$13.89
Bartenders (SOC 35-3011)	22.9%	4,020	\$10.21
Gaming Dealers (SOC 39-3011)	22.7%	191	\$9.31
Amusement and Recreation Attendants (SOC 39-3091)	22.3%	2,309	\$10.38
Actuaries (SOC 15-2011)	22.2%	128	\$47.88
Industrial Machinery Mechanics (SOC 49-9041)	22.0%	2,257	\$28.74
Dining Room and Cafeteria Attendants and Bartender Helpers (SOC 35-9011)	21.8%	1,528	\$11.18
Operations Research Analysts (SOC 15-2031)	21.5%	464	\$40.91
Respiratory Therapists (SOC 29-1126)	21.3%	475	\$29.41
Substance Abuse, Behavioral Disorder, and Mental Health Counselors (SOC 21-1018)	20.8%	1,126	\$22.84
Roustabouts, Oil and Gas (SOC 47-5071)	20.6%	93	\$17.96
Media and Communication Workers, All Other (SOC 27-3099)	20.5%	142	\$17.80
Self-Enrichment Education Teachers (SOC 25-3021)	20.3%	1,475	\$14.64
Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers (SOC 33-9092)	19.8%	1,503	\$10.72
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop (SOC 35-9031)	19.0%	2,887	\$10.59

* Occupations with at least 500 employment.

^^ National aggregate wages.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, December 2022.

Appendix Table H
Occupations in Ohio with the Most Annual Openings, 2020–2030

Occupational Title	Total Annual Openings	Median Wage May 2021
Fast Food and Counter Workers (SOC 35-3023)	34,067	\$10.70
Retail Salespersons (SOC 41-2031)	18,044	\$12.99
Laborers and Freight, Stock, and Material Movers, Hand (SOC 53-7062)	17,182	\$16.37
Cashiers (SOC 41-2011)	16,985	\$10.96
Stockers and Order Fillers (SOC 53-7065)	15,683	\$14.39
Home Health and Personal Care Aides (SOC 31-1120)	15,212	\$11.54
Waiters and Waitresses (SOC 35-3031)	14,795	\$9.87
Customer Service Representatives (SOC 43-4051)	14,435	\$17.89
Office Clerks, General (SOC 43-9061)	11,362	\$17.85
Janitors and Cleaners, Except Maids and Housekeeping Cleaners (SOC 37-2011)	11,018	\$14.06
Heavy and Tractor-Trailer Truck Drivers (SOC 53-3032)	9,311	\$23.17
Miscellaneous Assemblers and Fabricators (SOC 51-2090)	8,695	\$17.78
Farmers, Ranchers, and Other Agricultural Managers (SOC 11-9013)	8,490	\$35.12 ^^
Registered Nurses (SOC 29-1141)	7,993	\$35.62
Nursing Assistants (SOC 31-1131)	7,768	\$14.34
Cooks, Restaurant (SOC 35-2014)	7,269	\$13.87
First-Line Supervisors of Food Preparation and Serving Workers (SOC 35-1012)	6,946	\$15.65
General and Operations Managers (SOC 11-1021)	6,020	\$45.60
Maintenance and Repair Workers, General (SOC 49-9071)	5,996	\$22.36
Bookkeeping, Accounting, and Auditing Clerks (SOC 43-3031)	5,946	\$18.76
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (SOC 41-4012)	5,869	\$29.71
Landscaping and Groundskeeping Workers (SOC 37-3011)	5,800	\$14.58
Software Developers and Software Quality Assurance Analysts and Testers (SOC 15-1256)	5,239	\$49.49 ^^
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (SOC 43-6014)	5,136	\$17.94
Construction Laborers (SOC 47-2061)	4,792	\$22.22
Accountants and Auditors (SOC 13-2011)	4,752	\$33.46
Maids and Housekeeping Cleaners (SOC 37-2012)	4,544	\$11.80
Food Preparation Workers (SOC 35-2021)	4,524	\$11.69
Light Truck or Delivery Services Drivers (SOC 53-3033)	4,427	\$18.00
Driver/Sales Workers (SOC 53-3031)	4,416	\$11.62
Project Management Specialists and Business Operations Specialists, All Other (SOC 13-1198)	4,389	\$35.90 ^^
Receptionists and Information Clerks (SOC 43-4171)	4,322	\$14.08
First-Line Supervisors of Office and Administrative Support Workers (SOC 43-1011)	4,319	\$28.91
Teaching Assistants, Except Postsecondary (SOC 25-9045)	4,260	\$28,820 ††
First-Line Supervisors of Retail Sales Workers (SOC 41-1011)	4,204	\$18.23
Industrial Truck and Tractor Operators (SOC 53-7051)	4,164	\$18.51
Childcare Workers (SOC 39-9011)	4,042	\$11.17
Elementary School Teachers, Except Special Education (SOC 25-2021)	4,033	\$64,410 ††

^^ National aggregate wages.

^^^ National hourly wages.

†† Certain occupations only report wages at the annual level - for elementary and secondary teachers this typically reflects a 9 1/2-month school year.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, December 2022.

Appendix Table I
Ohio Occupations with at least 1,000 Self-Employed, 2020–2030

Occupational Title	2020 Employment	Self-Employed	Percent Self-Employed
Hairdressers, Hairstylists, and Cosmetologists (SOC 39-5012)	26,422	11,315	42.8%
Construction Laborers (SOC 47-2061)	43,962	11,070	25.2%
Software Developers and Software Quality Assurance Analysts and Testers (SOC 15-1256)	56,476	10,440	18.5%
First-Line Supervisors of Retail Sales Workers (SOC 41-1011)	44,931	10,193	22.7%
Landscaping and Groundskeeping Workers (SOC 37-3011)	43,512	9,112	20.9%
Project Management Specialists and Business Operations Specialists, All Other (SOC 13-1198)	57,236	8,240	14.4%
Real Estate Sales Agents (SOC 41-9022)	12,597	7,259	57.6%
Carpenters (SOC 47-2031)	25,776	6,601	25.6%
Childcare Workers (SOC 39-9011)	28,227	6,381	22.6%
Heavy and Tractor-Trailer Truck Drivers (SOC 53-3032)	78,801	5,864	7.4%
Retail Salespersons (SOC 41-2031)	134,006	4,719	3.5%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners (SOC 37-2011)	80,961	4,561	5.6%
Management Analysts (SOC 13-1111)	28,325	4,480	15.8%
Property, Real Estate, and Community Association Managers (SOC 11-9141)	11,751	4,305	36.6%
First-Line Supervisors of Non-Retail Sales Workers (SOC 41-1012)	12,030	4,293	35.7%
Maids and Housekeeping Cleaners (SOC 37-2012)	33,465	3,903	11.7%
Construction Managers (SOC 11-9021)	10,543	3,816	36.2%
Food Service Managers (SOC 11-9051)	10,638	3,759	35.3%
Lawyers (SOC 23-1011)	21,274	3,639	17.1%
Painters, Construction and Maintenance (SOC 47-2141)	8,651	3,333	38.5%
Passenger Vehicle Drivers, Except Bus Drivers, Transit and Intercity (SOC 53-3058)	18,192	3,273	18.0%
Bookkeeping, Accounting, and Auditing Clerks (SOC 43-3031)	58,052	3,218	5.5%
Automotive Service Technicians and Mechanics (SOC 49-3023)	28,292	3,067	10.8%
Home Health and Personal Care Aides (SOC 31-1120)	95,559	2,612	2.7%
Light Truck or Delivery Services Drivers (SOC 53-3033)	35,532	2,583	7.3%
Driver/Sales Workers (SOC 53-3031)	33,387	2,504	7.5%
First-Line Supervisors of Transportation & Material Moving Workers, Except Aircraft Cargo Handling Supervisor (SOC 53-1047)	22,321	2,483	11.1%
Nonfarm Animal Caretakers (SOC 39-2021)	9,367	2,427	25.9%
Insurance Sales Agents (SOC 41-3021)	18,707	2,426	13.0%
Photographers (SOC 27-4021)	3,773	2,414	64.0%
Writers and Authors (SOC 27-3043)	3,531	2,413	68.3%
Accountants and Auditors (SOC 13-2011)	50,539	2,393	4.7%
First-Line Supervisors of Housekeeping and Janitorial Workers (SOC 37-1011)	6,453	2,322	36.0%
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers (SOC 37-1012)	5,314	2,272	42.8%
Electricians (SOC 47-2111)	25,572	2,214	8.7%
Self-Enrichment Education Teachers (SOC 25-3021)	10,172	2,032	20.0%
Musicians and Singers (SOC 27-2042)	5,602	2,005	35.8%
First-Line Supervisors of Construction Trades and Extraction Workers (SOC 47-1011)	17,008	1,993	11.7%
Personal Service Managers; Entertainment & Recreation Managers, Except Gambling; and Managers, All Other (SOC 11-9198)	14,421	1,974	13.7%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (SOC 41-4012)	58,025	1,854	3.2%

Appendix Table I
Ohio Occupations with at least 1,000 Self-Employed, 2020–2030

Occupational Title	2020 Employment	Self-Employed	Percent Self-Employed
Fitness Trainers and Aerobics Instructors (SOC 39-9031)	9,981	1,828	18.3%
Personal Financial Advisors (SOC 13-2052)	9,185	1,824	19.9%
Graphic Designers (SOC 27-1024)	9,157	1,754	19.2%
Computer Occupations, All Other (SOC 15-1299)	12,457	1,749	14.0%
Chief Executives (SOC 11-1011)	6,602	1,655	25.1%
Couriers and Messengers (SOC 43-5021)	3,115	1,501	48.2%
Massage Therapists (SOC 31-9011)	3,664	1,396	38.1%
Coaches and Scouts (SOC 27-2022)	13,693	1,336	9.8%
Plumbers, Pipefitters, and Steamfitters (SOC 47-2152)	12,756	1,332	10.4%
Manicurists and Pedicurists (SOC 39-5092)	3,717	1,307	35.2%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers (SOC 49-9021)	13,957	1,194	8.6%
Interpreters and Translators (SOC 27-3091)	4,138	1,188	28.7%
Market Research Analysts and Marketing Specialists (SOC 13-1161)	26,474	1,174	4.4%
Teachers and Instructors, All Other, Except Substitute Teachers (SOC 25-3097)	8,226	1,152	14.0%
Art Directors (SOC 27-1011)	1,959	1,146	58.5%
Laborers and Freight, Stock, and Material Movers, Hand (SOC 53-7062)	116,999	1,124	1.0%
Physicians, All Other; and Ophthalmologists, Except Pediatric (SOC 29-1228)	17,542	1,111	6.3%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (SOC 43-6014)	55,856	1,058	1.9%
Roofers (SOC 47-2181)	5,719	1,052	18.4%
Psychologists, All Other (SOC 19-3039)	1,468	1,036	70.6%

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, December 2022.

Appendix Table J
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Annual Openings				Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent	Growth	Exits	Transfers	Total	
00-0000	Total, All Occupations	5,567,009	5,824,265	257,256	4.6%	25,726	243,077	372,428	641,231	\$19.08
11-0000	Management Occupations	340,876	365,212	24,336	7.1%	2,434	11,323	17,707	31,464	\$47.53
11-1011	Chief Executives	6,602	5,988	-614	-9.3%	-61	172	254	365	\$86.39
11-1021	General and Operations Managers	66,139	70,391	4,252	6.4%	425	1,363	4,232	6,020	\$45.60
11-1031	Legislators	2,410	2,502	92	3.8%	9	57	120	186	\$36,940 ††
11-2011	Advertising and Promotions Managers	276	264	-12	-4.3%	-1	5	21	25	\$48.02
11-2021	Marketing Managers	6,744	7,164	420	6.2%	42	139	438	619	\$61.47
11-2022	Sales Managers	10,975	11,447	472	4.3%	47	224	707	978	\$61.17
11-2030	Public Relations and Fundraising Managers	1,811	1,962	151	8.3%	15	49	107	171	\$57.62 †††
11-3010	Administrative Services and Facilities Managers	11,065	11,739	674	6.1%	67	324	570	961	\$47.73 †††
11-3021	Computer and Information Systems Managers	12,414	13,113	699	5.6%	70	207	725	1,002	\$62.43
11-3031	Financial Managers	22,648	26,146	3,498	15.4%	350	499	1,226	2,075	\$60.79
11-3051	Industrial Production Managers	11,546	12,060	514	4.5%	51	228	557	836	\$48.40
11-3061	Purchasing Managers	2,233	2,353	120	5.4%	12	50	124	186	\$58.50
11-3071	Transportation, Storage, and Distribution Managers	5,998	6,595	597	10.0%	60	120	347	527	\$44.54
11-3111	Compensation and Benefits Managers	461	469	8	1.7%	1	10	24	35	\$61.38
11-3121	Human Resources Managers	4,017	4,298	281	7.0%	28	96	232	356	\$59.27
11-3131	Training and Development Managers	903	983	80	8.9%	8	20	62	90	\$55.57
11-9013	Farmers, Ranchers, and Other Agricultural Managers	82,370	86,058	3,688	4.5%	369	5,195	2,926	8,490	\$35.12 †††
11-9021	Construction Managers	10,543	11,667	1,124	10.7%	112	229	562	903	\$47.08
11-9031	Education Administrators, Preschool and Childcare Center/Program	1,884	2,116	232	12.3%	23	50	93	166	\$22.31
11-9032	Education Administrators, Elementary and Secondary School	9,371	10,017	646	6.9%	65	240	450	755	\$97,320 ††
11-9033	Education Administrators, Postsecondary	3,607	3,670	63	1.7%	6	90	169	265	\$45.68
11-9039	Education Administrators, All Other	1,020	1,117	97	9.5%	10	26	50	86	\$36.22
11-9041	Architectural and Engineering Managers	5,667	5,854	187	3.3%	19	104	292	415	\$63.11
11-9051	Food Service Managers	10,638	11,759	1,121	10.5%	112	343	894	1,349	\$27.30
11-9081	Lodging Managers	1,336	1,436	100	7.5%	10	54	96	160	\$28.90
11-9111	Medical and Health Services Managers	14,815	19,063	4,248	28.7%	425	423	861	1,709	\$47.38
11-9121	Natural Sciences Managers	919	959	40	4.4%	4	18	46	68	\$50.66
11-9131	Postmasters and Mail Superintendents	480	435	-45	-9.4%	-4	11	22	29	\$38.87
11-9141	Property, Real Estate, and Community Association Managers	11,751	11,877	126	1.1%	13	449	446	908	\$22.97
11-9151	Social and Community Service Managers	5,090	5,719	629	12.4%	63	162	290	515	\$30.13
11-9171	Funeral Home Managers	379	383	4	1.1%	0	9	19	28	\$35.58
11-9198	Personal Service Managers; Entertainment & Recreation Managers, Except Gambling; and Managers, All Other	14,421	15,245	824	5.7%	82	344	727	1,153	\$59.93 ††
13-0000	Business and Financial Operations Occupations	334,640	353,607	18,967	5.7%	1,897	9,021	20,137	31,055	\$30.79
13-1020	Buyers and Purchasing Agents	17,579	16,500	-1,079	-6.1%	-108	579	1,092	1,563	\$30.37
13-1031	Claims Adjusters, Examiners, and Investigators	14,197	13,539	-658	-4.6%	-66	327	721	982	\$29.96
13-1032	Insurance Appraisers, Auto Damage	500	502	2	0.4%	0	12	26	38	\$30.13
13-1041	Compliance Officers	8,676	9,148	472	5.4%	47	215	474	736	\$30.51
13-1051	Cost Estimators	8,019	8,021	2	0.0%	0	226	484	710	\$30.42

Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
13-1071	Human Resources Specialists	30,109	32,944	2,835	9.4%	284	854	2,095	3,233	\$28.91
13-1075	Labor Relations Specialists	4,315	3,939	-376	-8.7%	-38	112	274	348	\$37.16
13-1081	Logisticians	7,282	9,342	2,060	28.3%	206	174	540	920	\$37.03
13-1111	Management Analysts	28,325	31,058	2,733	9.6%	273	955	1,708	2,936	\$38.17
13-1121	Meeting, Convention, and Event Planners	3,345	3,719	374	11.2%	37	106	259	402	\$23.34
13-1131	Fundraisers	5,103	5,574	471	9.2%	47	166	339	552	\$28.91
13-1141	Compensation, Benefits, and Job Analysis Specialists	2,840	3,095	255	9.0%	26	89	174	289	\$29.49
13-1151	Training and Development Specialists	13,125	14,292	1,167	8.9%	117	413	840	1,370	\$23.76
13-1161	Market Research Analysts and Marketing Specialists	26,474	31,088	4,614	17.4%	461	682	2,103	3,246	\$29.55
13-1198	Project Management Specialists and Business Operations Specialists, All Other	57,236	59,108	1,872	3.3%	187	1,349	2,853	4,389	\$35.90 ^^
13-2011	Accountants and Auditors	50,539	52,975	2,436	4.8%	244	1,442	3,066	4,752	\$33.46
13-2020	Property Appraisers and Assessors	1,880	1,909	29	1.5%	3	72	69	144	\$30.43
13-2031	Budget Analysts	1,009	1,049	40	4.0%	4	25	54	83	\$37.18
13-2041	Credit Analysts	2,718	2,561	-157	-5.8%	-16	45	177	206	\$34.74
13-2052	Personal Financial Advisors	9,185	9,874	689	7.5%	69	216	468	753	\$39.22
13-2053	Insurance Underwriters	5,722	5,382	-340	-5.9%	-34	113	289	368	\$37.04
13-2061	Financial Examiners	3,768	4,478	710	18.8%	71	110	192	373	\$36.65
13-2071	Credit Counselors	946	987	41	4.3%	4	21	53	78	\$23.56
13-2072	Loan Officers	12,018	12,021	3	0.0%	0	258	654	912	\$29.96
13-2081	Tax Examiners and Collectors, and Revenue Agents	1,134	1,096	-38	-3.4%	-4	43	50	89	\$30.51
13-2082	Tax Preparers	2,249	2,268	19	0.8%	2	123	124	249	\$14.98
13-2098	Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other	16,253	17,030	777	4.8%	78	292	950	1,320	\$35.21 ^^
15-0000	Computer and Mathematical Occupations	171,126	185,949	14,823	8.7%	1,482	3,698	8,810	13,990	\$38.19
15-1211	Computer Systems Analysts	24,026	24,586	560	2.3%	56	474	1,196	1,726	\$45.83
15-1212	Information Security Analysts	4,366	5,532	1,166	26.7%	117	76	274	467	\$47.62
15-1221	Computer and Information Research Scientists	619	729	110	17.8%	11	12	34	57	\$57.28
15-1231	Computer Network Support Specialists	8,168	8,477	309	3.8%	31	156	440	627	\$29.00
15-1232	Computer User Support Specialists	21,854	22,860	1,006	4.6%	101	420	1,183	1,704	\$22.96
15-1241	Computer Network Architects	4,765	4,780	15	0.3%	2	66	217	285	\$49.41
15-1244	Network and Computer Systems Administrators	12,320	12,518	198	1.6%	20	208	586	814	\$38.20
15-1245	Database Administrators and Architects	4,815	5,018	203	4.2%	20	114	241	375	\$47.44 ^^
15-1251	Computer Programmers	5,597	4,784	-813	-14.5%	-81	103	237	259	\$36.57
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	56,476	64,999	8,523	15.1%	852	1,408	2,979	5,239	\$49.49 ^^
15-1257	Web Developers and Digital Interface Designers	5,639	6,005	366	6.5%	37	135	286	458	\$49.49 ^^
15-1299	Computer Occupations, All Other	12,457	13,217	760	6.1%	76	298	630	1,004	\$46.05
15-2011	Actuaries	1,538	1,879	341	22.2%	34	27	67	128	\$47.88
15-2031	Operations Research Analysts	4,954	6,021	1,067	21.5%	107	118	239	464	\$40.91
15-2041	Statisticians	1,011	1,361	350	34.6%	35	24	59	118	\$36.17
15-2098	Data Scientists and Mathematical Science Occupations, All Other	2,489	3,151	662	26.6%	66	57	141	264	\$30.03 ^^

**Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030**

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
17-0000	Architecture and Engineering Occupations	92,374	97,503	5,129	5.6%	513	2,222	4,437	7,172	\$37.39
17-1011	Architects, Except Landscape and Naval	3,027	3,097	70	2.3%	7	84	130	221	\$37.45
17-1012	Landscape Architects	640	628	-12	-1.9%	-1	17	27	43	\$23.21
17-1021	Cartographers and Photogrammetrists	145	151	6	4.1%	1	5	7	13	\$36.83
17-1022	Surveyors	1,225	1,236	11	0.9%	1	42	61	104	\$29.34
17-2011	Aerospace Engineers	3,623	3,900	277	7.6%	28	77	130	235	\$58.46
17-2031	Biomedical Engineers	590	604	14	2.4%	1	13	25	39	\$45.33
17-2041	Chemical Engineers	1,093	1,179	86	7.9%	9	22	42	73	\$46.88
17-2051	Civil Engineers	7,013	7,510	497	7.1%	50	144	362	556	\$38.03
17-2061	Computer Hardware Engineers	866	870	4	0.5%	0	16	41	57	\$46.51
17-2071	Electrical Engineers	6,565	7,008	443	6.7%	44	161	272	477	\$45.89
17-2072	Electronics Engineers, Except Computer	3,965	4,165	200	5.0%	20	97	163	280	\$47.62
17-2081	Environmental Engineers	1,159	1,200	41	3.5%	4	28	58	90	\$47.52
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	507	536	29	5.7%	3	11	21	35	\$39.87
17-2112	Industrial Engineers	14,411	16,347	1,936	13.4%	194	336	616	1,146	\$38.24
17-2131	Materials Engineers	2,145	2,294	149	6.9%	15	45	87	147	\$42.11
17-2141	Mechanical Engineers	14,172	15,243	1,071	7.6%	107	253	605	965	\$37.96
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	100	100	0	0.0%	0	2	4	6	\$38.08
17-2171	Petroleum Engineers	854	903	49	5.7%	5	17	39	61	\$48.15
17-2199	Engineers, All Other	7,502	7,672	170	2.3%	17	161	313	491	\$46.88
17-3011	Architectural and Civil Drafters	2,899	2,840	-59	-2.0%	-6	88	182	264	\$29.64
17-3012	Electrical and Electronics Drafters	747	759	12	1.6%	1	23	48	72	\$29.15
17-3013	Mechanical Drafters	2,030	1,910	-120	-5.9%	-12	60	125	173	\$28.74
17-3021	Aerospace Engineering and Operations Technicians	753	809	56	7.4%	6	24	48	78	\$29.76
17-3022	Civil Engineering Technicians	1,542	1,555	13	0.8%	1	46	95	142	\$29.02
17-3023	Electrical and Electronics Engineering Technicians	3,162	3,187	25	0.8%	2	95	195	292	\$29.96
17-3025	Environmental Engineering Technicians	674	704	30	4.5%	3	21	42	66	\$22.83
17-3026	Industrial Engineering Technicians	3,177	3,322	145	4.6%	14	98	200	312	\$27.65
17-3027	Mechanical Engineering Technicians	2,300	2,397	97	4.2%	10	71	144	225	\$28.52
17-3031	Surveying and Mapping Technicians	1,237	1,247	10	0.8%	1	44	107	152	\$22.55
17-3098	Calibration and Engineering Technologists and Technicians, Except Drafters, All Other	2,349	2,428	79	3.4%	8	72	147	227	\$29.18 ^^
19-0000	Life, Physical, and Social Science Occupations	41,492	44,113	2,621	6.3%	262	903	2,940	4,105	\$31.13
19-1012	Food Scientists and Technologists	837	869	32	3.8%	3	18	71	92	\$40.47
19-1013	Soil and Plant Scientists	385	412	27	7.0%	3	8	33	44	\$29.63
19-1022	Microbiologists	493	513	20	4.1%	2	8	35	45	\$23.41
19-1023	Zoologists and Wildlife Biologists	223	241	18	8.1%	2	4	16	22	\$30.65
19-1029	Biological Scientists, All Other	349	357	8	2.3%	1	6	25	32	\$39.61
19-1031	Conservation Scientists	852	884	32	3.8%	3	17	62	82	\$27.66
19-1032	Foresters	206	212	6	2.9%	1	4	15	20	\$31.20

**Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030**

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
19-1041	Epidemiologists	292	367	75	25.7%	8	4	19	31	\$36.60
19-1042	Medical Scientists, Except Epidemiologists	4,191	4,836	645	15.4%	64	60	260	384	\$39.75
19-1099	Life Scientists, All Other	138	159	21	15.2%	2	2	9	13	\$42.10
19-2012	Physicists	376	419	43	11.4%	4	7	19	30	\$62.86
19-2031	Chemists	3,336	3,537	201	6.0%	20	50	255	325	\$36.46
19-2032	Materials Scientists	330	351	21	6.4%	2	5	25	32	\$45.64
19-2041	Environmental Scientists and Specialists, Including Health	2,080	2,155	75	3.6%	8	35	168	211	\$37.30
19-2042	Geoscientists, Except Hydrologists and Geographers	310	309	-1	-0.3%	0	5	25	30	\$37.38
19-2043	Hydrologists	329	342	13	4.0%	1	6	27	34	\$39.53
19-2099	Physical Scientists, All Other	517	520	3	0.6%	0	7	32	39	\$48.15
19-3011	Economists	203	218	15	7.4%	2	4	11	17	\$50.35
19-3022	Survey Researchers	212	224	12	5.7%	1	5	14	20	\$28.05
19-3031	Clinical, Counseling, and School Psychologists	4,013	4,342	329	8.2%	33	109	163	305	\$38.96 ^^
19-3032	Industrial-Organizational Psychologists	202	217	15	7.4%	2	6	8	16	\$57.85
19-3039	Psychologists, All Other	1,468	1,484	16	1.1%	2	38	58	98	\$50.72
19-3051	Urban and Regional Planners	779	812	33	4.2%	3	12	55	70	\$30.72
19-3099	Social Scientists and Related Workers, All Other	1,739	1,753	14	0.8%	1	38	115	154	\$39.56
19-4010	Agricultural and Food Science Technicians	525	556	31	5.9%	3	12	56	71	\$21.49 ^^^
19-4021	Biological Technicians	4,174	4,484	310	7.4%	31	103	433	567	\$23.99
19-4031	Chemical Technicians	2,521	2,588	67	2.7%	7	45	230	282	\$23.42
19-4042	Environmental Science and Protection Technicians, Including Health	1,394	1,489	95	6.8%	10	39	135	184	\$21.85
19-4045	Geological and Hydrologic Technicians	199	220	21	10.6%	2	6	20	28	\$23.01 ^^
19-4051	Nuclear Technicians	477	438	-39	-8.2%	-4	12	43	51	\$37.89
19-4061	Social Science Research Assistants	562	606	44	7.8%	4	16	55	75	\$23.59
19-4071	Forest and Conservation Technicians	289	294	5	1.7%	0	8	27	35	\$22.40
19-4092	Forensic Science Technicians	437	485	48	11.0%	5	12	43	60	\$30.89
19-4099	Life, Physical, and Social Science Technicians, All Other	1,026	1,088	62	6.0%	6	28	99	133	\$23.66
19-5011	Occupational Health and Safety Specialists	4,717	4,960	243	5.2%	24	132	208	364	\$37.43
19-5012	Occupational Health and Safety Technicians	787	827	40	5.1%	4	22	35	61	\$23.46
21-0000	Community and Social Service Occupations	104,187	114,526	10,339	9.9%	1,034	3,769	6,989	11,792	\$22.91
21-1012	Educational, Guidance, School, and Vocational Counselors	10,795	11,761	966	8.9%	97	367	668	1,132	\$29.39
21-1013	Marriage and Family Therapists	239	268	29	12.1%	3	8	15	26	\$24.29
21-1015	Rehabilitation Counselors	5,001	5,783	782	15.6%	78	176	319	573	\$18.42
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	9,223	11,140	1,917	20.8%	192	331	603	1,126	\$22.84
21-1019	Counselors, All Other	1,041	1,047	6	0.6%	1	34	62	97	\$22.42
21-1021	Child, Family, and School Social Workers	10,760	11,964	1,204	11.2%	120	319	718	1,157	\$22.95
21-1022	Healthcare Social Workers	7,124	7,779	655	9.2%	66	209	471	746	\$29.07
21-1023	Mental Health and Substance Abuse Social Workers	7,302	8,374	1,072	14.7%	107	220	495	822	\$22.55
21-1029	Social Workers, All Other	3,239	3,482	243	7.5%	24	94	212	330	\$27.59
21-1091	Health Educators	2,417	2,603	186	7.7%	19	85	173	277	\$29.15

Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
21-1092	Probation Officers and Correctional Treatment Specialists	3,131	3,207	76	2.4%	8	69	191	268	\$27.02
21-1093	Social and Human Service Assistants	17,143	19,187	2,044	11.9%	204	724	1,371	2,299	\$17.67
21-1094	Community Health Workers	2,167	2,563	396	18.3%	40	80	163	283	\$18.48
21-1099	Community and Social Service Specialists, All Other	2,109	2,281	172	8.2%	17	75	151	243	\$22.82
21-2011	Clergy	18,173	18,634	461	2.5%	46	755	1,063	1,864	\$23.58
23-0000	Legal Occupations	38,999	41,372	2,373	6.1%	237	1,110	1,585	2,932	\$36.21
23-1011	Lawyers	21,274	22,673	1,399	6.6%	140	475	541	1,156	\$49.18
23-1012	Judicial Law Clerks	194	198	4	2.1%	0	6	7	13	\$23.60
23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	730	722	-8	-1.1%	-1	16	18	33	\$37.16
23-1022	Arbitrators, Mediators, and Conciliators	399	428	29	7.3%	3	9	10	22	\$24.59
23-1023	Judges, Magistrate Judges, and Magistrates	2,478	2,505	27	1.1%	3	54	61	118	\$47.76
23-2011	Paralegals and Legal Assistants	11,156	12,145	989	8.9%	99	451	786	1,336	\$22.57
23-2093	Title Examiners, Abstractors, and Searchers	2,005	1,941	-64	-3.2%	-6	72	116	182	\$23.39
23-2099	Legal Support Workers, All Other	763	760	-3	-0.4%	0	28	45	73	\$27.91
25-0000	Education, Training, and Library Occupations	301,227	325,555	24,328	8.1%	2,433	12,180	14,054	28,667	\$29.13
25-1011	Business Teachers, Postsecondary	2,941	2,971	30	1.0%	3	132	138	273	\$77,890 **
25-1021	Computer Science Teachers, Postsecondary	869	878	9	1.0%	1	39	41	81	\$81,680 **
25-1022	Mathematical Science Teachers, Postsecondary	1,716	1,739	23	1.3%	2	77	81	160	\$77,740 **
25-1031	Architecture Teachers, Postsecondary	163	168	5	3.1%	0	7	8	15	\$98,070 **
25-1032	Engineering Teachers, Postsecondary	1,553	1,644	91	5.9%	9	72	75	156	\$103,340 **
25-1042	Biological Science Teachers, Postsecondary	1,902	2,037	135	7.1%	14	88	92	194	\$79,410 **
25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	255	257	2	0.8%	0	12	12	24	\$83,480 **
25-1052	Chemistry Teachers, Postsecondary	766	789	23	3.0%	2	35	36	73	\$78,100 **
25-1053	Environmental Science Teachers, Postsecondary	131	134	3	2.3%	0	6	6	12	\$99,040 **
25-1054	Physics Teachers, Postsecondary	514	527	13	2.5%	1	23	24	48	\$77,630 **
25-1061	Anthropology and Archeology Teachers, Postsecondary	169	173	4	2.4%	0	8	8	16	\$81,440 **
25-1062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	217	224	7	3.2%	1	10	10	21	\$80,360 **
25-1063	Economics Teachers, Postsecondary	440	456	16	3.6%	2	20	21	43	\$98,830 **
25-1064	Geography Teachers, Postsecondary	179	181	2	1.1%	0	8	8	16	\$83,860 **
25-1065	Political Science Teachers, Postsecondary	422	437	15	3.6%	2	19	20	41	\$79,270 **
25-1066	Psychology Teachers, Postsecondary	1,338	1,397	59	4.4%	6	61	64	131	\$81,120 **
25-1067	Sociology Teachers, Postsecondary	411	422	11	2.7%	1	19	20	40	\$77,980 **
25-1069	Social Sciences Teachers, Postsecondary, All Other	301	297	-4	-1.3%	0	13	14	27	\$64,440 **
25-1071	Health Specialties Teachers, Postsecondary	9,429	11,123	1,694	18.0%	169	460	480	1,109	\$107,630 **
25-1072	Nursing Instructors and Teachers, Postsecondary	2,873	3,348	475	16.5%	48	139	145	332	\$77,100 **
25-1081	Education Teachers, Postsecondary	2,010	2,065	55	2.7%	6	91	95	192	\$62,850 **
25-1082	Library Science Teachers, Postsecondary	140	141	1	0.7%	0	6	7	13	\$63,950 **
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary	693	725	32	4.6%	3	32	33	68	\$60,920 **
25-1112	Law Teachers, Postsecondary	406	423	17	4.2%	2	18	19	39	\$117,010 **
25-1113	Social Work Teachers, Postsecondary	541	555	14	2.6%	1	24	26	51	\$77,630 **

**Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030**

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
25-1121	Art, Drama, and Music Teachers, Postsecondary	3,461	3,638	177	5.1%	18	159	166	343	\$64,100 ++
25-1122	Communications Teachers, Postsecondary	981	1,001	20	2.0%	2	44	46	92	\$77,630 ++
25-1123	English Language and Literature Teachers, Postsecondary	2,094	2,126	32	1.5%	3	94	99	196	\$63,900 ++
25-1124	Foreign Language and Literature Teachers, Postsecondary	1,016	1,046	30	3.0%	3	46	48	97	\$64,520 ++
25-1125	History Teachers, Postsecondary	810	828	18	2.2%	2	37	38	77	\$79,410 ++
25-1126	Philosophy and Religion Teachers, Postsecondary	913	958	45	4.9%	4	42	44	90	\$78,370 ++
25-1192	Home Economics Teachers, Postsecondary	140	142	2	1.4%	0	6	7	13	\$69,550 ++
25-1193	Recreation and Fitness Studies Teachers, Postsecondary	571	581	10	1.8%	1	26	27	54	\$63,740 ++
25-1194	Vocational Education Teachers, Postsecondary	2,120	2,154	34	1.6%	3	96	100	199	\$24.54
25-1199	Postsecondary Teachers, All Other	3,468	3,419	-49	-1.4%	-5	154	161	310	\$61,590 ++
25-2011	Preschool Teachers, Except Special Education	13,520	16,705	3,185	23.6%	318	620	882	1,820	\$13.89
25-2012	Kindergarten Teachers, Except Special Education	2,815	3,016	201	7.1%	20	120	170	310	\$60,670 ++
25-2021	Elementary School Teachers, Except Special Education	51,045	54,158	3,113	6.1%	311	1,614	2,108	4,033	\$64,410 ++
25-2022	Middle School Teachers, Except Special and Career/Technical Education	27,599	29,291	1,692	6.1%	169	873	1,140	2,182	\$63,670 ++
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	48,036	51,273	3,237	6.7%	324	1,317	2,014	3,655	\$75,330 ++
25-2032	Career/Technical Education Teachers, Secondary School	5,049	5,347	298	5.9%	30	138	211	379	\$76,880 ++
25-2052	Special Education Teachers, Kindergarten and Elementary School	6,341	6,757	416	6.6%	42	213	260	515	\$70,900 ++
25-2057	Special Education Teachers, Middle School	3,459	3,673	214	6.2%	21	116	142	279	\$58,220 ++
25-2058	Special Education Teachers, Secondary School	7,962	8,571	609	7.6%	61	269	329	659	\$62,010 ++
25-2059	Special Education Teachers, All Other	907	1,060	153	16.9%	15	32	39	86	\$47,140 ++
25-3011	Adult Basic and Secondary Education and Literacy Teachers and Instructors	930	857	-73	-7.8%	-7	53	48	94	\$24.10
25-3021	Self-Enrichment Education Teachers	10,172	12,237	2,065	20.3%	206	669	600	1,475	\$14.64
25-3031	Substitute Teachers, Short-Term	7,256	8,101	845	11.6%	84	458	412	954	\$13.92
25-3097	Teachers and Instructors, All Other, Except Substitute Teachers	8,226	9,148	922	11.2%	92	518	466	1,076	\$17.94 ^^
25-4011	Archivists	144	169	25	17.4%	2	8	9	19	\$23.62
25-4012	Curators	325	389	64	19.7%	6	18	22	46	\$23.80
25-4013	Museum Technicians and Conservators	274	326	52	19.0%	5	15	18	38	\$22.61
25-4022	Librarians and Media Collections Specialists	5,068	5,281	213	4.2%	21	255	226	502	\$23.62
25-4031	Library Technicians	3,475	3,271	-204	-5.9%	-20	278	208	466	\$16.71
25-9031	Instructional Coordinators	4,710	5,099	389	8.3%	39	242	214	495	\$29.83
25-9044	Teaching Assistants, Postsecondary	3,917	3,930	13	0.3%	1	176	183	360	\$30,070 ++
25-9045	Teaching Assistants, Except Postsecondary	40,773	44,419	3,646	8.9%	365	1,905	1,990	4,260	\$28,820 ++
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	82,243	87,035	4,792	5.8%	479	3,333	5,391	9,203	\$23.05
27-1011	Art Directors	1,959	2,038	79	4.0%	8	97	104	209	\$39.68
27-1012	Craft Artists	460	434	-26	-5.7%	-3	22	23	42	\$18.21
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	982	1,042	60	6.1%	6	49	53	108	\$22.28
27-1014	Multimedia Artists and Animators	501	487	-14	-2.8%	-1	24	26	49	\$37.88 ^^^
27-1019	Artists and Related Workers, All Other	207	210	3	1.4%	0	10	11	21	\$32.38
27-1021	Commercial and Industrial Designers	1,150	1,222	72	6.3%	7	36	70	113	\$30.43

**Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030**

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
27-1022	Fashion Designers	348	352	4	1.1%	0	11	21	32	\$23.71
27-1023	Floral Designers	1,615	1,280	-335	-20.7%	-34	44	86	96	\$13.70
27-1024	Graphic Designers	9,157	9,046	-111	-1.2%	-11	278	541	808	\$23.53
27-1025	Interior Designers	3,080	3,079	-1	0.0%	0	94	183	277	\$23.89
27-1026	Merchandise Displayers and Window Trimmers	5,066	5,162	96	1.9%	10	156	304	470	\$14.52
27-1027	Set and Exhibit Designers	538	534	-4	-0.7%	0	16	32	48	\$28.36
27-1029	Designers, All Other	262	254	-8	-3.1%	-1	8	15	22	\$22.66
27-2011	Actors	817	1,076	259	31.7%	26	40	63	129	\$9.44
27-2012	Producers and Directors	1,991	2,035	44	2.2%	4	44	127	175	\$28.81
27-2021	Athletes and Sports Competitors	231	293	62	26.8%	6	15	21	42	\$77,300 +++
27-2022	Coaches and Scouts	13,693	15,327	1,634	11.9%	163	824	1,167	2,154	\$36,870 ++
27-2041	Music Directors and Composers	2,091	2,173	82	3.9%	8	125	119	252	\$27.65
27-2042	Musicians and Singers	5,602	5,924	322	5.7%	32	339	323	694	\$47.38
27-2090	Miscellaneous Entertainers and Performers, Sports, and Related Workers	455	583	128	28.1%	13	20	29	62	\$17.59 ^^^
27-3011	Radio and Television Announcers	1,045	1,035	-10	-1.0%	-1	40	57	96	\$14.04
27-3023	News Analysts, Reporters, and Journalists	1,748	1,657	-91	-5.2%	-9	50	131	172	\$18.45
27-3031	Public Relations Specialists	8,026	8,538	512	6.4%	51	207	544	802	\$29.79
27-3041	Editors	2,416	2,338	-78	-3.2%	-8	78	149	219	\$29.24
27-3042	Technical Writers	1,405	1,530	125	8.9%	12	38	91	141	\$30.43
27-3043	Writers and Authors	3,531	3,450	-81	-2.3%	-8	140	192	324	\$24.06
27-3091	Interpreters and Translators	4,138	5,224	1,086	26.2%	109	182	256	547	\$23.29
27-3092	Court Reporters and Simultaneous Captioners	470	477	7	1.5%	1	17	28	46	\$29.65
27-3099	Media and Communication Workers, All Other	1,145	1,380	235	20.5%	24	49	69	142	\$17.80
27-4011	Audio and Video Equipment Technicians	1,789	2,100	311	17.4%	31	51	142	224	\$22.08
27-4012	Broadcast Technicians	727	745	18	2.5%	2	19	54	75	\$18.72
27-4014	Sound Engineering Technicians	194	207	13	6.7%	1	5	15	21	\$22.13
27-4021	Photographers	3,773	3,950	177	4.7%	18	130	217	365	\$17.44
27-4031	Camera Operators, Television, Video, and Motion Picture	318	342	24	7.5%	2	10	21	33	\$18.22
27-4032	Film and Video Editors	371	401	30	8.1%	3	12	24	39	\$23.15
27-4098	Lighting Technicians and Media and Communication Equipment Workers, All Other	259	279	20	7.7%	2	7	20	29	\$23.52 ^^
29-0000	Healthcare Practitioners and Technical Occupations	374,761	403,904	29,143	7.8%	2,914	9,984	11,759	24,657	\$30.04
29-1011	Chiropractors	1,864	1,937	73	3.9%	7	28	15	50	\$29.26
29-1021	Dentists, General	3,634	3,740	106	2.9%	11	68	31	110	\$79.89
29-1029	Dentists, All Other Specialists	213	218	5	2.3%	0	4	2	6	#
29-1031	Dietitians and Nutritionists	2,492	2,650	158	6.3%	16	83	89	188	\$29.26
29-1041	Optometrists	1,628	1,682	54	3.3%	5	29	20	54	\$49.04
29-1051	Pharmacists	13,090	12,765	-325	-2.5%	-32	238	248	454	\$61.63
29-1071	Physician Assistants	4,520	5,814	1,294	28.6%	129	81	204	414	\$49.29
29-1081	Podiatrists	429	409	-20	-4.7%	-2	11	18	27	\$61.91
29-1122	Occupational Therapists	6,075	6,893	818	13.5%	82	140	212	434	\$38.47
29-1123	Physical Therapists	8,919	10,173	1,254	14.1%	125	189	198	512	\$45.97

Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
29-1124	Radiation Therapists	524	554	30	5.7%	3	10	17	30	\$38.13
29-1125	Recreational Therapists	686	702	16	2.3%	2	22	30	54	\$22.77
29-1126	Respiratory Therapists	6,503	7,889	1,386	21.3%	139	154	182	475	\$29.41
29-1127	Speech-Language Pathologists	6,486	8,029	1,543	23.8%	154	169	260	583	\$37.71
29-1128	Exercise Physiologists	554	600	46	8.3%	5	18	20	43	\$22.60
29-1129	Therapists, All Other	1,236	1,318	82	6.6%	8	39	44	91	\$36.16
29-1131	Veterinarians	2,865	3,219	354	12.4%	35	48	48	131	\$47.62
29-1141	Registered Nurses	131,398	140,783	9,385	7.1%	938	3,631	3,424	7,993	\$35.62
29-1151	Nurse Anesthetists	3,007	3,243	236	7.8%	24	61	94	179	\$80.98
29-1161	Nurse Midwives	337	352	15	4.5%	2	7	11	20	\$58.18
29-1171	Nurse Practitioners	9,664	14,348	4,684	48.5%	468	251	376	1,095	\$49.67
29-1181	Audiologists	966	1,046	80	8.3%	8	22	20	50	\$31.52
29-1211	Anesthesiologists	1,293	1,253	-40	-3.1%	-4	20	14	30	#
29-1215	Family Medicine Physicians	1,969	2,001	32	1.6%	3	32	22	57	\$79.84
29-1216	General Internal Medicine Physicians	1,912	1,805	-107	-5.6%	-11	30	21	40	#
29-1218	Obstetricians and Gynecologists	937	882	-55	-5.9%	-6	15	10	19	\$94.24
29-1221	Pediatricians, General	1,220	1,172	-48	-3.9%	-5	19	14	28	\$90.76
29-1223	Psychiatrists	885	982	97	11.0%	10	15	10	35	#
29-1228	Physicians, All Other; and Ophthalmologists, Except Pediatric	17,542	17,944	402	2.3%	40	285	200	525	\$37.45 ^^
29-1248	Surgeons, Except Ophthalmologists	1,305	1,240	-65	-5.0%	-6	20	14	28	# ^^
29-1292	Dental Hygienists	8,667	9,174	507	5.8%	51	320	224	595	\$36.94
29-1298	Acupuncturists and Healthcare Diagnosing or Treating Practitioners, All Other	879	904	25	2.8%	2	38	14	54	\$37.45 ^^
29-2010	Clinical Laboratory Technologists and Technicians	11,967	12,776	809	6.8%	81	319	459	859	\$25.90
29-2031	Cardiovascular Technologists and Technicians	1,998	2,133	135	6.8%	14	56	89	159	\$29.47
29-2032	Diagnostic Medical Sonographers	3,061	3,550	489	16.0%	49	90	142	281	\$36.06
29-2033	Nuclear Medicine Technologists	945	1,006	61	6.5%	6	27	42	75	\$37.16
29-2034	Radiologic Technologists	9,034	9,608	574	6.4%	57	254	401	712	\$28.90
29-2035	Magnetic Resonance Imaging Technologists	1,516	1,591	75	4.9%	8	42	67	117	\$36.06
29-2040	Emergency Medical Technicians and Paramedics	8,774	8,988	214	2.4%	21	165	411	597	\$17.76 ^^^
29-2051	Dietetic Technicians	951	996	45	4.7%	4	27	42	73	\$14.46
29-2052	Pharmacy Technicians	17,082	17,503	421	2.5%	42	472	743	1,257	\$16.89
29-2053	Psychiatric Technicians	1,438	1,665	227	15.8%	23	42	67	132	\$14.89
29-2055	Surgical Technologists	3,824	4,102	278	7.3%	28	108	170	306	\$23.01
29-2056	Veterinary Technologists and Technicians	3,858	4,261	403	10.4%	40	111	174	325	\$17.48
29-2057	Ophthalmic Medical Technicians	2,500	2,696	196	7.8%	20	71	112	203	\$17.62
29-2061	Licensed Practical and Licensed Vocational Nurses	40,692	42,405	1,713	4.2%	171	1,401	1,734	3,306	\$22.73
29-2081	Opticians, Dispensing	3,171	3,256	85	2.7%	8	133	110	251	\$22.04
29-2091	Orthotists and Prosthetists	795	901	106	13.3%	11	23	36	70	\$28.80
29-2092	Hearing Aid Specialists	289	305	16	5.5%	2	8	13	23	\$23.11
29-2098	Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	15,580	16,512	932	6.0%	93	438	690	1,221	\$22.55 ^^
29-9091	Athletic Trainers	1,130	1,266	136	12.0%	14	33	52	99	\$47,440 ††

Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Annual Openings				Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent	Growth	Exits	Transfers	Total	
29-9092	Genetic Counselors	114	142	28	24.6%	3	4	6	13	\$38.50
29-9098	Health Information Technologists, Medical Registrars, Surgical Assistants, & Healthcare Practitioners, AO	2,046	2,214	168	8.2%	17	58	92	167	\$26.19 ^^
31-0000	Healthcare Support Occupations	229,958	263,259	33,301	14.5%	3,330	14,428	15,250	33,008	\$14.14
31-1120	Home Health and Personal Care Aides	95,559	118,538	22,979	24.0%	2,298	6,853	6,061	15,212	\$11.54
31-1131	Nursing Assistants	63,209	64,100	891	1.4%	89	4,075	3,604	7,768	\$14.34
31-1132	Orderlies	2,410	2,578	168	7.0%	17	160	141	318	\$14.25
31-1133	Psychiatric Aides	817	911	94	11.5%	9	55	49	113	\$17.98
31-2011	Occupational Therapy Assistants	4,371	5,741	1,370	31.3%	137	252	370	759	\$29.51
31-2012	Occupational Therapy Aides	144	162	18	12.5%	2	8	11	21	\$19.43
31-2021	Physical Therapist Assistants	6,402	8,098	1,696	26.5%	170	310	548	1,028	\$29.60
31-2022	Physical Therapist Aides	821	966	145	17.7%	14	38	68	120	\$14.01
31-9011	Massage Therapists	3,664	4,273	609	16.6%	61	233	207	501	\$22.35
31-9091	Dental Assistants	9,760	10,316	556	5.7%	56	457	705	1,218	\$18.77
31-9092	Medical Assistants	26,454	30,010	3,556	13.4%	356	1,158	2,110	3,624	\$17.69
31-9093	Medical Equipment Preparers	2,387	2,549	162	6.8%	16	137	163	316	\$18.00
31-9094	Medical Transcriptionists	792	664	-128	-16.2%	-13	38	63	88	\$11.59
31-9095	Pharmacy Aides	776	627	-149	-19.2%	-15	36	54	75	\$14.07
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	4,097	4,538	441	10.8%	44	212	477	733	\$14.22
31-9097	Phlebotomists	5,967	6,726	759	12.7%	76	273	462	811	\$17.59
31-9099	Healthcare Support Workers, All Other	2,328	2,462	134	5.8%	13	133	158	304	\$18.11
33-0000	Protective Service Occupations	107,975	111,274	3,299	3.1%	330	5,122	6,926	12,378	\$22.81
33-1011	First-Line Supervisors of Correctional Officers	557	541	-16	-2.9%	-2	18	26	42	\$36.89
33-1012	First-Line Supervisors of Police and Detectives	2,513	2,589	76	3.0%	8	57	105	170	\$45.15
33-1021	First-Line Supervisors of Fire Fighting and Prevention Workers	2,102	2,184	82	3.9%	8	51	86	145	\$37.42
33-1090	Miscellaneous First-Line Supervisors, Protective Service Workers	2,255	2,355	100	4.4%	10	85	134	229	\$25.23 ^^^
33-2011	Firefighters	17,532	18,343	811	4.6%	81	396	926	1,403	\$24.37
33-2021	Fire Inspectors and Investigators	328	339	11	3.4%	1	17	16	34	\$46.78
33-3011	Bailiffs	1,365	1,346	-19	-1.4%	-2	51	73	122	\$22.58
33-3012	Correctional Officers and Jailers	14,030	12,593	-1,437	-10.2%	-144	501	720	1,077	\$23.04
33-3021	Detectives and Criminal Investigators	2,007	2,027	20	1.0%	2	51	93	146	\$37.30
33-3031	Fish and Game Wardens	139	135	-4	-2.9%	0	7	7	14	\$37.30
33-3041	Parking Enforcement Workers	123	76	-47	-38.2%	-5	5	5	5	\$22.58
33-3051	Police and Sheriff's Patrol Officers	23,604	24,352	748	3.2%	75	599	1,218	1,892	\$31.06
33-3052	Transit and Railroad Police	180	185	5	2.8%	0	5	9	14	\$31.21 ^^^
33-9011	Animal Control Workers	430	469	39	9.1%	4	13	24	41	\$17.60
33-9021	Private Detectives and Investigators	1,352	1,438	86	6.4%	9	38	82	129	\$23.45
33-9031	Gaming Surveillance Officers and Gaming Investigators	206	227	21	10.2%	2	12	17	31	\$21.91
33-9032	Security Guards	26,789	27,843	1,054	3.9%	105	1,447	2,116	3,668	\$13.98
33-9091	Crossing Guards	2,455	2,837	382	15.6%	38	386	136	560	\$13.92

**Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030**

Code	Occupational Title	Employment		Change in Employment		Annual Openings				Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent	Growth	Exits	Transfers	Total	
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	5,125	6,141	1,016	19.8%	102	776	625	1,503	\$10.72
33-9093	Transportation Security Screeners	834	855	21	2.5%	2	30	42	74	\$21.65
33-9098	School Bus Monitors and Protective Service Workers, All Other	4,016	4,359	343	8.5%	34	577	465	1,076	\$15.11 ^^
35-0000	Food Preparation and Serving Related Occupations	429,256	485,853	56,597	13.2%	5,660	35,039	46,688	87,387	\$10.96
35-1011	Chefs and Head Cooks	2,586	3,002	416	16.1%	42	84	274	400	\$24.28
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	39,481	46,183	6,702	17.0%	670	1,911	4,365	6,946	\$15.65
35-2011	Cooks, Fast Food	18,485	17,338	-1,147	-6.2%	-115	1,054	1,533	2,472	\$10.76
35-2012	Cooks, Institution and Cafeteria	21,744	22,261	517	2.4%	52	1,295	1,883	3,230	\$14.23
35-2014	Cooks, Restaurant	33,547	47,620	14,073	42.0%	1,407	2,388	3,474	7,269	\$13.87
35-2015	Cooks, Short Order	4,285	4,517	232	5.4%	23	259	377	659	\$12.14
35-2021	Food Preparation Workers	25,570	26,456	886	3.5%	89	2,043	2,392	4,524	\$11.69
35-3011	Bartenders	19,282	23,705	4,423	22.9%	442	974	2,604	4,020	\$10.21
35-3023	Fast Food and Counter Workers	152,724	168,182	15,458	10.1%	1,546	15,558	16,963	34,067	\$10.70
35-3031	Waiters and Waitresses	67,080	76,548	9,468	14.1%	947	5,273	8,575	14,795	\$9.87
35-3041	Food Servers, Nonrestaurant	12,530	12,938	408	3.3%	41	1,008	994	2,043	\$12.07
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	7,155	8,715	1,560	21.8%	156	685	687	1,528	\$11.18
35-9021	Dishwashers	11,242	12,677	1,435	12.8%	144	900	1,000	2,044	\$10.86
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	10,610	12,628	2,018	19.0%	202	1,377	1,308	2,887	\$10.59
35-9099	Food Preparation and Serving Related Workers, All Other	1,875	2,169	294	15.7%	29	174	175	378	\$10.72
37-0000	Building and Grounds Cleaning and Maintenance Occupations	172,921	176,584	3,663	2.1%	366	9,863	12,823	23,052	\$14.26
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	6,453	6,412	-41	-0.6%	-4	276	445	717	\$19.46
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	5,314	5,277	-37	-0.7%	-4	164	380	540	\$23.05
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	80,961	82,713	1,752	2.2%	175	5,107	5,736	11,018	\$14.06
37-2012	Maids and Housekeeping Cleaners	33,465	34,172	707	2.1%	71	2,297	2,176	4,544	\$11.80
37-3011	Landscaping and Groundskeeping Workers	43,512	44,711	1,199	2.8%	120	1,898	3,782	5,800	\$14.58
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	593	605	12	2.0%	1	26	51	78	\$19.60
37-3013	Tree Trimmers and Pruners	649	665	16	2.5%	2	28	56	86	\$18.79
37-3019	Grounds Maintenance Workers, All Other	140	140	0	0.0%	0	6	12	18	\$14.72
39-0000	Personal Care and Service Occupations	124,074	137,400	13,326	10.7%	1,333	8,185	10,111	19,629	\$11.88
39-1013	First-Line Supervisors of Gambling Services Workers	364	452	88	24.2%	9	15	28	52	\$24.27
39-1098	First-Line Supervisors of Personal Service and Entertainment and Recreation Workers, Except Gambling Services	5,647	6,567	920	16.3%	92	223	423	738	\$21.67 ^^
39-2011	Animal Trainers	828	949	121	14.6%	12	41	64	117	\$14.24
39-2021	Nonfarm Animal Caretakers	9,367	12,118	2,751	29.4%	275	690	892	1,857	\$11.01
39-3011	Gaming Dealers	1,040	1,276	236	22.7%	24	63	104	191	\$9.31
39-3031	Ushers, Lobby Attendants, and Ticket Takers	2,528	3,607	1,079	42.7%	108	389	312	809	\$10.99
39-3091	Amusement and Recreation Attendants	9,045	11,061	2,016	22.3%	202	981	1,126	2,309	\$10.38

Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	294	358	64	21.8%	6	32	36	74	\$13.71
39-3099	Entertainment Attendants and Related Workers, All Other	332	472	140	42.2%	14	39	45	98	\$11.62 ^{^^^}
39-4011	Embalmers	173	167	-6	-3.5%	-1	10	13	22	\$22.26
39-4021	Funeral Attendants	2,489	2,506	17	0.7%	2	141	188	331	\$14.08
39-4031	Morticians, Undertakers, and Funeral Directors	1,681	1,718	37	2.2%	4	81	115	200	\$29.44
39-5012	Hairdressers, Hairstylists, and Cosmetologists	26,422	26,346	-76	-0.3%	-8	1,398	1,466	2,856	\$13.69
39-5092	Manicurists and Pedicurists	3,717	3,996	279	7.5%	28	196	204	428	\$11.04
39-5094	Skincare Specialists	1,383	1,520	137	9.9%	14	74	77	165	\$18.05
39-6011	Baggage Porters and Bellhops	455	567	112	24.6%	11	26	39	76	\$13.73
39-6012	Concierges	858	910	52	6.1%	5	46	68	119	\$14.08
39-7010	Tour and Travel Guides	817	1,021	204	25.0%	20	59	86	165	\$13.81
39-9011	Childcare Workers	28,227	29,236	1,009	3.6%	101	1,933	2,008	4,042	\$11.17
39-9031	Fitness Trainers and Aerobics Instructors	9,981	12,515	2,534	25.4%	253	659	1,068	1,980	\$14.39
39-9032	Recreation Workers	13,060	14,048	988	7.6%	99	794	1,287	2,180	\$11.91
39-9041	Residential Advisors	2,817	3,223	406	14.4%	41	152	271	464	\$14.64
39-9098	Crematory Operators and Personal Care and Service Workers, All Other	1,501	1,657	156	10.4%	16	89	119	224	\$14.16 ^{^^}
41-0000	Sales and Related Occupations	488,481	472,263	-16,218	-3.3%	-1,622	24,287	37,837	60,502	\$14.20
41-1011	First-Line Supervisors of Retail Sales Workers	44,931	41,671	-3,260	-7.3%	-326	1,530	3,000	4,204	\$18.23
41-1012	First-Line Supervisors of Non-Retail Sales Workers	12,030	11,087	-943	-7.8%	-94	335	687	928	\$37.96
41-2011	Cashiers	106,525	94,572	-11,953	-11.2%	-1,195	8,554	9,626	16,985	\$10.96
41-2012	Gaming Change Persons and Booth Cashiers	323	394	71	22.0%	7	30	34	71	\$10.02
41-2021	Counter and Rental Clerks	10,120	10,468	348	3.4%	35	461	707	1,203	\$14.23
41-2022	Parts Salespersons	9,275	9,707	432	4.7%	43	400	727	1,170	\$14.41
41-2031	Retail Salespersons	134,006	130,951	-3,055	-2.3%	-306	7,407	10,943	18,044	\$12.99
41-3011	Advertising Sales Agents	3,037	2,777	-260	-8.6%	-26	89	270	333	\$23.04
41-3021	Insurance Sales Agents	18,707	19,979	1,272	6.8%	127	644	1,082	1,853	\$28.43
41-3031	Securities, Commodities, and Financial Services Sales Agents	15,794	16,341	547	3.5%	55	355	1,013	1,423	\$29.51
41-3041	Travel Agents	1,259	1,222	-37	-2.9%	-4	61	82	139	\$18.03
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	29,946	31,676	1,730	5.8%	173	774	2,709	3,656	\$25.14
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	8,486	8,728	242	2.9%	24	254	582	860	\$49.71
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	58,025	59,591	1,566	2.7%	157	1,738	3,974	5,869	\$29.71
41-9011	Demonstrators and Product Promoters	1,997	1,912	-85	-4.3%	-8	217	129	338	\$14.58
41-9021	Real Estate Brokers	1,706	1,747	41	2.4%	4	72	76	152	\$23.25
41-9022	Real Estate Sales Agents	12,597	12,899	302	2.4%	30	530	560	1,120	\$17.76
41-9031	Sales Engineers	2,002	2,049	47	2.3%	5	40	167	212	\$47.91
41-9041	Telemarketers	11,350	8,937	-2,413	-21.3%	-241	469	1,036	1,264	\$13.53
41-9099	Sales and Related Workers, All Other	4,019	3,958	-61	-1.5%	-6	181	327	502	\$13.73

Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
43-0000	Office and Administrative Support Occupations	706,653	675,825	-30,828	-4.4%	-3,083	32,786	42,941	72,644	\$18.13
43-1011	First-Line Supervisors of Office and Administrative Support Workers	46,494	44,834	-1,660	-3.6%	-166	1,695	2,790	4,319	\$28.91
43-2011	Switchboard Operators, Including Answering Service	1,998	1,490	-508	-25.4%	-51	91	102	142	\$15.02
43-2021	Telephone Operators	363	274	-89	-24.5%	-9	16	22	29	\$14.24
43-2099	Communications Equipment Operators, All Other	125	125	0	0.0%	0	3	9	12	\$22.66
43-3011	Bill and Account Collectors	8,315	7,419	-896	-10.8%	-90	288	558	756	\$17.87
43-3021	Billing and Posting Clerks	19,101	19,285	184	1.0%	18	788	1,178	1,984	\$18.12
43-3031	Bookkeeping, Accounting, and Auditing Clerks	58,052	55,338	-2,714	-4.7%	-271	3,322	2,895	5,946	\$18.76
43-3041	Gaming Cage Workers	176	216	40	22.7%	4	7	14	25	\$13.86
43-3051	Payroll and Timekeeping Clerks	4,662	3,959	-703	-15.1%	-70	204	236	370	\$22.45
43-3061	Procurement Clerks	2,685	2,581	-104	-3.9%	-10	72	166	228	\$18.45
43-3071	Tellers	16,693	13,683	-3,010	-18.0%	-301	616	955	1,270	\$14.53
43-3099	Financial Clerks, All Other	1,632	1,692	60	3.7%	6	57	117	180	\$22.78
43-4011	Brokerage Clerks	1,706	1,587	-119	-7.0%	-12	67	109	164	\$22.97
43-4021	Correspondence Clerks	332	318	-14	-4.2%	-1	14	20	33	\$18.13
43-4031	Court, Municipal, and License Clerks	10,310	10,771	461	4.5%	46	514	530	1,090	\$18.29
43-4041	Credit Authorizers, Checkers, and Clerks	757	717	-40	-5.3%	-4	26	45	67	\$22.55
43-4051	Customer Service Representatives	119,632	115,960	-3,672	-3.1%	-367	5,538	9,264	14,435	\$17.89
43-4061	Eligibility Interviewers, Government Programs	4,130	4,226	96	2.3%	10	154	216	380	\$22.40
43-4071	File Clerks	2,939	2,489	-450	-15.3%	-45	147	168	270	\$17.74
43-4081	Hotel, Motel, and Resort Desk Clerks	4,315	4,931	616	14.3%	62	268	490	820	\$11.30
43-4111	Interviewers, Except Eligibility and Loan	5,580	5,073	-507	-9.1%	-51	308	344	601	\$17.74
43-4121	Library Assistants, Clerical	5,005	4,696	-309	-6.2%	-31	432	310	711	\$11.52
43-4131	Loan Interviewers and Clerks	7,553	7,288	-265	-3.5%	-26	214	436	624	\$20.05
43-4141	New Accounts Clerks	737	615	-122	-16.6%	-12	21	42	51	\$22.04
43-4151	Order Clerks	4,851	3,974	-877	-18.1%	-88	187	277	376	\$18.01
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	4,371	4,213	-158	-3.6%	-16	164	261	409	\$18.57
43-4171	Receptionists and Information Clerks	34,551	34,593	42	0.1%	4	1,929	2,389	4,322	\$14.08
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	2,447	2,827	380	15.5%	38	100	188	326	\$18.29
43-4199	Information and Record Clerks, All Other	2,725	2,850	125	4.6%	12	114	184	310	\$21.61
43-5011	Cargo and Freight Agents	2,364	2,588	224	9.5%	22	94	147	263	\$18.01
43-5021	Couriers and Messengers	3,115	2,853	-262	-8.4%	-26	122	162	258	\$14.33
43-5031	Police, Fire, and Ambulance Dispatchers	4,377	4,519	142	3.2%	14	157	249	420	\$22.80
43-5032	Dispatchers, Except Police, Fire, and Ambulance	6,913	7,122	209	3.0%	21	247	393	661	\$18.78
43-5041	Meter Readers, Utilities	1,797	1,593	-204	-11.4%	-20	50	74	104	\$23.53
43-5051	Postal Service Clerks	2,775	2,515	-260	-9.4%	-26	121	94	189	\$25.14
43-5052	Postal Service Mail Carriers	12,452	11,286	-1,166	-9.4%	-117	413	426	722	\$25.21
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	3,615	3,113	-502	-13.9%	-50	184	109	243	\$22.56
43-5061	Production, Planning, and Expediting Clerks	18,639	19,589	950	5.1%	95	683	1,242	2,020	\$23.10

Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
43-5071	Shipping, Receiving, and Traffic Clerks	38,019	35,843	-2,176	-5.7%	-218	1,349	2,170	3,301	\$17.74
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	1,629	1,786	157	9.6%	16	64	97	177	\$18.08
43-6011	Executive Secretaries and Executive Administrative Assistants	13,118	10,316	-2,802	-21.4%	-280	596	654	970	\$29.34
43-6012	Legal Secretaries	4,920	3,773	-1,147	-23.3%	-115	221	243	349	\$21.21
43-6013	Medical Secretaries	31,953	34,108	2,155	6.7%	216	1,681	1,844	3,741	\$17.68
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	55,856	50,474	-5,382	-9.6%	-538	2,705	2,969	5,136	\$17.94
43-9021	Data Entry Keyers	5,255	4,005	-1,250	-23.8%	-125	206	293	374	\$17.47
43-9022	Word Processors and Typists	1,104	705	-399	-36.1%	-40	54	49	63	\$20.91
43-9031	Desktop Publishers	260	229	-31	-11.9%	-3	10	17	24	\$23.71
43-9041	Insurance Claims and Policy Processing Clerks	10,828	10,671	-157	-1.4%	-16	379	630	993	\$21.81
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	3,309	3,104	-205	-6.2%	-20	162	201	343	\$14.22
43-9061	Office Clerks, General	105,837	101,437	-4,400	-4.2%	-440	5,656	6,146	11,362	\$17.85
43-9071	Office Machine Operators, Except Computer	2,448	2,120	-328	-13.4%	-33	119	137	223	\$17.94
43-9081	Proofreaders and Copy Markers	112	118	6	5.4%	1	7	8	16	\$18.36
43-9111	Statistical Assistants	393	432	39	9.9%	4	10	38	52	\$28.89
43-9199	Office and Administrative Support Workers, All Other	3,328	3,502	174	5.2%	17	141	236	394	\$21.55
45-0000	Farming, Fishing, and Forestry Occupations	15,664	16,161	497	3.2%	50	664	1,805	2,519	\$15.06
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	890	933	43	4.8%	4	34	95	133	\$28.56
45-2011	Agricultural Inspectors	265	263	-2	-0.8%	0	12	30	42	\$29.34
45-2021	Animal Breeders	210	199	-11	-5.2%	-1	9	23	31	\$19.28 ^{AAA}
45-2041	Graders and Sorters, Agricultural Products	674	676	2	0.3%	0	27	73	100	\$14.25
45-2091	Agricultural Equipment Operators	1,404	1,555	151	10.8%	15	63	169	247	\$21.85
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	10,162	10,534	372	3.7%	37	438	1,183	1,658	\$14.52
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	1,390	1,306	-84	-6.0%	-8	57	154	203	\$14.07
45-4022	Logging Equipment Operators	277	298	21	7.6%	2	10	33	45	\$19.46
47-0000	Construction and Extraction Occupations	205,151	215,617	10,466	5.1%	1,047	6,252	14,357	21,656	\$23.53
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	17,008	17,986	978	5.8%	98	495	1,133	1,726	\$30.40
47-2011	Boilermakers	776	760	-16	-2.1%	-2	13	55	66	\$38.80
47-2021	Brickmasons and Blockmasons	3,475	3,318	-157	-4.5%	-16	108	209	301	\$29.39
47-2022	Stonemasons	321	324	3	0.9%	0	10	20	30	\$18.52
47-2031	Carpenters	25,776	26,263	487	1.9%	49	759	1,623	2,431	\$23.17
47-2041	Carpet Installers	926	874	-52	-5.6%	-5	24	52	71	\$18.74
47-2042	Floor Layers, Except Carpet, Wood, and Hard Tiles	881	985	104	11.8%	10	25	54	89	\$23.11
47-2044	Tile and Marble Setters	865	961	96	11.1%	10	24	53	87	\$23.19
47-2051	Cement Masons and Concrete Finishers	5,821	5,801	-20	-0.3%	-2	140	382	520	\$23.33
47-2061	Construction Laborers	43,962	47,485	3,523	8.0%	352	1,352	3,088	4,792	\$22.22
47-2071	Paving, Surfacing, and Tamping Equipment Operators	1,203	1,253	50	4.2%	5	40	88	133	\$23.06
47-2073	Operating Engineers and Other Construction Equipment Operators	15,118	15,739	621	4.1%	62	505	1,106	1,673	\$28.50

**Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030**

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
47-2081	Drywall and Ceiling Tile Installers	1,091	1,147	56	5.1%	6	28	63	97	\$23.11
47-2082	Tapers	200	202	2	1.0%	0	5	11	16	\$29.09
47-2111	Electricians	25,572	27,727	2,155	8.4%	216	774	1,957	2,947	\$28.55
47-2121	Glaziers	1,540	1,637	97	6.3%	10	43	123	176	\$23.92
47-2131	Insulation Workers, Floor, Ceiling, and Wall	754	798	44	5.8%	4	18	53	75	\$22.04
47-2132	Insulation Workers, Mechanical	663	698	35	5.3%	4	16	46	66	\$28.76
47-2141	Painters, Construction and Maintenance	8,651	9,079	428	4.9%	43	268	492	803	\$22.21
47-2142	Paperhangers	281	268	-13	-4.6%	-1	8	15	22	\$22.70
47-2151	Pipelayers	755	766	11	1.5%	1	22	55	78	\$22.86
47-2152	Plumbers, Pipefitters, and Steamfitters	12,756	13,315	559	4.4%	56	380	937	1,373	\$29.65
47-2161	Plasterers and Stucco Masons	200	217	17	8.5%	2	6	11	19	\$20.55
47-2171	Reinforcing Iron and Rebar Workers	203	215	12	5.9%	1	7	13	21	\$30.08
47-2181	Roofers	5,719	6,049	330	5.8%	33	146	411	590	\$22.53
47-2211	Sheet Metal Workers	3,820	3,938	118	3.1%	12	105	251	368	\$28.24
47-2221	Structural Iron and Steel Workers	2,787	2,960	173	6.2%	17	74	220	311	\$29.44
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	607	578	-29	-4.8%	-3	17	52	66	\$18.33
47-3012	Helpers--Carpenters	338	356	18	5.3%	2	10	30	42	\$14.38
47-3013	Helpers--Electricians	1,172	1,164	-8	-0.7%	-1	34	102	135	\$14.77
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	720	752	32	4.4%	3	22	64	89	\$16.28
47-3016	Helpers--Roofers	369	390	21	5.7%	2	11	33	46	\$17.97
47-3019	Helpers, Construction Trades, All Other	458	489	31	6.8%	3	14	41	58	\$17.01
47-4011	Construction and Building Inspectors	2,878	2,665	-213	-7.4%	-21	151	167	297	\$29.41
47-4021	Elevator Installers and Repairers	569	599	30	5.3%	3	13	40	56	\$47.24
47-4031	Fence Erectors	893	918	25	2.8%	2	22	68	92	\$19.33
47-4041	Hazardous Materials Removal Workers	2,487	2,608	121	4.9%	12	96	207	315	\$23.09
47-4051	Highway Maintenance Workers	7,061	7,259	198	2.8%	20	281	449	750	\$22.47
47-4061	Rail-Track Laying and Maintenance Equipment Operators	595	605	10	1.7%	1	10	42	53	\$27.16
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	1,684	1,839	155	9.2%	16	56	146	218	\$22.62
47-4090	Miscellaneous Construction and Related Workers	647	706	59	9.1%	6	22	56	84	\$17.75
47-5012	Rotary Drill Operators, Oil and Gas	154	173	19	12.3%	2	3	16	21	\$23.35
47-5013	Service Unit Operators, Oil, Gas, and Mining	596	685	89	14.9%	9	13	62	84	\$22.47
47-5022	Excavating and Loading Machine and Dragline Operators, Surface Mining	556	579	23	4.1%	2	18	49	69	\$22.80
47-5041	Continuous Mining Machine Operators	264	262	-2	-0.8%	0	8	23	31	\$29.09
47-5071	Roustabouts, Oil and Gas	618	745	127	20.6%	13	14	66	93	\$17.96
47-5081	Helpers--Extraction Workers	374	422	48	12.8%	5	12	34	51	\$18.15 ^^^
47-5097	Earth Drillers, Except Oil and Gas; and Explosives Workers, Ordnance Handling Experts, and Blasters	355	378	23	6.5%	2	11	32	45	\$22.89 ^^
49-0000	Installation, Maintenance, and Repair Occupations	218,593	230,543	11,950	5.5%	1,195	7,083	14,131	22,409	\$22.98
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	16,119	16,909	790	4.9%	79	479	982	1,540	\$31.22
49-2011	Computer, Automated Teller, and Office Machine Repairers	3,339	3,107	-232	-6.9%	-23	97	245	319	\$18.37

Appendix Table J – cont'd.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
49-2021	Radio, Cellular, and Tower Equipment Installers and Repairers	291	284	-7	-2.4%	-1	10	22	31	\$28.88
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	5,863	5,675	-188	-3.2%	-19	201	442	624	\$29.20
49-2091	Avionics Technicians	171	198	27	15.8%	3	4	8	15	\$28.56
49-2092	Electric Motor, Power Tool, and Related Repairers	733	810	77	10.5%	8	29	45	82	\$23.38
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	402	413	11	2.7%	1	11	20	32	\$30.03
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	1,544	1,662	118	7.6%	12	44	80	136	\$29.07
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	599	585	-14	-2.3%	-1	16	29	44	\$38.58
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	602	484	-118	-19.6%	-12	15	27	30	\$18.20
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	948	919	-29	-3.1%	-3	30	68	95	\$21.68
49-2098	Security and Fire Alarm Systems Installers	2,502	2,685	183	7.3%	18	61	199	278	\$22.96
49-3011	Aircraft Mechanics and Service Technicians	3,591	3,872	281	7.8%	28	107	195	330	\$30.27
49-3021	Automotive Body and Related Repairers	5,585	5,791	206	3.7%	21	180	338	539	\$22.42
49-3022	Automotive Glass Installers and Repairers	919	987	68	7.4%	7	31	68	106	\$22.45
49-3023	Automotive Service Technicians and Mechanics	28,292	28,117	-175	-0.6%	-18	838	1,914	2,734	\$19.42
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	9,883	10,520	637	6.4%	64	289	636	989	\$23.00
49-3041	Farm Equipment Mechanics and Service Technicians	1,443	1,553	110	7.6%	11	45	101	157	\$21.72
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	4,027	4,342	315	7.8%	32	125	283	440	\$24.97
49-3043	Rail Car Repairers	924	986	62	6.7%	6	28	64	98	\$22.86
49-3052	Motorcycle Mechanics	661	723	62	9.4%	6	30	46	82	\$17.95
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	1,229	1,273	44	3.6%	4	54	82	140	\$17.32
49-3092	Recreational Vehicle Service Technicians	381	449	68	17.8%	7	13	34	54	\$17.81
49-3093	Tire Repairers and Changers	2,863	2,946	83	2.9%	8	90	241	339	\$14.51
49-9011	Mechanical Door Repairers	979	1,092	113	11.5%	11	24	59	94	\$19.36
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	1,119	1,109	-10	-0.9%	-1	25	63	87	\$34.71
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	13,957	14,615	658	4.7%	66	366	975	1,407	\$23.47
49-9031	Home Appliance Repairers	1,442	1,375	-67	-4.6%	-7	53	82	128	\$21.98
49-9041	Industrial Machinery Mechanics	19,434	23,719	4,285	22.0%	428	663	1,166	2,257	\$28.74
49-9043	Maintenance Workers, Machinery	2,749	3,083	334	12.1%	33	97	159	289	\$26.28
49-9044	Millwrights	2,397	2,699	302	12.6%	30	74	145	249	\$30.12
49-9051	Electrical Power-Line Installers and Repairers	3,657	3,688	31	0.8%	3	69	247	319	\$38.13
49-9052	Telecommunications Line Installers and Repairers	4,917	4,873	-44	-0.9%	-4	109	413	518	\$22.85
49-9061	Camera and Photographic Equipment Repairers	184	205	21	11.4%	2	8	12	22	\$15.42
49-9062	Medical Equipment Repairers	2,553	2,713	160	6.3%	16	115	157	288	\$28.82
49-9063	Musical Instrument Repairers and Tuners	393	351	-42	-10.7%	-4	16	22	34	\$14.31
49-9069	Precision Instrument and Equipment Repairers, All Other	405	437	32	7.9%	3	18	25	46	\$28.92
49-9071	Maintenance and Repair Workers, General	59,038	62,252	3,214	5.4%	321	2,137	3,538	5,996	\$22.36

**Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030**

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	1,087	1,143	56	5.2%	6	49	81	136	\$17.73
49-9094	Locksmiths and Safe Repairers	405	350	-55	-13.6%	-6	14	23	31	\$22.66
49-9096	Riggers	181	196	15	8.3%	2	4	15	21	\$27.62
49-9098	Helpers--Installation, Maintenance, and Repair Workers	2,200	2,322	122	5.5%	12	97	190	299	\$17.47
49-9099	Installation, Maintenance, and Repair Workers, All Other	7,337	7,872	535	7.3%	54	268	508	830	\$18.40
51-0000	Production Occupations	478,706	468,981	-9,725	-2.0%	-972	17,480	33,617	50,125	\$18.13
51-1011	First-Line Supervisors of Production and Operating Workers	30,827	31,678	851	2.8%	85	940	2,102	3,127	\$29.48
51-2021	Coil Winders, Tapers, and Finishers	499	422	-77	-15.4%	-8	18	30	40	\$18.35
51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	10,354	11,043	689	6.7%	69	430	685	1,184	\$17.51
51-2031	Engine and Other Machine Assemblers	5,990	5,181	-809	-13.5%	-81	194	413	526	\$23.69
51-2041	Structural Metal Fabricators and Fitters	2,725	2,378	-347	-12.7%	-35	57	204	226	\$21.18
51-2051	Fiberglass Laminators and Fabricators	609	611	2	0.3%	0	23	44	67	\$16.79
51-2090	Miscellaneous Assemblers and Fabricators	86,926	81,591	-5,335	-6.1%	-534	3,215	6,014	8,695	\$17.78
51-3011	Bakers	7,299	7,745	446	6.1%	45	419	562	1,026	\$13.95
51-3021	Butchers and Meat Cutters	4,043	3,725	-318	-7.9%	-32	158	288	414	\$14.31
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	2,927	3,000	73	2.5%	7	121	220	348	\$14.21
51-3023	Slaughters and Meat Packers	3,992	4,196	204	5.1%	20	167	304	491	\$14.14
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	494	508	14	2.8%	1	20	37	58	\$14.43
51-3092	Food Batchmakers	8,412	8,433	21	0.2%	2	391	628	1,021	\$17.21
51-3093	Food Cooking Machine Operators and Tenders	1,486	1,513	27	1.8%	3	106	149	258	\$17.58
51-3099	Food Processing Workers, All Other	1,067	1,063	-4	-0.4%	0	38	70	108	\$14.13
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	5,150	4,730	-420	-8.2%	-42	172	305	435	\$18.05
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	1,128	952	-176	-15.6%	-18	36	64	82	\$18.61
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	4,290	3,783	-507	-11.8%	-51	141	249	339	\$23.00
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	15,296	14,730	-566	-3.7%	-57	476	1,033	1,452	\$18.09
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	468	391	-77	-16.5%	-8	14	29	35	\$19.05
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	5,867	5,549	-318	-5.4%	-32	257	392	617	\$17.49
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	1,892	1,761	-131	-6.9%	-13	59	124	170	\$22.42
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	1,268	1,044	-224	-17.7%	-22	38	78	94	\$23.03
51-4041	Machinists	23,822	25,242	1,420	6.0%	142	820	1,668	2,630	\$20.87
51-4051	Metal-Refining Furnace Operators and Tenders	924	920	-4	-0.4%	0	20	63	83	\$22.00
51-4052	Pourers and Casters, Metal	1,000	917	-83	-8.3%	-8	21	66	79	\$23.21
51-4062	Patternmakers, Metal and Plastic	232	219	-13	-5.6%	-1	7	15	21	\$23.91
51-4071	Foundry Mold and Coremakers	3,514	3,331	-183	-5.2%	-18	111	232	325	\$18.35

Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	15,259	14,096	-1,163	-7.6%	-116	477	994	1,355	\$17.40
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	13,774	14,844	1,070	7.8%	107	465	969	1,541	\$18.31
51-4111	Tool and Die Makers	5,659	5,639	-20	-0.4%	-2	208	356	562	\$23.86
51-4121	Welders, Cutters, Solderers, and Brazers	17,610	18,994	1,384	7.9%	138	481	1,444	2,063	\$21.64
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	1,677	1,632	-45	-2.7%	-4	44	130	170	\$18.18
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	1,796	1,646	-150	-8.4%	-15	56	116	157	\$19.15
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	3,069	2,885	-184	-6.0%	-18	97	202	281	\$17.62
51-4194	Tool Grinders, Filers, and Sharpeners	310	301	-9	-2.9%	-1	10	21	30	\$24.19
51-4199	Metal Workers and Plastic Workers, All Other	783	745	-38	-4.9%	-4	25	52	73	\$18.09
51-5111	Prepress Technicians and Workers	1,534	1,275	-259	-16.9%	-26	53	135	162	\$21.19
51-5112	Printing Press Operators	8,524	7,729	-795	-9.3%	-80	295	572	787	\$18.13
51-5113	Print Binding and Finishing Workers	2,226	1,740	-486	-21.8%	-49	98	124	173	\$17.11
51-6011	Laundry and Dry-Cleaning Workers	6,827	7,454	627	9.2%	63	462	479	1,004	\$11.46
51-6021	Pressers, Textile, Garment, and Related Materials	837	748	-89	-10.6%	-9	35	48	74	\$11.47
51-6031	Sewing Machine Operators	4,771	4,560	-211	-4.4%	-21	282	246	507	\$14.27
51-6041	Shoe and Leather Workers and Repairers	206	179	-27	-13.1%	-3	10	12	19	\$13.91
51-6051	Sewers, Hand	346	359	13	3.8%	1	28	18	47	\$14.21
51-6052	Tailors, Dressmakers, and Custom Sewers	1,435	1,240	-195	-13.6%	-20	106	67	153	\$14.53
51-6062	Textile Cutting Machine Setters, Operators, and Tenders	233	214	-19	-8.2%	-2	12	14	24	\$14.62
51-6063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders	117	108	-9	-7.7%	-1	6	7	12	\$11.60
51-6064	Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders	523	474	-49	-9.4%	-5	27	32	54	\$18.09
51-6091	Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers	852	825	-27	-3.2%	-3	45	54	96	\$18.05
51-6092	Fabric and Apparel Patternmakers	126	134	8	6.3%	1	7	8	16	\$28.20 ^{^^^}
51-6099	Textile, Apparel, and Furnishings Workers, All Other	217	219	2	0.9%	0	12	14	26	\$14.45
51-7011	Cabinetmakers and Bench Carpenters	4,843	5,205	362	7.5%	36	189	278	503	\$18.05
51-7021	Furniture Finishers	948	1,000	52	5.5%	5	57	73	135	\$17.74
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	1,071	1,103	32	3.0%	3	38	83	124	\$17.83
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	3,416	3,664	248	7.3%	25	105	256	386	\$17.48
51-7099	Woodworkers, All Other	441	537	96	21.8%	10	19	28	57	\$17.92
51-8012	Power Distributors and Dispatchers	714	673	-41	-5.7%	-4	18	46	60	\$40.60
51-8013	Power Plant Operators	778	669	-109	-14.0%	-11	19	48	56	\$38.87
51-8021	Stationary Engineers and Boiler Operators	887	909	22	2.5%	2	43	64	109	\$30.08
51-8031	Water and Wastewater Treatment Plant and System Operators	4,287	4,045	-242	-5.6%	-24	117	258	351	\$23.24
51-8091	Chemical Plant and System Operators	1,024	974	-50	-4.9%	-5	23	77	95	\$36.97

Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
51-8092	Gas Plant Operators	214	203	-11	-5.1%	-1	5	16	20	\$22.83
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	871	893	22	2.5%	2	21	68	91	\$46.65
51-9011	Chemical Equipment Operators and Tenders	5,323	4,861	-462	-8.7%	-46	112	395	461	\$23.01
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	1,632	1,632	0	0.0%	0	36	127	163	\$18.52
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	1,937	1,883	-54	-2.8%	-5	64	142	201	\$18.50
51-9022	Grinding and Polishing Workers, Hand	993	835	-158	-15.9%	-16	31	68	83	\$18.13
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	7,466	7,565	99	1.3%	10	254	561	825	\$18.13
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	2,388	2,297	-91	-3.8%	-9	105	178	274	\$18.09
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	5,795	5,731	-64	-1.1%	-6	158	425	577	\$17.92
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	1,424	1,477	53	3.7%	5	50	88	143	\$22.95
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	29,721	25,566	-4,155	-14.0%	-416	1,062	2,194	2,840	\$18.30
51-9071	Jewelers and Precious Stone and Metal Workers	551	495	-56	-10.2%	-6	28	35	57	\$22.42
51-9081	Dental Laboratory Technicians	1,033	1,056	23	2.2%	2	47	85	134	\$22.42
51-9082	Medical Appliance Technicians	742	791	49	6.6%	5	34	63	102	\$17.87
51-9083	Ophthalmic Laboratory Technicians	1,696	1,746	50	2.9%	5	77	141	223	\$16.65
51-9111	Packaging and Filling Machine Operators and Tenders	20,315	20,923	608	3.0%	61	850	1,368	2,279	\$17.65
51-9123	Painting, Coating, and Decorating Workers	437	453	16	3.7%	2	12	32	46	\$18.09
51-9124	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	7,417	7,824	407	5.5%	41	210	546	797	\$18.18
51-9151	Photographic Process Workers and Processing Machine Operators	311	276	-35	-11.3%	-4	14	31	41	\$18.24
51-9161	Computer Numerically Controlled Tool Operators	12,580	12,055	-525	-4.2%	-52	422	910	1,280	\$19.19
51-9162	Computer Numerically Controlled Tool Programmers	2,091	2,609	518	24.8%	52	80	174	306	\$27.68
51-9191	Adhesive Bonding Machine Operators and Tenders	863	879	16	1.9%	2	49	58	109	\$18.15
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	998	1,056	58	5.8%	6	35	76	117	\$17.48
51-9193	Cooling and Freezing Equipment Operators and Tenders	1,018	1,077	59	5.8%	6	36	77	119	\$22.81
51-9194	Etchers and Engravers	551	551	0	0.0%	0	32	36	68	\$17.95
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	3,735	4,097	362	9.7%	36	141	257	434	\$18.06
51-9196	Paper Goods Machine Setters, Operators, and Tenders	5,957	5,875	-82	-1.4%	-8	267	392	651	\$18.35
51-9197	Tire Builders	710	680	-30	-4.2%	-3	14	54	65	\$18.23
51-9198	Helpers--Production Workers	8,590	7,904	-686	-8.0%	-69	387	777	1,095	\$17.23
51-9199	Production Workers, All Other	8,199	8,554	355	4.3%	36	287	619	942	\$17.74
53-0000	Transportation and Material Moving Occupations	507,652	551,729	44,077	8.7%	4,408	24,343	42,132	70,883	\$17.70
53-1041	Aircraft Cargo Handling Supervisors	208	241	33	15.9%	3	8	16	27	\$37.26
53-1047	First-Line Supervisors of Transportation & Material Moving Workers, Except Aircraft Cargo Handling Supervisor	22,321	23,485	1,164	5.2%	116	836	1,588	2,540	\$23.73
53-2011	Airline Pilots, Copilots, and Flight Engineers	915	960	45	4.9%	4	34	66	104	\$201,720 ++
53-2012	Commercial Pilots	1,167	1,220	53	4.5%	5	44	84	133	\$119,560 ++

Appendix Table J – cont’d.
Ohio Occupational Employment* Projections Report, 2020–2030

Code	Occupational Title	Employment		Change in Employment		Growth	Annual Openings			Median Wage May 2021
		2020 Annual	2030 Projected	2020-2030	Percent		Exits	Transfers	Total	
53-2021	Air Traffic Controllers	772	824	52	6.7%	5	21	55	81	\$67.83
53-2022	Airfield Operations Specialists	142	149	7	4.9%	1	4	10	15	\$28.02
53-2031	Flight Attendants	521	599	78	15.0%	8	32	36	76	\$60,360 ††
53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	482	529	47	9.8%	5	20	36	61	\$13.43
53-3031	Driver/Sales Workers	33,387	38,473	5,086	15.2%	509	1,471	2,436	4,416	\$11.62
53-3032	Heavy and Tractor-Trailer Truck Drivers	78,801	83,606	4,805	6.1%	480	3,325	5,506	9,311	\$23.17
53-3033	Light Truck or Delivery Services Drivers	35,532	39,172	3,640	10.2%	364	1,530	2,533	4,427	\$18.00
53-3052	Bus Drivers, Transit and Intercity	4,276	4,727	451	10.5%	45	296	224	565	\$23.37
53-3058	Passenger Vehicle Drivers, Except Bus Drivers, Transit and Intercity	18,192	23,260	5,068	27.9%	507	1,365	1,030	2,902	\$18.05 ^^
53-3099	Motor Vehicle Operators, All Other	1,886	2,092	206	10.9%	21	201	116	338	\$13.66
53-4011	Locomotive Engineers	977	985	8	0.8%	1	22	64	87	\$39.27
53-4031	Railroad Conductors and Yardmasters	1,238	1,249	11	0.9%	1	28	81	110	\$30.22
53-5011	Sailors and Marine Oilers	337	362	25	7.4%	2	10	30	42	\$18.45
53-5021	Captains, Mates, and Pilots of Water Vessels	288	316	28	9.7%	3	8	22	33	\$36.35
53-6011	Bridge and Lock Tenders	109	114	5	4.6%	0	5	10	15	\$23.14
53-6021	Parking Lot Attendants	3,478	3,751	273	7.8%	27	175	374	576	\$11.54
53-6031	Automotive and Watercraft Service Attendants	4,097	4,232	135	3.3%	14	192	370	576	\$13.70
53-6041	Traffic Technicians	136	143	7	5.1%	1	6	12	19	\$28.78
53-6051	Transportation Inspectors	791	810	19	2.4%	2	27	58	87	\$30.53
53-6061	Transportation Attendants, Except Flight Attendants	155	218	63	40.6%	6	17	10	33	\$11.76
53-6098	Aircraft Service Attendants and Transportation Workers, All Other	590	681	91	15.4%	9	29	56	94	\$14.39 ^^
53-7011	Conveyor Operators and Tenders	1,073	1,136	63	5.9%	6	34	95	135	\$22.28
53-7021	Crane and Tower Operators	1,450	1,496	46	3.2%	5	40	112	157	\$23.74
53-7051	Industrial Truck and Tractor Operators	33,770	37,387	3,617	10.7%	362	1,071	2,731	4,164	\$18.51
53-7061	Cleaners of Vehicles and Equipment	12,685	13,372	687	5.4%	69	638	1,160	1,867	\$14.06
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	116,999	128,382	11,383	9.7%	1,138	5,369	10,675	17,182	\$16.37
53-7063	Machine Feeders and Offbearers	1,605	1,710	105	6.5%	10	94	121	225	\$20.86
53-7064	Packers and Packagers, Hand	25,989	26,688	699	2.7%	70	1,500	2,133	3,703	\$14.40
53-7065	Stockers and Order Fillers	95,380	100,745	5,365	5.6%	536	5,582	9,565	15,683	\$14.39
53-7071	Gas Compressor and Gas Pumping Station Operators	167	160	-7	-4.2%	-1	4	14	17	\$38.95
53-7073	Wellhead Pumpers	151	166	15	9.9%	2	4	14	20	\$17.55
53-7081	Refuse and Recyclable Material Collectors	5,282	5,900	618	11.7%	62	237	504	803	\$18.62
53-7121	Tank Car, Truck, and Ship Loaders	687	724	37	5.4%	4	22	61	87	\$21.75
53-7199	Material Moving Workers, All Other	349	365	16	4.6%	2	11	31	44	\$17.33

* Occupations with 100 or more workers.

† Aggregated statewide wages.

^^ National aggregate wages.

†† Certain occupations only report wages at the annual level - for elementary and secondary teachers this typically reflects a 9 1/2-month school year.

^^^ National hourly wages.

††† Annual national wages.

Wages above max.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, November 2022.

Appendix Table K
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
00-0000	Total, All Occupations				\$19.08
11-0000	Management Occupations				\$47.53
11-1011	Chief Executives	Bachelor's degree	5 years or more	None	\$86.39
11-1021	General and Operations Managers	Bachelor's degree	5 years or more	None	\$45.60
11-1031	Legislators	Bachelor's degree	Less than 5 years	None	\$36,940 ††
11-2011	Advertising and Promotions Managers	Bachelor's degree	Less than 5 years	None	\$48.02
11-2021	Marketing Managers	Bachelor's degree	5 years or more	None	\$61.47
11-2022	Sales Managers	Bachelor's degree	Less than 5 years	None	\$61.17
11-2030	Public Relations and Fundraising Managers	Bachelor's degree	5 years or more	None	\$57.62 ^^^
11-3010	Administrative Services and Facilities Managers	Bachelor's degree	Less than 5 years	None	\$47.73 ^^^
11-3021	Computer and Information Systems Managers	Bachelor's degree	5 years or more	None	\$62.43
11-3031	Financial Managers	Bachelor's degree	5 years or more	None	\$60.79
11-3051	Industrial Production Managers	Bachelor's degree	5 years or more	None	\$48.40
11-3061	Purchasing Managers	Bachelor's degree	5 years or more	None	\$58.50
11-3071	Transportation, Storage, and Distribution Managers	High school diploma or equivalent	5 years or more	None	\$44.54
11-3111	Compensation and Benefits Managers	Bachelor's degree	5 years or more	None	\$61.38
11-3121	Human Resources Managers	Bachelor's degree	5 years or more	None	\$59.27
11-3131	Training and Development Managers	Bachelor's degree	5 years or more	None	\$55.57
11-9013	Farmers, Ranchers, and Other Agricultural Managers	High school diploma or equivalent	5 years or more	None	\$35.12 ^^^
11-9021	Construction Managers	Bachelor's degree	None	Moderate-term on-the-job training	\$47.08
11-9031	Education Administrators, Preschool and Childcare Center/Program	Bachelor's degree	Less than 5 years	None	\$22.31
11-9032	Education Administrators, Elementary and Secondary School	Master's degree	5 years or more	None	\$97,320 ††
11-9033	Education Administrators, Postsecondary	Master's degree	Less than 5 years	None	\$45.68
11-9039	Education Administrators, All Other	Bachelor's degree	Less than 5 years	None	\$36.22
11-9041	Architectural and Engineering Managers	Bachelor's degree	5 years or more	None	\$63.11
11-9051	Food Service Managers	High school diploma or equivalent	Less than 5 years	None	\$27.30
11-9081	Lodging Managers	High school diploma or equivalent	Less than 5 years	None	\$28.90
11-9111	Medical and Health Services Managers	Bachelor's degree	Less than 5 years	None	\$47.38
11-9121	Natural Sciences Managers	Bachelor's degree	5 years or more	None	\$50.66
11-9131	Postmasters and Mail Superintendents	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$38.87
11-9141	Property, Real Estate, and Community Association Managers	High school diploma or equivalent	Less than 5 years	None	\$22.97
11-9151	Social and Community Service Managers	Bachelor's degree	Less than 5 years	None	\$30.13
11-9171	Funeral Home Managers	Associate's degree	Less than 5 years	None	\$35.58
11-9198	Personal Service Managers; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other	Bachelor's degree	Less than 5 years	None	\$59.93 ^^
13-0000	Business and Financial Operations Occupations				\$30.79
13-1020	Buyers and Purchasing Agents	Bachelor's degree	None	Moderate-term on-the-job training	\$30.37

**Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification**

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
13-1031	Claims Adjusters, Examiners, and Investigators	High school diploma or equivalent	None	Long-term on-the-job training	\$29.96
13-1032	Insurance Appraisers, Auto Damage	Postsecondary non-degree award	None	Moderate-term on-the-job training	\$30.13
13-1041	Compliance Officers	Bachelor's degree	None	Moderate-term on-the-job training	\$30.51
13-1051	Cost Estimators	Bachelor's degree	None	Moderate-term on-the-job training	\$30.42
13-1071	Human Resources Specialists	Bachelor's degree	None	None	\$28.91
13-1075	Labor Relations Specialists	Bachelor's degree	Less than 5 years	None	\$37.16
13-1081	Logisticians	Bachelor's degree	None	None	\$37.03
13-1111	Management Analysts	Bachelor's degree	Less than 5 years	None	\$38.17
13-1121	Meeting, Convention, and Event Planners	Bachelor's degree	None	None	\$23.34
13-1131	Fundraisers	Bachelor's degree	None	None	\$28.91
13-1141	Compensation, Benefits, and Job Analysis Specialists	Bachelor's degree	Less than 5 years	None	\$29.49
13-1151	Training and Development Specialists	Bachelor's degree	Less than 5 years	None	\$23.76
13-1161	Market Research Analysts and Marketing Specialists	Bachelor's degree	None	None	\$29.55
13-1198	Project Management Specialists and Business Operations Specialists, All Other	Bachelor's degree	None	None	\$35.90 ^^
13-2011	Accountants and Auditors	Bachelor's degree	None	None	\$33.46
13-2020	Property Appraisers and Assessors	Bachelor's degree	None	Long-term on-the-job training	\$30.43
13-2031	Budget Analysts	Bachelor's degree	None	None	\$37.18
13-2041	Credit Analysts	Bachelor's degree	None	None	\$34.74
13-2052	Personal Financial Advisors	Bachelor's degree	None	Long-term on-the-job training	\$39.22
13-2053	Insurance Underwriters	Bachelor's degree	None	Moderate-term on-the-job training	\$37.04
13-2061	Financial Examiners	Bachelor's degree	None	Long-term on-the-job training	\$36.65
13-2071	Credit Counselors	Bachelor's degree	None	Moderate-term on-the-job training	\$23.56
13-2072	Loan Officers	Bachelor's degree	Less than 5 years	Moderate-term on-the-job training	\$29.96
13-2081	Tax Examiners and Collectors, and Revenue Agents	Bachelor's degree	None	Moderate-term on-the-job training	\$30.51
13-2082	Tax Preparers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.98
13-2098	Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other	Bachelor's degree	None	None	\$35.21 ^^
15-0000	Computer and Mathematical Occupations				\$38.19
15-1211	Computer Systems Analysts	Bachelor's degree	None	None	\$45.83
15-1212	Information Security Analysts	Bachelor's degree	Less than 5 years	None	\$47.62
15-1221	Computer and Information Research Scientists	Master's degree	None	None	\$57.28
15-1231	Computer Network Support Specialists	Associate's degree	None	None	\$29.00
15-1232	Computer User Support Specialists	Some college, no degree	None	None	\$22.96
15-1241	Computer Network Architects	Bachelor's degree	5 years or more	None	\$49.41
15-1244	Network and Computer Systems Administrators	Bachelor's degree	None	None	\$38.20
15-1245	Database Administrators and Architects	Bachelor's degree	None	None	\$47.44 ^^
15-1251	Computer Programmers	Bachelor's degree	None	None	\$36.57
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	Bachelor's degree	None	None	\$49.49 ^^
15-1257	Web Developers and Digital Interface Designers	Bachelor's degree	None	None	\$49.49 ^^

**Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification**

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
15-1299	Computer Occupations, All Other	Bachelor's degree	None	None	\$46.05
15-2011	Actuaries	Bachelor's degree	None	Long-term on-the-job training	\$47.88
15-2031	Operations Research Analysts	Bachelor's degree	None	None	\$40.91
15-2041	Statisticians	Master's degree	None	None	\$36.17
15-2098	Data Scientists and Mathematical Science Occupations, All Other	Bachelor's degree	None	None	\$30.03 ^^
17-0000	Architecture and Engineering Occupations				\$37.39
17-1011	Architects, Except Landscape and Naval	Bachelor's degree	None	Internship/residency	\$37.45
17-1012	Landscape Architects	Bachelor's degree	None	Internship/residency	\$23.21
17-1021	Cartographers and Photogrammetrists	Bachelor's degree	None	None	\$36.83
17-1022	Surveyors	Bachelor's degree	None	Internship/residency	\$29.34
17-2011	Aerospace Engineers	Bachelor's degree	None	None	\$58.46
17-2031	Biomedical Engineers	Bachelor's degree	None	None	\$45.33
17-2041	Chemical Engineers	Bachelor's degree	None	None	\$46.88
17-2051	Civil Engineers	Bachelor's degree	None	None	\$38.03
17-2061	Computer Hardware Engineers	Bachelor's degree	None	None	\$46.51
17-2071	Electrical Engineers	Bachelor's degree	None	None	\$45.89
17-2072	Electronics Engineers, Except Computer	Bachelor's degree	None	None	\$47.62
17-2081	Environmental Engineers	Bachelor's degree	None	None	\$47.52
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	Bachelor's degree	None	None	\$39.87
17-2112	Industrial Engineers	Bachelor's degree	None	None	\$38.24
17-2131	Materials Engineers	Bachelor's degree	None	None	\$42.11
17-2141	Mechanical Engineers	Bachelor's degree	None	None	\$37.96
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	Bachelor's degree	None	None	\$38.08
17-2171	Petroleum Engineers	Bachelor's degree	None	None	\$48.15
17-2199	Engineers, All Other	Bachelor's degree	None	None	\$46.88
17-3011	Architectural and Civil Drafters	Associate's degree	None	None	\$29.64
17-3012	Electrical and Electronics Drafters	Associate's degree	None	None	\$29.15
17-3013	Mechanical Drafters	Associate's degree	None	None	\$28.74
17-3021	Aerospace Engineering and Operations Technicians	Associate's degree	None	None	\$29.76
17-3022	Civil Engineering Technicians	Associate's degree	None	None	\$29.02
17-3023	Electrical and Electronics Engineering Technicians	Associate's degree	None	None	\$29.96
17-3025	Environmental Engineering Technicians	Associate's degree	None	None	\$22.83
17-3026	Industrial Engineering Technicians	Associate's degree	None	None	\$27.65
17-3027	Mechanical Engineering Technicians	Associate's degree	None	None	\$28.52
17-3031	Surveying and Mapping Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.55
17-3098	Calibration and Engineering Technologists and Technicians, Except Drafters, All Other	Associate's degree	None	None	\$29.18 ^^
19-0000	Life, Physical, and Social Science Occupations				\$31.13
19-1012	Food Scientists and Technologists	Bachelor's degree	None	None	\$40.47
19-1013	Soil and Plant Scientists	Bachelor's degree	None	None	\$29.63

**Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification**

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
19-1022	Microbiologists	Bachelor's degree	None	None	\$23.41
19-1023	Zoologists and Wildlife Biologists	Bachelor's degree	None	None	\$30.65
19-1029	Biological Scientists, All Other	Bachelor's degree	None	None	\$39.61
19-1031	Conservation Scientists	Bachelor's degree	None	None	\$27.66
19-1032	Foresters	Bachelor's degree	None	None	\$31.20
19-1041	Epidemiologists	Master's degree	None	None	\$36.60
19-1042	Medical Scientists, Except Epidemiologists	Doctoral or professional degree	None	None	\$39.75
19-1099	Life Scientists, All Other	Bachelor's degree	None	None	\$42.10
19-2012	Physicists	Doctoral or professional degree	None	None	\$62.86
19-2031	Chemists	Bachelor's degree	None	None	\$36.46
19-2032	Materials Scientists	Bachelor's degree	None	None	\$45.64
19-2041	Environmental Scientists and Specialists, Including Health	Bachelor's degree	None	None	\$37.30
19-2042	Geoscientists, Except Hydrologists and Geographers	Bachelor's degree	None	None	\$37.38
19-2043	Hydrologists	Bachelor's degree	None	None	\$39.53
19-2099	Physical Scientists, All Other	Bachelor's degree	None	None	\$48.15
19-3011	Economists	Master's degree	None	None	\$50.35
19-3022	Survey Researchers	Master's degree	None	None	\$28.05
19-3031	Clinical, Counseling, and School Psychologists	Doctoral or professional degree	None	Internship/residency	\$38.96 ^^
19-3032	Industrial-Organizational Psychologists	Master's degree	None	Internship/residency	\$57.85
19-3039	Psychologists, All Other	Master's degree	None	Internship/residency	\$50.72
19-3051	Urban and Regional Planners	Master's degree	None	None	\$30.72
19-3099	Social Scientists and Related Workers, All Other	Bachelor's degree	None	None	\$39.56
19-4010	Agricultural and Food Science Technicians	Associate's degree	None	Moderate-term on-the-job training	\$21.49 ^^^
19-4021	Biological Technicians	Bachelor's degree	None	None	\$23.99
19-4031	Chemical Technicians	Associate's degree	None	Moderate-term on-the-job training	\$23.42
19-4042	Environmental Science and Protection Technicians, Including Health	Associate's degree	None	None	\$21.85
19-4045	Geological and Hydrologic Technicians	Associate's degree	None	Moderate-term on-the-job training	\$23.01 ^^
19-4051	Nuclear Technicians	Associate's degree	None	Moderate-term on-the-job training	\$37.89
19-4061	Social Science Research Assistants	Bachelor's degree	None	None	\$23.59
19-4071	Forest and Conservation Technicians	Associate's degree	None	None	\$22.40
19-4092	Forensic Science Technicians	Bachelor's degree	None	Moderate-term on-the-job training	\$30.89
19-4099	Life, Physical, and Social Science Technicians, All Other	Associate's degree	None	None	\$23.66
19-5011	Occupational Health and Safety Specialists	Bachelor's degree	None	None	\$37.43
19-5012	Occupational Health and Safety Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.46
21-0000	Community and Social Service Occupations				\$22.91
21-1012	Educational, Guidance, School, and Vocational Counselors	Master's degree	None	None	\$29.39
21-1013	Marriage and Family Therapists	Master's degree	None	Internship/residency	\$24.29
21-1015	Rehabilitation Counselors	Master's degree	None	None	\$18.42
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	Bachelor's degree	None	None	\$22.84
21-1019	Counselors, All Other	Master's degree	None	None	\$22.42

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
21-1021	Child, Family, and School Social Workers	Bachelor's degree	None	None	\$22.95
21-1022	Healthcare Social Workers	Master's degree	None	Internship/residency	\$29.07
21-1023	Mental Health and Substance Abuse Social Workers	Master's degree	None	Internship/residency	\$22.55
21-1029	Social Workers, All Other	Bachelor's degree	None	None	\$27.59
21-1091	Health Educators	Bachelor's degree	None	None	\$29.15
21-1092	Probation Officers and Correctional Treatment Specialists	Bachelor's degree	None	Short-term on-the-job training	\$27.02
21-1093	Social and Human Service Assistants	High school diploma or equivalent	None	Short-term on-the-job training	\$17.67
21-1094	Community Health Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$18.48
21-1099	Community and Social Service Specialists, All Other	Bachelor's degree	None	None	\$22.82
21-2011	Clergy	Bachelor's degree	None	Moderate-term on-the-job training	\$23.58
23-0000	Legal Occupations				\$36.21
23-1011	Lawyers	Doctoral or professional degree	None	None	\$49.18
23-1012	Judicial Law Clerks	Doctoral or professional degree	None	None	\$23.60
23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	Doctoral or professional degree	5 years or more	Short-term on-the-job training	\$37.16
23-1022	Arbitrators, Mediators, and Conciliators	Bachelor's degree	Less than 5 years	Moderate-term on-the-job training	\$24.59
23-1023	Judges, Magistrate Judges, and Magistrates	Doctoral or professional degree	5 years or more	Short-term on-the-job training	\$47.76
23-2011	Paralegals and Legal Assistants	Associate's degree	None	None	\$22.57
23-2093	Title Examiners, Abstractors, and Searchers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.39
23-2099	Legal Support Workers, All Other	Associate's degree	None	None	\$27.91
25-0000	Education, Training, and Library Occupations				\$29.13
25-1011	Business Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,890 ++
25-1021	Computer Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$81,680 ++
25-1022	Mathematical Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,740 ++
25-1031	Architecture Teachers, Postsecondary	Doctoral or professional degree	None	None	\$98,070 ++
25-1032	Engineering Teachers, Postsecondary	Doctoral or professional degree	None	None	\$103,340 ++
25-1042	Biological Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$79,410 ++
25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	Doctoral or professional degree	None	None	\$83,480 ++
25-1052	Chemistry Teachers, Postsecondary	Doctoral or professional degree	None	None	\$78,100 ++
25-1053	Environmental Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$99,040 ++
25-1054	Physics Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,630 ++
25-1061	Anthropology and Archeology Teachers, Postsecondary	Doctoral or professional degree	None	None	\$81,440 ++
25-1062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	Doctoral or professional degree	None	None	\$80,360 ++
25-1063	Economics Teachers, Postsecondary	Doctoral or professional degree	None	None	\$98,830 ++
25-1064	Geography Teachers, Postsecondary	Doctoral or professional degree	None	None	\$83,860 ++
25-1065	Political Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$79,270 ++
25-1066	Psychology Teachers, Postsecondary	Doctoral or professional degree	None	None	\$81,120 ++
25-1067	Sociology Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,980 ++
25-1069	Social Sciences Teachers, Postsecondary, All Other	Doctoral or professional degree	None	None	\$64,440 ++
25-1071	Health Specialties Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$107,630 ++

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
25-1072	Nursing Instructors and Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$77,100 ††
25-1081	Education Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$62,850 ††
25-1082	Library Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$63,950 ††
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary	Doctoral or professional degree	None	None	\$60,920 ††
25-1112	Law Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$117,010 ††
25-1113	Social Work Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,630 ††
25-1121	Art, Drama, and Music Teachers, Postsecondary	Master's degree	None	None	\$64,100 ††
25-1122	Communications Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,630 ††
25-1123	English Language and Literature Teachers, Postsecondary	Doctoral or professional degree	None	None	\$63,900 ††
25-1124	Foreign Language and Literature Teachers, Postsecondary	Doctoral or professional degree	None	None	\$64,520 ††
25-1125	History Teachers, Postsecondary	Doctoral or professional degree	None	None	\$79,410 ††
25-1126	Philosophy and Religion Teachers, Postsecondary	Doctoral or professional degree	None	None	\$78,370 ††
25-1192	Home Economics Teachers, Postsecondary	Doctoral or professional degree	None	None	\$69,550 ††
25-1193	Recreation and Fitness Studies Teachers, Postsecondary	Doctoral or professional degree	None	None	\$63,740 ††
25-1194	Vocational Education Teachers, Postsecondary	Bachelor's degree	Less than 5 years	None	\$24.54
25-1199	Postsecondary Teachers, All Other	Doctoral or professional degree	None	None	\$61,590 ††
25-2011	Preschool Teachers, Except Special Education	Associate's degree	None	None	\$13.89
25-2012	Kindergarten Teachers, Except Special Education	Bachelor's degree	None	None	\$60,670 ††
25-2021	Elementary School Teachers, Except Special Education	Bachelor's degree	None	None	\$64,410 ††
25-2022	Middle School Teachers, Except Special and Career/Technical Education	Bachelor's degree	None	None	\$63,670 ††
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	Bachelor's degree	None	None	\$75,330 ††
25-2032	Career/Technical Education Teachers, Secondary School	Bachelor's degree	Less than 5 years	None	\$76,880 ††
25-2052	Special Education Teachers, Kindergarten and Elementary School	Bachelor's degree	None	None	\$70,900 ††
25-2057	Special Education Teachers, Middle School	Bachelor's degree	None	None	\$58,220 ††
25-2058	Special Education Teachers, Secondary School	Bachelor's degree	None	None	\$62,010 ††
25-2059	Special Education Teachers, All Other	Bachelor's degree	None	None	\$47,140 ††
25-3011	Adult Basic and Secondary Education and Literacy Teachers and Instructors	Bachelor's degree	None	None	\$24.10
25-3021	Self-Enrichment Education Teachers	High school diploma or equivalent	Less than 5 years	None	\$14.64
25-3031	Substitute Teachers, Short-Term	Bachelor's degree	None	None	\$13.92
25-3097	Teachers and Instructors, All Other, Except Substitute Teachers	Bachelor's degree	None	None	\$17.94 ^^
25-4011	Archivists	Master's degree	None	None	\$23.62
25-4012	Curators	Master's degree	None	None	\$23.80
25-4013	Museum Technicians and Conservators	Bachelor's degree	None	None	\$22.61
25-4022	Librarians and Media Collections Specialists	Master's degree	None	None	\$23.62
25-4031	Library Technicians	Postsecondary non-degree award	None	None	\$16.71
25-9031	Instructional Coordinators	Master's degree	5 years or more	None	\$29.83
25-9044	Teaching Assistants, Postsecondary	Bachelor's degree	None	None	\$30,070 ††
25-9045	Teaching Assistants, Except Postsecondary	Some college, no degree	None	None	\$28,820 ††

**Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification**

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations				\$23.05
27-1011	Art Directors	Bachelor's degree	5 years or more	None	\$39.68
27-1012	Craft Artists	No formal educational credential	None	Long-term on-the-job training	\$18.21
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	Bachelor's degree	None	Long-term on-the-job training	\$22.28
27-1014	Multimedia Artists and Animators	Bachelor's degree	None	None	\$37.88 ^{^^^}
27-1019	Artists and Related Workers, All Other	No formal educational credential	None	Long-term on-the-job training	\$32.38
27-1021	Commercial and Industrial Designers	Bachelor's degree	None	None	\$30.43
27-1022	Fashion Designers	Bachelor's degree	None	None	\$23.71
27-1023	Floral Designers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$13.70
27-1024	Graphic Designers	Bachelor's degree	None	None	\$23.53
27-1025	Interior Designers	Bachelor's degree	None	None	\$23.89
27-1026	Merchandise Displayers and Window Trimmers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.52
27-1027	Set and Exhibit Designers	Bachelor's degree	None	None	\$28.36
27-1029	Designers, All Other	Bachelor's degree	None	None	\$22.66
27-2011	Actors	Some college, no degree	None	Long-term on-the-job training	\$9.44
27-2012	Producers and Directors	Bachelor's degree	Less than 5 years	None	\$28.81
27-2021	Athletes and Sports Competitors	No formal educational credential	None	Long-term on-the-job training	\$77,300 ⁺⁺⁺
27-2022	Coaches and Scouts	Bachelor's degree	None	None	\$36,870 ⁺⁺
27-2041	Music Directors and Composers	Bachelor's degree	Less than 5 years	None	\$27.65
27-2042	Musicians and Singers	No formal educational credential	None	Long-term on-the-job training	\$47.38
27-2090	Miscellaneous Entertainers and Performers, Sports and Related Workers	No formal educational credential	None	Short-term on-the-job training	\$17.59 ^{^^^}
27-3011	Radio and Television Announcers	Bachelor's degree	None	None	\$14.04
27-3023	News Analysts, Reporters, and Journalists	Bachelor's degree	None	None	\$18.45
27-3031	Public Relations Specialists	Bachelor's degree	None	None	\$29.79
27-3041	Editors	Bachelor's degree	Less than 5 years	None	\$29.24
27-3042	Technical Writers	Bachelor's degree	Less than 5 years	Short-term on-the-job training	\$30.43
27-3043	Writers and Authors	Bachelor's degree	None	Long-term on-the-job training	\$24.06
27-3091	Interpreters and Translators	Bachelor's degree	None	None	\$23.29
27-3092	Court Reporters and Simultaneous Captioners	Postsecondary non-degree award	None	Short-term on-the-job training	\$29.65
27-3099	Media and Communication Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$17.80
27-4011	Audio and Video Equipment Technicians	Postsecondary non-degree award	None	Short-term on-the-job training	\$22.08
27-4012	Broadcast Technicians	Associate's degree	None	Short-term on-the-job training	\$18.72
27-4014	Sound Engineering Technicians	Postsecondary non-degree award	None	Short-term on-the-job training	\$22.13
27-4021	Photographers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.44
27-4031	Camera Operators, Television, Video, and Motion Picture	Bachelor's degree	None	None	\$18.22
27-4032	Film and Video Editors	Bachelor's degree	None	None	\$23.15

**Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification**

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
27-4098	Lighting Technicians and Media and Communication Equipment Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$23.52 ^^
29-0000	Healthcare Practitioners and Technical Occupations				\$30.04
29-1011	Chiropractors	Doctoral or professional degree	None	None	\$29.26
29-1021	Dentists, General	Doctoral or professional degree	None	None	\$79.89
29-1029	Dentists, All Other Specialists	Doctoral or professional degree	None	Internship/residency	#
29-1031	Dietitians and Nutritionists	Bachelor's degree	None	Internship/residency	\$29.26
29-1041	Optometrists	Doctoral or professional degree	None	None	\$49.04
29-1051	Pharmacists	Doctoral or professional degree	None	None	\$61.63
29-1071	Physician Assistants	Master's degree	None	None	\$49.29
29-1081	Podiatrists	Doctoral or professional degree	None	Internship/residency	\$61.91
29-1122	Occupational Therapists	Master's degree	None	None	\$38.47
29-1123	Physical Therapists	Doctoral or professional degree	None	None	\$45.97
29-1124	Radiation Therapists	Associate's degree	None	None	\$38.13
29-1125	Recreational Therapists	Bachelor's degree	None	None	\$22.77
29-1126	Respiratory Therapists	Associate's degree	None	None	\$29.41
29-1127	Speech-Language Pathologists	Master's degree	None	Internship/residency	\$37.71
29-1128	Exercise Physiologists	Bachelor's degree	None	None	\$22.60
29-1129	Therapists, All Other	Bachelor's degree	None	None	\$36.16
29-1131	Veterinarians	Doctoral or professional degree	None	None	\$47.62
29-1141	Registered Nurses	Bachelor's degree	None	None	\$35.62
29-1151	Nurse Anesthetists	Master's degree	None	None	\$80.98
29-1161	Nurse Midwives	Master's degree	None	None	\$58.18
29-1171	Nurse Practitioners	Master's degree	None	None	\$49.67
29-1181	Audiologists	Doctoral or professional degree	None	None	\$31.52
29-1211	Anesthesiologists	Doctoral or professional degree	None	Internship/residency	#
29-1215	Family Medicine Physicians	Doctoral or professional degree	None	Internship/residency	\$79.84
29-1216	General Internal Medicine Physicians	Doctoral or professional degree	None	Internship/residency	#
29-1218	Obstetricians and Gynecologists	Doctoral or professional degree	None	Internship/residency	\$94.24
29-1221	Pediatricians, General	Doctoral or professional degree	None	Internship/residency	\$90.76
29-1223	Psychiatrists	Doctoral or professional degree	None	Internship/residency	#
29-1228	Physicians, All Other; and Ophthalmologists, Except Pediatric	Doctoral or professional degree	None	Internship/residency	\$37.45 ^^
29-1248	Surgeons, Except Ophthalmologists	Doctoral or professional degree	None	Internship/residency	# ^^
29-1292	Dental Hygienists	Associate's degree	None	None	\$36.94
29-1298	Acupuncturists and Healthcare Diagnosing or Treating Practitioners, All Other	Master's degree	None	None	\$37.45 ^^
29-2010	Clinical Laboratory Technologists and Technicians	Bachelor's degree	None	None	\$25.90
29-2031	Cardiovascular Technologists and Technicians	Associate's degree	None	None	\$29.47
29-2032	Diagnostic Medical Sonographers	Associate's degree	None	None	\$36.06
29-2033	Nuclear Medicine Technologists	Associate's degree	None	None	\$37.16
29-2034	Radiologic Technologists	Associate's degree	None	None	\$28.90
29-2035	Magnetic Resonance Imaging Technologists	Associate's degree	Less than 5 years	None	\$36.06

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
29-2040	Emergency Medical Technicians and Paramedics	Postsecondary non-degree award	None	None	\$17.76 ^{^^^}
29-2051	Dietetic Technicians	Associate's degree	None	None	\$14.46
29-2052	Pharmacy Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.89
29-2053	Psychiatric Technicians	Postsecondary non-degree award	Less than 5 years	Short-term on-the-job training	\$14.89
29-2055	Surgical Technologists	Postsecondary non-degree award	None	None	\$23.01
29-2056	Veterinary Technologists and Technicians	Associate's degree	None	None	\$17.48
29-2057	Ophthalmic Medical Technicians	Postsecondary non-degree award	None	None	\$17.62
29-2061	Licensed Practical and Licensed Vocational Nurses	Postsecondary non-degree award	None	None	\$22.73
29-2081	Opticians, Dispensing	High school diploma or equivalent	None	Long-term on-the-job training	\$22.04
29-2091	Orthotists and Prosthetists	Master's degree	None	Internship/residency	\$28.80
29-2092	Hearing Aid Specialists	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.11
29-2098	Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	Postsecondary non-degree award	None	None	\$22.55 ^{^^}
29-9091	Athletic Trainers	Bachelor's degree	None	None	\$47,440 ⁺⁺
29-9092	Genetic Counselors	Master's degree	None	None	\$38.50
29-9098	Health Information Technologists, Medical Registrars, Surgical Assistants, and Healthcare Practitioners, All Other	Postsecondary non-degree award	None	None	\$26.19 ^{^^}
31-0000	Healthcare Support Occupations				\$14.14
31-1120	Home Health and Personal Care Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$11.54
31-1131	Nursing Assistants	Postsecondary non-degree award	None	None	\$14.34
31-1132	Orderlies	High school diploma or equivalent	None	Short-term on-the-job training	\$14.25
31-1133	Psychiatric Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$17.98
31-2011	Occupational Therapy Assistants	Associate's degree	None	None	\$29.51
31-2012	Occupational Therapy Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$19.43
31-2021	Physical Therapist Assistants	Associate's degree	None	None	\$29.60
31-2022	Physical Therapist Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$14.01
31-9011	Massage Therapists	Postsecondary non-degree award	None	None	\$22.35
31-9091	Dental Assistants	Postsecondary non-degree award	None	None	\$18.77
31-9092	Medical Assistants	Postsecondary non-degree award	None	None	\$17.69

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
31-9093	Medical Equipment Preparers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.00
31-9094	Medical Transcriptionists	Postsecondary non-degree award	None	None	\$11.59
31-9095	Pharmacy Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$14.07
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.22
31-9097	Phlebotomists	Postsecondary non-degree award	None	None	\$17.59
31-9099	Healthcare Support Workers, All Other	High school diploma or equivalent	None	None	\$18.11
33-0000	Protective Service Occupations				\$22.81
33-1011	First-Line Supervisors of Correctional Officers	High school diploma or equivalent	Less than 5 years	None	\$36.89
33-1012	First-Line Supervisors of Police and Detectives	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$45.15
33-1021	First-Line Supervisors of Fire Fighting and Prevention Workers	Postsecondary non-degree award	Less than 5 years	Moderate-term on-the-job training	\$37.42
33-1090	Miscellaneous First-Line Supervisors, Protective Service Workers	High school diploma or equivalent	Less than 5 years	None	\$25.23 ^{^^^}
33-2011	Firefighters	Postsecondary non-degree award	None	Long-term on-the-job training	\$24.37
33-2021	Fire Inspectors and Investigators	Postsecondary non-degree award	5 years or more	Moderate-term on-the-job training	\$46.78
33-3011	Bailiffs	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.58
33-3012	Correctional Officers and Jailers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.04
33-3021	Detectives and Criminal Investigators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$37.30
33-3031	Fish and Game Wardens	Bachelor's degree	None	Moderate-term on-the-job training	\$37.30
33-3041	Parking Enforcement Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$22.58
33-3051	Police and Sheriff's Patrol Officers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$31.06
33-3052	Transit and Railroad Police	High school diploma or equivalent	None	Moderate-term on-the-job training	\$31.21 ^{^^^}
33-9011	Animal Control Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.60
33-9021	Private Detectives and Investigators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$23.45
33-9031	Gaming Surveillance Officers and Gaming Investigators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$21.91
33-9032	Security Guards	High school diploma or equivalent	None	Short-term on-the-job training	\$13.98

**Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification**

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
33-9091	Crossing Guards	No formal educational credential	None	Short-term on-the-job training	\$13.92
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	No formal educational credential	None	Short-term on-the-job training	\$10.72
33-9093	Transportation Security Screeners	High school diploma or equivalent	None	Short-term on-the-job training	\$21.65
33-9098	School Bus Monitors and Protective Service Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$15.11 ^^
35-0000	Food Preparation and Serving Related Occupations				\$10.96
35-1011	Chefs and Head Cooks	High school diploma or equivalent	5 years or more	None	\$24.28
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	Less than 5 years	None	\$15.65
35-2011	Cooks, Fast Food	No formal educational credential	None	Short-term on-the-job training	\$10.76
35-2012	Cooks, Institution and Cafeteria	No formal educational credential	None	Short-term on-the-job training	\$14.23
35-2014	Cooks, Restaurant	No formal educational credential	Less than 5 years	Moderate-term on-the-job training	\$13.87
35-2015	Cooks, Short Order	No formal educational credential	None	Short-term on-the-job training	\$12.14
35-2021	Food Preparation Workers	No formal educational credential	None	Short-term on-the-job training	\$11.69
35-3011	Bartenders	No formal educational credential	None	Short-term on-the-job training	\$10.21
35-3023	Fast Food and Counter Workers	No formal educational credential	None	Short-term on-the-job training	\$10.70
35-3031	Waiters and Waitresses	No formal educational credential	None	Short-term on-the-job training	\$9.87
35-3041	Food Servers, Nonrestaurant	No formal educational credential	None	Short-term on-the-job training	\$12.07
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	No formal educational credential	None	Short-term on-the-job training	\$11.18
35-9021	Dishwashers	No formal educational credential	None	Short-term on-the-job training	\$10.86
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	No formal educational credential	None	Short-term on-the-job training	\$10.59
35-9099	Food Preparation and Serving Related Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$10.72
37-0000	Building and Grounds Cleaning and Maintenance Occupations				\$14.26
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	High school diploma or equivalent	Less than 5 years	None	\$19.46
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	High school diploma or equivalent	Less than 5 years	None	\$23.05
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	No formal educational credential	None	Short-term on-the-job training	\$14.06
37-2012	Maids and Housekeeping Cleaners	No formal educational credential	None	Short-term on-the-job training	\$11.80
37-3011	Landscaping and Groundskeeping Workers	No formal educational credential	None	Short-term on-the-job training	\$14.58
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.60
37-3013	Tree Trimmers and Pruners	High school diploma or equivalent	None	Short-term on-the-job training	\$18.79
37-3019	Grounds Maintenance Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$14.72
39-0000	Personal Care and Service Occupations				\$11.88
39-1013	First-Line Supervisors of Gambling Services Workers	High school diploma or equivalent	Less than 5 years	None	\$24.27
39-1098	First-Line Supervisors of Personal Service and Entertainment and Recreation Workers, Except Gambling Services	High school diploma or equivalent	Less than 5 years	None	\$21.67 ^^

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
39-2011	Animal Trainers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.24
39-2021	Nonfarm Animal Caretakers	High school diploma or equivalent	None	Short-term on-the-job training	\$11.01
39-3011	Gaming Dealers	High school diploma or equivalent	None	Short-term on-the-job training	\$9.31
39-3031	Ushers, Lobby Attendants, and Ticket Takers	No formal educational credential	None	Short-term on-the-job training	\$10.99
39-3091	Amusement and Recreation Attendants	No formal educational credential	None	Short-term on-the-job training	\$10.38
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	High school diploma or equivalent	None	Short-term on-the-job training	\$13.71
39-3099	Entertainment Attendants and Related Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$11.62 ^{^^^}
39-4011	Embalmers	Associate's degree	None	Long-term on-the-job training	\$22.26
39-4021	Funeral Attendants	High school diploma or equivalent	None	Short-term on-the-job training	\$14.08
39-4031	Morticians, Undertakers, and Funeral Directors	Associate's degree	None	Long-term on-the-job training	\$29.44
39-5012	Hairdressers, Hairstylists, and Cosmetologists	Postsecondary non-degree award	None	None	\$13.69
39-5092	Manicurists and Pedicurists	Postsecondary non-degree award	None	None	\$11.04
39-5094	Skincare Specialists	Postsecondary non-degree award	None	None	\$18.05
39-6011	Baggage Porters and Bellhops	High school diploma or equivalent	None	Short-term on-the-job training	\$13.73
39-6012	Concierges	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.08
39-7010	Tour and Travel Guides	High school diploma or equivalent	None	Moderate-term on-the-job training	\$13.81
39-9011	Childcare Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$11.17
39-9031	Fitness Trainers and Aerobics Instructors	High school diploma or equivalent	None	Short-term on-the-job training	\$14.39
39-9032	Recreation Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$11.91
39-9041	Residential Advisors	High school diploma or equivalent	None	Short-term on-the-job training	\$14.64
39-9098	Crematory Operators and Personal Care and Service Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$14.16 ^{^^}
41-0000	Sales and Related Occupations				\$14.20
41-1011	First-Line Supervisors of Retail Sales Workers	High school diploma or equivalent	Less than 5 years	None	\$18.23
41-1012	First-Line Supervisors of Non-Retail Sales Workers	High school diploma or equivalent	Less than 5 years	None	\$37.96
41-2011	Cashiers	No formal educational credential	None	Short-term on-the-job training	\$10.96
41-2012	Gaming Change Persons and Booth Cashiers	No formal educational credential	None	Short-term on-the-job training	\$10.02
41-2021	Counter and Rental Clerks	No formal educational credential	None	Short-term on-the-job training	\$14.23

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
41-2022	Parts Salespersons	No formal educational credential	None	Moderate-term on-the-job training	\$14.41
41-2031	Retail Salespersons	No formal educational credential	None	Short-term on-the-job training	\$12.99
41-3011	Advertising Sales Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.04
41-3021	Insurance Sales Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$28.43
41-3031	Securities, Commodities, and Financial Services Sales Agents	Bachelor's degree	None	Moderate-term on-the-job training	\$29.51
41-3041	Travel Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.03
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	High school diploma or equivalent	None	Moderate-term on-the-job training	\$25.14
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Bachelor's degree	None	Moderate-term on-the-job training	\$49.71
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	High school diploma or equivalent	None	Moderate-term on-the-job training	\$29.71
41-9011	Demonstrators and Product Promoters	No formal educational credential	None	Short-term on-the-job training	\$14.58
41-9021	Real Estate Brokers	High school diploma or equivalent	Less than 5 years	None	\$23.25
41-9022	Real Estate Sales Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.76
41-9031	Sales Engineers	Bachelor's degree	None	Moderate-term on-the-job training	\$47.91
41-9041	Telemarketers	No formal educational credential	None	Short-term on-the-job training	\$13.53
41-9099	Sales and Related Workers, All Other	High school diploma or equivalent	None	None	\$13.73
43-0000	Office and Administrative Support Occupations				\$18.13
43-1011	First-Line Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	Less than 5 years	None	\$28.91
43-2011	Switchboard Operators, Including Answering Service	High school diploma or equivalent	None	Short-term on-the-job training	\$15.02
43-2021	Telephone Operators	High school diploma or equivalent	None	Short-term on-the-job training	\$14.24
43-2099	Communications Equipment Operators, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$22.66
43-3011	Bill and Account Collectors	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.87
43-3021	Billing and Posting Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.12
43-3031	Bookkeeping, Accounting, and Auditing Clerks	Some college, no degree	None	Moderate-term on-the-job training	\$18.76
43-3041	Gaming Cage Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$13.86
43-3051	Payroll and Timekeeping Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.45
43-3061	Procurement Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.45
43-3071	Tellers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.53

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
43-3099	Financial Clerks, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$22.78
43-4011	Brokerage Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.97
43-4021	Correspondence Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$18.13
43-4031	Court, Municipal, and License Clerks	High school diploma or equivalent	None	Long-term on-the-job training	\$18.29
43-4041	Credit Authorizers, Checkers, and Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.55
43-4051	Customer Service Representatives	High school diploma or equivalent	None	Short-term on-the-job training	\$17.89
43-4061	Eligibility Interviewers, Government Programs	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.40
43-4071	File Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$17.74
43-4081	Hotel, Motel, and Resort Desk Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$11.30
43-4111	Interviewers, Except Eligibility and Loan	High school diploma or equivalent	None	Short-term on-the-job training	\$17.74
43-4121	Library Assistants, Clerical	High school diploma or equivalent	None	Short-term on-the-job training	\$11.52
43-4131	Loan Interviewers and Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$20.05
43-4141	New Accounts Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.04
43-4151	Order Clerks	Some college, no degree	None	Short-term on-the-job training	\$18.01
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	Associate's degree	None	None	\$18.57
43-4171	Receptionists and Information Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$14.08
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$18.29
43-4199	Information and Record Clerks, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$21.61
43-5011	Cargo and Freight Agents	High school diploma or equivalent	None	Short-term on-the-job training	\$18.01
43-5021	Couriers and Messengers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.33
43-5031	Police, Fire, and Ambulance Dispatchers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.80
43-5032	Dispatchers, Except Police, Fire, and Ambulance	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.78
43-5041	Meter Readers, Utilities	High school diploma or equivalent	None	Short-term on-the-job training	\$23.53
43-5051	Postal Service Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$25.14

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
43-5052	Postal Service Mail Carriers	High school diploma or equivalent	None	Short-term on-the-job training	\$25.21
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	High school diploma or equivalent	None	Short-term on-the-job training	\$22.56
43-5061	Production, Planning, and Expediting Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.10
43-5071	Shipping, Receiving, and Traffic Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$17.74
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	High school diploma or equivalent	None	Short-term on-the-job training	\$18.08
43-6011	Executive Secretaries and Executive Administrative Assistants	High school diploma or equivalent	Less than 5 years	None	\$29.34
43-6012	Legal Secretaries	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.21
43-6013	Medical Secretaries	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.68
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	High school diploma or equivalent	None	Short-term on-the-job training	\$17.94
43-9021	Data Entry Keyers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.47
43-9022	Word Processors and Typists	High school diploma or equivalent	None	Short-term on-the-job training	\$20.91
43-9031	Desktop Publishers	Associate's degree	None	Short-term on-the-job training	\$23.71
43-9041	Insurance Claims and Policy Processing Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.81
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	High school diploma or equivalent	None	Short-term on-the-job training	\$14.22
43-9061	Office Clerks, General	High school diploma or equivalent	None	Short-term on-the-job training	\$17.85
43-9071	Office Machine Operators, Except Computer	High school diploma or equivalent	None	Short-term on-the-job training	\$17.94
43-9081	Proofreaders and Copy Markers	Bachelor's degree	None	None	\$18.36
43-9111	Statistical Assistants	Bachelor's degree	None	None	\$28.89
43-9199	Office and Administrative Support Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$21.55
45-0000	Farming, Fishing, and Forestry Occupations				\$15.06
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	Less than 5 years	None	\$28.56
45-2011	Agricultural Inspectors	Bachelor's degree	None	Moderate-term on-the-job training	\$29.34
45-2021	Animal Breeders	High school diploma or equivalent	None	Short-term on-the-job training	\$19.28 ^^^
45-2041	Graders and Sorters, Agricultural Products	No formal educational credential	None	Short-term on-the-job training	\$14.25
45-2091	Agricultural Equipment Operators	No formal educational credential	None	Moderate-term on-the-job training	\$21.85
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	No formal educational credential	None	Short-term on-the-job training	\$14.52
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	No formal educational credential	None	Short-term on-the-job training	\$14.07

**Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification**

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
45-4022	Logging Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.46
47-0000	Construction and Extraction Occupations				\$23.53
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	High school diploma or equivalent	5 years or more	None	\$30.40
47-2011	Boilermakers	High school diploma or equivalent	None	Apprenticeship	\$38.80
47-2021	Brickmasons and Blockmasons	High school diploma or equivalent	None	Apprenticeship	\$29.39
47-2022	Stonemasons	High school diploma or equivalent	None	Apprenticeship	\$18.52
47-2031	Carpenters	High school diploma or equivalent	None	Apprenticeship	\$23.17
47-2041	Carpet Installers	No formal educational credential	None	Short-term on-the-job training	\$18.74
47-2042	Floor Layers, Except Carpet, Wood, and Hard Tiles	No formal educational credential	None	Moderate-term on-the-job training	\$23.11
47-2044	Tile and Marble Setters	No formal educational credential	None	Long-term on-the-job training	\$23.19
47-2051	Cement Masons and Concrete Finishers	No formal educational credential	None	Moderate-term on-the-job training	\$23.33
47-2061	Construction Laborers	No formal educational credential	None	Short-term on-the-job training	\$22.22
47-2071	Paving, Surfacing, and Tamping Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.06
47-2073	Operating Engineers and Other Construction Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$28.50
47-2081	Drywall and Ceiling Tile Installers	No formal educational credential	None	Moderate-term on-the-job training	\$23.11
47-2082	Tapers	No formal educational credential	None	Moderate-term on-the-job training	\$29.09
47-2111	Electricians	High school diploma or equivalent	None	Apprenticeship	\$28.55
47-2121	Glaziers	High school diploma or equivalent	None	Apprenticeship	\$23.92
47-2131	Insulation Workers, Floor, Ceiling, and Wall	No formal educational credential	None	Short-term on-the-job training	\$22.04
47-2132	Insulation Workers, Mechanical	High school diploma or equivalent	None	Apprenticeship	\$28.76
47-2141	Painters, Construction and Maintenance	No formal educational credential	None	Moderate-term on-the-job training	\$22.21
47-2142	Paperhangers	No formal educational credential	None	Long-term on-the-job training	\$22.70
47-2151	Pipelayers	No formal educational credential	None	Short-term on-the-job training	\$22.86
47-2152	Plumbers, Pipefitters, and Steamfitters	High school diploma or equivalent	None	Apprenticeship	\$29.65
47-2161	Plasterers and Stucco Masons	No formal educational credential	None	Long-term on-the-job training	\$20.55
47-2171	Reinforcing Iron and Rebar Workers	High school diploma or equivalent	None	Apprenticeship	\$30.08
47-2181	Roofers	No formal educational credential	None	Moderate-term on-the-job training	\$22.53
47-2211	Sheet Metal Workers	High school diploma or equivalent	None	Apprenticeship	\$28.24
47-2221	Structural Iron and Steel Workers	High school diploma or equivalent	None	Apprenticeship	\$29.44
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	No formal educational credential	None	Short-term on-the-job training	\$18.33

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
47-3012	Helpers--Carpenters	No formal educational credential	None	Short-term on-the-job training	\$14.38
47-3013	Helpers--Electricians	High school diploma or equivalent	None	Short-term on-the-job training	\$14.77
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	High school diploma or equivalent	None	Short-term on-the-job training	\$16.28
47-3016	Helpers--Roofers	No formal educational credential	None	Short-term on-the-job training	\$17.97
47-3019	Helpers, Construction Trades, All Other	No formal educational credential	None	Short-term on-the-job training	\$17.01
47-4011	Construction and Building Inspectors	High school diploma or equivalent	5 years or more	Moderate-term on-the-job training	\$29.41
47-4021	Elevator Installers and Repairers	High school diploma or equivalent	None	Apprenticeship	\$47.24
47-4031	Fence Erectors	No formal educational credential	None	Moderate-term on-the-job training	\$19.33
47-4041	Hazardous Materials Removal Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.09
47-4051	Highway Maintenance Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.47
47-4061	Rail-Track Laying and Maintenance Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$27.16
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.62
47-4090	Miscellaneous Construction and Related Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.75
47-5012	Rotary Drill Operators, Oil and Gas	No formal educational credential	None	Moderate-term on-the-job training	\$23.35
47-5013	Service Unit Operators, Oil, Gas, and Mining	No formal educational credential	None	Moderate-term on-the-job training	\$22.47
47-5022	Excavating and Loading Machine and Dragline Operators, Surface Mining	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$22.80
47-5041	Continuous Mining Machine Operators	No formal educational credential	None	Moderate-term on-the-job training	\$29.09
47-5071	Roustabouts, Oil and Gas	No formal educational credential	None	Moderate-term on-the-job training	\$17.96
47-5081	Helpers--Extraction Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.15 ^{^^^}
47-5097	Earth Drillers, Except Oil and Gas; and Explosives Workers, Ordnance Handling Experts, and Blasters	High school diploma or equivalent	Less than 5 years	Long-term on-the-job training	\$22.89 ^{^^}
49-0000	Installation, Maintenance, and Repair Occupations				\$22.98
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	High school diploma or equivalent	Less than 5 years	None	\$31.22
49-2011	Computer, Automated Teller, and Office Machine Repairers	Some college, no degree	None	Short-term on-the-job training	\$18.37
49-2021	Radio, Cellular, and Tower Equipment Installers and Repairers	Associate's degree	None	Moderate-term on-the-job training	\$28.88
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	Postsecondary non-degree award	None	Moderate-term on-the-job training	\$29.20
49-2091	Avionics Technicians	Associate's degree	None	None	\$28.56
49-2092	Electric Motor, Power Tool, and Related Repairers	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$23.38
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	Postsecondary non-degree award	None	Long-term on-the-job training	\$30.03
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	Postsecondary non-degree award	None	Long-term on-the-job training	\$29.07

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Postsecondary non-degree award	Less than 5 years	Moderate-term on-the-job training	\$38.58
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.20
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	Postsecondary non-degree award	None	Short-term on-the-job training	\$21.68
49-2098	Security and Fire Alarm Systems Installers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.96
49-3011	Aircraft Mechanics and Service Technicians	Postsecondary non-degree award	None	None	\$30.27
49-3021	Automotive Body and Related Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.42
49-3022	Automotive Glass Installers and Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.45
49-3023	Automotive Service Technicians and Mechanics	Postsecondary non-degree award	None	Short-term on-the-job training	\$19.42
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	High school diploma or equivalent	None	Long-term on-the-job training	\$23.00
49-3041	Farm Equipment Mechanics and Service Technicians	High school diploma or equivalent	None	Long-term on-the-job training	\$21.72
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	High school diploma or equivalent	None	Long-term on-the-job training	\$24.97
49-3043	Rail Car Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.86
49-3052	Motorcycle Mechanics	Postsecondary non-degree award	None	Short-term on-the-job training	\$17.95
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.32
49-3092	Recreational Vehicle Service Technicians	High school diploma or equivalent	None	Long-term on-the-job training	\$17.81
49-3093	Tire Repairers and Changers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.51
49-9011	Mechanical Door Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.36
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	High school diploma or equivalent	None	Moderate-term on-the-job training	\$34.71
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Postsecondary non-degree award	None	Long-term on-the-job training	\$23.47
49-9031	Home Appliance Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.98
49-9041	Industrial Machinery Mechanics	High school diploma or equivalent	None	Long-term on-the-job training	\$28.74
49-9043	Maintenance Workers, Machinery	High school diploma or equivalent	None	Long-term on-the-job training	\$26.28
49-9044	Millwrights	High school diploma or equivalent	None	Apprenticeship	\$30.12

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
49-9051	Electrical Power-Line Installers and Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$38.13
49-9052	Telecommunications Line Installers and Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.85
49-9061	Camera and Photographic Equipment Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$15.42
49-9062	Medical Equipment Repairers	Associate's degree	None	Moderate-term on-the-job training	\$28.82
49-9063	Musical Instrument Repairers and Tuners	High school diploma or equivalent	None	Apprenticeship	\$14.31
49-9069	Precision Instrument and Equipment Repairers, All Other	High school diploma or equivalent	None	Long-term on-the-job training	\$28.92
49-9071	Maintenance and Repair Workers, General	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.36
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.73
49-9094	Locksmiths and Safe Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.66
49-9096	Riggers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$27.62
49-9098	Helpers--Installation, Maintenance, and Repair Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.47
49-9099	Installation, Maintenance, and Repair Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.40
51-0000	Production Occupations				\$18.13
51-1011	First-Line Supervisors of Production and Operating Workers	High school diploma or equivalent	Less than 5 years	None	\$29.48
51-2021	Coil Winders, Tapers, and Finishers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.35
51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.51
51-2031	Engine and Other Machine Assemblers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.69
51-2041	Structural Metal Fabricators and Fitters	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.18
51-2051	Fiberglass Laminators and Fabricators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.79
51-2090	Miscellaneous Assemblers and Fabricators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.78
51-3011	Bakers	No formal educational credential	None	Long-term on-the-job training	\$13.95
51-3021	Butchers and Meat Cutters	No formal educational credential	None	Long-term on-the-job training	\$14.31
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	No formal educational credential	None	Short-term on-the-job training	\$14.21
51-3023	Slaughterers and Meat Packers	No formal educational credential	None	Short-term on-the-job training	\$14.14
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	No formal educational credential	None	Moderate-term on-the-job training	\$14.43
51-3092	Food Batchmakers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.21

**Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification**

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
51-3093	Food Cooking Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.58
51-3099	Food Processing Workers, All Other	No formal educational credential	None	Moderate-term on-the-job training	\$14.13
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.05
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.61
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.00
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.09
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.05
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.49
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.42
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.03
51-4041	Machinists	High school diploma or equivalent	None	Long-term on-the-job training	\$20.87
51-4051	Metal-Refining Furnace Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.00
51-4052	Pourers and Casters, Metal	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.21
51-4062	Patternmakers, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.91
51-4071	Foundry Mold and Coremakers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.35
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.40
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.31
51-4111	Tool and Die Makers	Postsecondary non-degree award	None	Long-term on-the-job training	\$23.86
51-4121	Welders, Cutters, Solderers, and Brazers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.64
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.18
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.15
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.62
51-4194	Tool Grinders, Filers, and Sharpeners	High school diploma or equivalent	None	Moderate-term on-the-job training	\$24.19
51-4199	Metal Workers and Plastic Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.09

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
51-5111	Prepress Technicians and Workers	Postsecondary non-degree award	None	None	\$21.19
51-5112	Printing Press Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.13
51-5113	Print Binding and Finishing Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.11
51-6011	Laundry and Dry-Cleaning Workers	No formal educational credential	None	Short-term on-the-job training	\$11.46
51-6021	Pressers, Textile, Garment, and Related Materials	No formal educational credential	None	Short-term on-the-job training	\$11.47
51-6031	Sewing Machine Operators	No formal educational credential	None	Short-term on-the-job training	\$14.27
51-6041	Shoe and Leather Workers and Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$13.91
51-6051	Sewers, Hand	No formal educational credential	None	Moderate-term on-the-job training	\$14.21
51-6052	Tailors, Dressmakers, and Custom Sewers	No formal educational credential	None	Moderate-term on-the-job training	\$14.53
51-6062	Textile Cutting Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.62
51-6063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Short-term on-the-job training	\$11.60
51-6064	Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.09
51-6091	Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.05
51-6092	Fabric and Apparel Patternmakers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$28.20 ^{^^^}
51-6099	Textile, Apparel, and Furnishings Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$14.45
51-7011	Cabinetmakers and Bench Carpenters	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.05
51-7021	Furniture Finishers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.74
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.83
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.48
51-7099	Woodworkers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.92
51-8012	Power Distributors and Dispatchers	High school diploma or equivalent	None	Long-term on-the-job training	\$40.60
51-8013	Power Plant Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$38.87
51-8021	Stationary Engineers and Boiler Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$30.08
51-8031	Water and Wastewater Treatment Plant and System Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$23.24
51-8091	Chemical Plant and System Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$36.97

**Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification**

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
51-8092	Gas Plant Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$22.83
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$46.65
51-9011	Chemical Equipment Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.01
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.52
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.50
51-9022	Grinding and Polishing Workers, Hand	No formal educational credential	None	Moderate-term on-the-job training	\$18.13
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.13
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.09
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.92
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.95
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.30
51-9071	Jewelers and Precious Stone and Metal Workers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.42
51-9081	Dental Laboratory Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.42
51-9082	Medical Appliance Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.87
51-9083	Ophthalmic Laboratory Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.65
51-9111	Packaging and Filling Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.65
51-9123	Painting, Coating, and Decorating Workers	No formal educational credential	None	Moderate-term on-the-job training	\$18.09
51-9124	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.18
51-9151	Photographic Process Workers and Processing Machine Operators	High school diploma or equivalent	None	Short-term on-the-job training	\$18.24
51-9161	Computer Numerically Controlled Tool Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.19
51-9162	Computer Numerically Controlled Tool Programmers	Postsecondary non-degree award	None	Moderate-term on-the-job training	\$27.68
51-9191	Adhesive Bonding Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.15
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.48
51-9193	Cooling and Freezing Equipment Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.81

**Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification**

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
51-9194	Etchers and Engravers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.95
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	High school diploma or equivalent	None	Long-term on-the-job training	\$18.06
51-9196	Paper Goods Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.35
51-9197	Tire Builders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.23
51-9198	Helpers--Production Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.23
51-9199	Production Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.74
53-0000	Transportation and Material Moving Occupations				\$17.70
53-1041	Aircraft Cargo Handling Supervisors	High school diploma or equivalent	Less than 5 years	None	\$37.26
53-1047	First-Line Supervisors of Transportation & Material Moving Workers, Except Aircraft Cargo Handling Supervisor	High school diploma or equivalent	Less than 5 years	None	\$23.73
53-2011	Airline Pilots, Copilots, and Flight Engineers	Bachelor's degree	Less than 5 years	Moderate-term on-the-job training	\$201,720 ++
53-2012	Commercial Pilots	High school diploma or equivalent	None	Moderate-term on-the-job training	\$119,560 ++
53-2021	Air Traffic Controllers	Associate's degree	None	Long-term on-the-job training	\$67.83
53-2022	Airfield Operations Specialists	High school diploma or equivalent	None	Long-term on-the-job training	\$28.02
53-2031	Flight Attendants	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$60,360 ++
53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$13.43
53-3031	Driver/Sales Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$11.62
53-3032	Heavy and Tractor-Trailer Truck Drivers	Postsecondary non-degree award	None	Short-term on-the-job training	\$23.17
53-3033	Light Truck or Delivery Services Drivers	High school diploma or equivalent	None	Short-term on-the-job training	\$18.00
53-3052	Bus Drivers, Transit and Intercity	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.37
53-3058	Passenger Vehicle Drivers, Except Bus Drivers, Transit and Intercity	No formal educational credential	None	Short-term on-the-job training	\$18.05 ^^
53-3099	Motor Vehicle Operators, All Other	No formal educational credential	None	Short-term on-the-job training	\$13.66
53-4011	Locomotive Engineers	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$39.27
53-4031	Railroad Conductors and Yardmasters	High school diploma or equivalent	None	Moderate-term on-the-job training	\$30.22
53-5011	Sailors and Marine Oilers	No formal educational credential	None	Moderate-term on-the-job training	\$18.45
53-5021	Captains, Mates, and Pilots of Water Vessels	Postsecondary non-degree award	Less than 5 years	None	\$36.35

Appendix Table K – cont’d.
Ohio Occupational Education and Training Classification

Code	Occupational Title*	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	Median Wage May 2021
53-6011	Bridge and Lock Tenders	High school diploma or equivalent	None	Short-term on-the-job training	\$23.14
53-6021	Parking Lot Attendants	No formal educational credential	None	Short-term on-the-job training	\$11.54
53-6031	Automotive and Watercraft Service Attendants	No formal educational credential	None	Short-term on-the-job training	\$13.70
53-6041	Traffic Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$28.78
53-6051	Transportation Inspectors	High school diploma or equivalent	None	Moderate-term on-the-job training	\$30.53
53-6061	Transportation Attendants, Except Flight Attendants	High school diploma or equivalent	None	Short-term on-the-job training	\$11.76
53-6098	Aircraft Service Attendants and Transportation Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$14.39 ^^
53-7011	Conveyor Operators and Tenders	No formal educational credential	None	Short-term on-the-job training	\$22.28
53-7021	Crane and Tower Operators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$23.74
53-7051	Industrial Truck and Tractor Operators	No formal educational credential	None	Short-term on-the-job training	\$18.51
53-7061	Cleaners of Vehicles and Equipment	No formal educational credential	None	Short-term on-the-job training	\$14.06
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	No formal educational credential	None	Short-term on-the-job training	\$16.37
53-7063	Machine Feeders and Offbearers	No formal educational credential	None	Short-term on-the-job training	\$20.86
53-7064	Packers and Packagers, Hand	No formal educational credential	None	Short-term on-the-job training	\$14.40
53-7065	Stockers and Order Fillers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.39
53-7071	Gas Compressor and Gas Pumping Station Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$38.95
53-7073	Wellhead Pumpers	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$17.55
53-7081	Refuse and Recyclable Material Collectors	No formal educational credential	None	Short-term on-the-job training	\$18.62
53-7121	Tank Car, Truck, and Ship Loaders	No formal educational credential	None	Short-term on-the-job training	\$21.75
53-7199	Material Moving Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$17.33

* Occupations with 100 or more workers.

^^ National aggregate wages.

^^^ National hourly wages.

Wages above max.

† Aggregated statewide wages.

†† Certain occupations only report wages at the annual level - for elementary and secondary teachers this typically reflects a 9 1/2-month school year.

††† Annual national wages.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, November 2022.

Bureau of Labor Market Information Business Principles for Workforce Development

- Partner with the workforce and economic development community.
- Develop and deploy new information solution tools and systems for the workforce and economic development community.
- Provide products and services that are customer- and demand-driven.
- Be known as an important and reliable source for information solutions that support workforce development goals and outcomes.

Acknowledgments: The Workforce Research Section produced this report under the direction of Labor Market Bureau Chief, Byron Archer. To view other publications, access data or provide feedback, visit <http://OhioLMI.com> or contact the Ohio Bureau of Labor Market Information at (614) 752-9494 or ContactLMI@jfs.ohio.gov.

Mike DeWine, Governor
Jon Husted, Lt. Governor

State of Ohio
<http://Ohio.gov>

Matt Damschroder, Director
Ohio Department of Job and Family Services
<http://jfs.ohio.gov>

Office of Workforce Development
<http://jfs.ohio.gov/owd/>

Bureau of Labor Market Information
<http://OhioLMI.com>

This institution is an equal opportunity provider and employer.
A proud partner of the American Job Center network.