

2021 ANNUAL Ohio Shale Report

Williams	Fulton	Lucas	Ottawa	4 7		Lake Geauga	Ashtabula
Defiance	Henry	Wood	Sandusky	Erie	Cuya	hoga	Trumbull
Paulding	Putnam	Hancock	Seneca	Huron	Medina	Summit	Mahoning
Van Wert	Allen	Hardin	Vyandot Crawford	Richland	and Wayne	Stark	Columbiana
Mercer	Auglaize		Marion Mor	row	Holmes	Carr Tuscarawas	oll Jefferson
	Shelby	Logan Ur	ion Delaware	Knox	Coshocton	Harr	ison
Darke	Miami	Champaign	Franklin	Licking	Muskingum	Guernsey	Belmont
Preble Mont	gomery Gre	ene	Pickaway	Fairfield	erry Morgan	Noble Mo	hroe
Butler	Warren	Clinton	Ross	Hocking	Athens	Washington	
Hamilton	Clermont	Highland	Pike	Jackson	Meigs		
		Adams	Scioto	Gallia			

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Introduction

Ohio Revised Code Section 6301.12 calls for the publication of an annual report assessing the direct and indirect economic impact of businesses engaged in the production of horizontal wells. This report fulfills that requirement by presenting available economic data on businesses engaged in the production of oil and gas wells in Ohio. The focus is on employment in core and ancillary shale industries; it does not encompass all economic activity related to Ohio's shale industry. For example, increased business and employment at restaurants and retail stores located near shale development are not reflected in this report. Much of the information in this report reflects data for a group of five¹ industries defined as "core" shale-related industries and a group of 30 industries defined as "ancillary" shale-related industries. While most shale-related employment is in these industries, not all establishments in these industries are involved in shale-related activity. For those that are, not all their products and services and, therefore, their employment is necessarily linked to shale-related economic activity. This is particularly true for the ancillary industries.

This report shows annual employment and business establishment changes in core and ancillary shale-related industries from 2020 to 2021. It includes data for government employment (federal, state, and local) in shale-related industries that have significant non-private employment, most notably engineering services, water supply and irrigation systems, sewage treatment facilities, and highway, street, and bridge construction. The report also shows worker demand, key occupations in shale-related industries, residency status of new hires in core and ancillary industries, and average wages. It also offers a summary of regional workforce development plans.

In partnership with the U.S. Department of Labor's Bureau of Labor Statistics, the Ohio Department of Job and Family Services' Bureau of Labor Market Information collects and analyzes shale-related employment data for Ohio. The pages that follow provide a synopsis of this information for 2021. Previous annual reports can be found at **ohiolmi.com**.

¹ In previous years, data were reported for six industries at the NAICS six-digit level. Starting in 2017, BLS stopped publishing annual data for two industries, NAICS 211111 (crude petroleum and natural gas extraction) and NAICS 211112 (natural gas liquid extraction), because the data did not meet disclosure standards. However, combined data for these industries are reported as NAICS 2111 (oil and gas extraction).

Executive Summary

Permits issued for shale wells peaked in 2014 and have slowed since. In 2014, permits were issued for 660 wells; in 2021, 161 permits were issued.² Although the number of shale wells continues to grow, employment in the core shale-related industries has declined.

From 2020 to 2021, core shale-related industries lost 796 jobs (-8.4%). The largest loss, 548 jobs, was in oil and gas pipeline construction. Employment in ancillary shale-related industries increased slightly, adding 1,937 jobs (1.1%).

The key occupations in core and ancillary shale-related industries provide family-sustaining wages and tend to require specialized skill sets. The median annual wages for key shale-related jobs ranged from \$34,850 to \$110,670. Among the key shale-related occupations, 29 of the top 38 jobs had median annual wages above the state median wage of \$40,300.

Employer demand for key shale-related occupations, as measured by online job ads, was lower in 2021 than in 2020. The estimated number of construction trade jobs in the core shale-related industries decreased by 11.1%, driven by an employment drop in oil and gas pipeline construction. The number of extraction trade jobs decreased -6.3% over the year.

Although data are not available on the state of residence for all workers, limited information is available from the State Directory of New Hires. Among the core shale-related industries, 47.8% of new hires were Ohio residents in 2021. Among the ancillary industries, 61.9% of new hires were Ohio residents.

² Ohio Department of Natural Resources (<u>https://ohiodnr.gov/business-and-industry/energy-resources/oil-and-gas-wells/horizontal-wells</u>)

Core Shale-Related Industry Employment

Employment in core shale-related industries decreased from 2020 to 2021. Overall employment in the core industries shrank 8.4%, a loss of 796 jobs. Oil and gas pipeline construction led the losses, shedding 548 jobs; support activities for oil and gas operations lost 226 jobs over the year. See Figure 1 for details about employment in the core shale-related industries.

Figure 1. Core Shale-Related Industry Annual Employment Averages and Year-to-Year Change

NAICS	Title	Average Employment, 2020	Average Employment, 2021	Numeric Change	Percent Change
2111	Oil and Gas Extraction	1,039	1,136	97	9.3%
213111	Drilling Oil and Gas Wells	505	419	-86	-17.0%
213112	Support Activities for Oil and Gas Operations	2,981	2,755	-226	-7.6%
237120	Oil and Gas Pipeline Construction	4,340	3,792	-548	-12.6%
486210	Pipeline Transportation of Natural Gas	558	525	-33	-5.9%
	Core Industries Totals	9,423	8,627	-796	-8.4%

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Business Establishments in Core Industries

The total number of Ohio business establishments in the core shale-related industries declined by 17 from 2020 to 2021, a -2.3% decrease. Support activities for oil and gas operations lost 12 establishments. See Figure 2 for details about establishment growth in the core shale-related industries.

Figure 2. Core Shale-Related Industry Annual Establishment Averages and	
Year-to-Year Change	

NAICS	Title	Average Number of Establishments, 2020	Average Number of Establishments, 2021	Numeric Change	Percent Change
2111	Oil and Gas Extraction	119	116	-3	-2.5%
213111	Drilling Oil and Gas Wells	96	95	-1	-1.0%
213112	Support Activities for Oil and Gas Operations	310	298	-12	-3.9%
237120	Oil and Gas Pipeline Construction	175	174	-1	-0.6%
486210	Pipeline Transportation of Natural Gas	46	46	0	0.0%
	Core Industries Totals	746	729	-17	-2.3%

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Ancillary Shale-Related Industry Employment

Ancillary shale-related industries are indirectly involved with shale oil and gas well drilling and development. These industries provide products or support services to the core shale-related industries and to many other industries, as well. Employment in ancillary shale-related industries grew 1,937 jobs, a 1.1% increase from 2020 to 2021. Industries with starred employment have some employment not disclosed for confidentiality. Employment for the petrochemical and industrial gas manufacturing industries are confidential. See Figure 3 for details about employment in the ancillary shale-related industries.

NAICS	Title	Average Employment, 2020	Average Employment, 2021	Numeric Change	Percent Change
221112	Fossil fuel electric power generation *	2,378	2,454	76	3.2%
221210	Natural gas distribution	5,517	5,438	-79	-1.4%
221310	Water supply and irrigation systems	5,923	5,836	-87	-1.5%
221320	Sewage treatment facilities *	3,790	3,605	-185	-4.9%
237110	Water and sewer line system construction *	6,043	5,923	-120	-2.0%
237310	Highway, street, and bridge construction	16,969	17,077	108	0.6%
238912	Nonresidential site preparation contractors	6,760	6,953	193	2.9%
32511	Petrochemical manufacturing *	ND	ND		
32512	Industrial gas manufacturing *	ND	ND		
331110	Iron, steel mills and ferroalloy manufacturing	9,334	9,326	-8	-0.1%
331210	Iron, steel pipe and tube from purchased steel	3,078	3,143	65	2.1%
333131	Mining machinery and equipment manufacturing	274	243	-31	-11.3%
333132	Oil and gas field machinery and equipment	187	180	-7	-3.7%
423810	Construction equipment merchant wholesalers	2,876	2,850	-26	-0.9%
423830	Industrial machinery merchant wholesalers	18,398	17,751	-647	-3.5%
423840	Industrial supplies merchant wholesalers	5,814	5,972	158	2.7%
484110	General freight trucking, local	12,567	13,028	461	3.7%
484220	Other specialized trucking, local	9,257	9,277	20	0.2%
484230	Other specialized trucking, long-distance	5,971	6,265	294	4.9%
531190	Lessors of other real estate property	920	916	-4	-0.4%
532412	Other heavy machinery rental and leasing	2,246	2,292	46	2.0%
541330	Engineering services	29,769	30,674	905	3.0%
541360	Geophysical surveying and mapping services	251	270	19	7.6%
541380	Testing laboratories	6,472	6,394	-78	-1.2%
541620	Environmental consulting services	2,077	2,157	80	3.9%
562910	Remediation services	4,058	3,965	-93	-2.3%
811310	Commercial machinery repair and maintenance	9,272	9,868	596	6.4%
924110	Air, water, and waste program administration	6,086	6,037	-49	-0.8%
924120	Administration of conservation programs	5,221	5,526	305	5.8%
926130	Utility regulation and administration	494	519	25	5.1%
	Ancillary Industry Totals	182,002	183,939	1,937	1.1%

Figure 3. Ancillary Shale-Related Industry Annual Employment Averages and Year-to-Year Change

* Industry has some non-disclosable employment

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Business Establishments in Ancillary Industries

The reported number of business establishments in ancillary shale-related industries increased by 319 from 2020 to 2021, a 2.3% increase. See Figure 4 for details.

Change		Average	Average		
			Establishments,	Numeric	Percent
NAICS	Title	2020	2021	Change	Change
	Fossil fuel electric power generation	90	87	-3	-3.3%
	Natural gas distribution	166	169	3	1.8%
	Water supply and irrigation systems	265	266	1	0.4%
	Sewage treatment facilities	210		0	0.0%
237110	Water and sewer line system construction	377	374	-3	-0.8%
237310	Highway, street, and bridge construction	744	752	8	1.1%
238912	Nonresidential site preparation contractors	625	618	-7	-1.1%
325110	Petrochemical manufacturing	3	3	0	0.0%
325120	Industrial gas manufacturing	41	39	-2	-4.9%
331110	Iron, steel mills and ferroalloy manufacturing	61	61	0	0.0%
331210	Iron, steel pipe and tube from purchased steel	37	36	-1	-2.7%
333131	Mining machinery and equipment manufacturing	11	10	-1	-9.1%
333132	Oil and gas field machinery and equipment	12	10	-2	-16.7%
423810	Construction equipment merchant wholesalers	205	203	-2	-1.0%
423830	Industrial machinery merchant wholesalers	2,102	2,130	28	1.3%
423840	Industrial supplies merchant wholesalers	605	624	19	3.1%
484110	General freight trucking, local	1,493	1,599	106	7.1%
484220	Other specialized trucking, local	1,216	1,269	53	4.4%
484230	Other specialized trucking, long-distance	358	347	-11	-3.1%
531190	Lessors of other real estate property	282	278	-4	-1.4%
532412	Other heavy machinery rental and leasing	224	237	13	5.8%
541330	Engineering services	2,463	2,537	74	3.0%
541360	Geophysical surveying and mapping services	63	60	-3	-4.8%
541380	Testing laboratories	453	457	4	0.9%
541620	Environmental consulting services	337	342	5	1.5%
562910	Remediation services	233	238	5	2.1%
811310	Commercial machinery repair and maintenance	1,112	1,151	39	3.5%
924110	Air, water, and waste program administration	151	151	0	0.0%
924120	Administration of conservation programs	172	173	1	0.6%
926130	Utility regulation and administration	43	42	-1	-2.3%
	Ancillary Industry Totals	14,154	14,473	319	

Figure 4. Ancillary Shale-Related Industry Annual Establishment Averages and Year-to-Year Change

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Key Shale-Related Occupations

The occupations listed in this report are not exclusive to any industry, but they have a high presence in shale-related industries. Figure 7 shows key occupations in core and ancillary shale-related industries. These occupations are likely to provide family-sustaining wages and tend to require higher skill sets. Twenty-nine of the 38 occupations had median annual wages above the state median occupational wage of \$39,680 for 2021.

		Median	Typical Education, Work Experince,
SOC Code	SOC Title	Annual Wage	On-the-Job Training Needed
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$34,050	No formal ed. credential, No exper., Short-term OJT
53-7073	Wellhead Pumpers	\$36,490	HS dipl./GED, Less than 5 years exp., Moderate-term OJT
43-9061	Office Clerks, General	\$37,130	HS dipl./GED, No exper., Short-term OJT
43-4051	Customer Service Representatives	\$37,220	HS dipl./GED, No exper., Short-term OJT
43-6014	Secretaries and Administrative Assistants, Except Legal Medical	\$37,320	HS dipl./GED, No exper., Short-term OJT
47-5071	Roustabouts, Oil and Gas	\$37,350	No formal ed. credential, No exper., Moderate-term OJT
47-5081	HelpersExtraction Workers	\$37,760*	HS dipl./GED, No exper., Moderate-term OJT
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$38,060	HS dipl./GED, No exper., Moderate-term OJT
43-3031	Bookkeeping, Accounting, and Auditing Clerks	\$39,020	Some college-no degree, No exper., Moderate-term OJT
51-4121	Welders, Cutters, Solderers, and Brazers	\$45,010	HS dipl./GED, No exper., Moderate-term OJT
47-2061	Construction Laborers	\$46,210	No formal ed. credential, No exper., Short-term OJT
47-5013	Service Unit Operators, Oil, Gas, and Mining	\$46,740	No formal ed. credential, No exper., Moderate-term OJT
51-8092	Gas Plant Operators	\$47,480	HS dipl./GED, No exper., Long-term OJT
47-2151	Pipelayers	\$47,550	No formal ed. credential, No exper., Short-term OJT
47-5097	Earth Drillers, Except Oil and Gas	\$48,060	HS dipl./GED, No exper., Moderate-term OJT
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$48,180	Postsecondary nondegree award, No exper., Short-term OJT
47-2031	Carpenters	\$48,190	HS dipl./GED, No exper., Apprenticeship
47-5011	Derrick Operators, Oil and Gas	\$48,300	No formal ed. credential, No exper., Short-term OJT
53-7072	Pump Operators, Except Wellhead Pumpers	\$48,520	HS dipl./GED, No exper., Moderate-term OJT
47-5012	Rotary Drill Operators, Oil and Gas	\$48,570	No formal ed. credential, No exper., Moderate-term OJT
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	\$51,940	HS dipl./GED, No exper., Long-term OJT
19-4043	Geological Technicians, Except Hydrologic Technicians	\$57,640	Associate deg., No exper., Moderate-term OJT
47-2073	Operating Engineers and Other Construction Equipment Operators	\$59,280	HS dipl./GED, No exper., Moderate-term OJT
49-9041	Industrial Machinery Mechanics	\$59,790	HS dipl./GED, No exper., Long-term OJT
43-6011	Executive Secretaries and Executive Administrative Assistants	\$61,030	HS dipl./GED, Less than 5 years exp., No OJT
51-1011	First-Line Supervisors of Production and Operating Workers	\$61,310	HS dipl./GED, Less than 5 years exp., No OJT
47-2152	Plumbers, Pipefitters, and Steamfitters	\$61,670	HS dipl./GED, No exper., Apprenticeship
47-1011	First-Line Supervisors of Construction Trades and Extraction Work	\$63,230	HS dipl./GED, 5 years or more exp., No OJT
13-1051	Cost Estimators	\$63,280	Bachelor's Deg., No exper., No OJT
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	\$64,940	HS dipl./GED, Less than 5 years exp., No OJT
19-2042	Geoscientists, Except Hydrologists and Geographers	\$77,750	Bachelor's Deg., No exper., No OJT
17-2112	Industrial Engineers	\$79,550	Bachelor's Deg., No exper., No OJT
53-7071	Gas Compressor and Gas Pumping Station Operators	\$81,010	HS dipl./GED, No exper., Moderate-term OJT
11-1021	General and Operations Managers	\$94,840	Bachelor's Deg., 5 years or more exp., No OJT
15-1211	Computer Systems Analysts	\$95,330	Bachelor's Deg., No exper., No OJT
51-8093	Petroleum Pump System Operators, Refinery Operators and Gaugers	\$97,040	HS dipl./GED, No exper., Long-term OJT
11-9021	Construction Managers	\$97,930	Bachelor's Deg., No exper., Moderate-term OJT
17-2171	Petroleum Engineers	\$100,150	Bachelor's Deg., No exper., No OJT

Figure 5, k	Key Occupation	in Shale-Related	Industries
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U.S. Wage data

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics, May 2022

Demand for Workers in Key Shale-Related Occupations

Overall, job demand for key shale-related occupations, as measured by online job ads, decreased from 2020 to 2021. Many of the key shale-related occupations are common in other industries as well. Demand for some occupations increased from 2020 to 2021. See Figure 6 for details.

		Job Ad	Count
Soc Code	Soc Title	2020	2021
53-3032	Heavy and Tractor-Trailer Truck Drivers	78,424	39,295
43-4051	Customer Service Representatives	26,203	21,916
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	23,791	15,260
17-2112	Industrial Engineers	7,534	11,213
15-1211	Computer Systems Analysts	7,734	10,488
51-1011	First-Line Supervisors of Production and Operating Workers	8,162	10,045
11-1021	General and Operations Managers	6,573	8,089
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	4,472	5,589
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	3,187	4,461
43-3031	Bookkeeping, Accounting, and Auditing Clerks	3,372	3,495
43-9061	Office Clerks, General	2,374	3,122
43-6011	Executive Secretaries and Executive Administrative Assistants	2,216	2,345
49-9041	Industrial Machinery Mechanics	1,886	2,284
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	1,743	1,952
11-9021	Construction Managers	1,420	1,839
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	1,765	1,634
47-2061	Construction Laborers	1,049	1,465
51-4121	Welders, Cutters, Solderers, and Brazers	705	994
47-2031	Carpenters	597	680
13-1051	Cost Estimators	546	586
47-2152	Plumbers, Pipefitters, and Steamfitters	616	534
47-2073	Operating Engineers and Other Construction Equipment Operators	296	393
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	433	283
47-5013	Service Unit Operators, Oil, Gas, and Mining	64	79
19-2042	Geoscientists, Except Hydrologists and Geographers	46	66
17-2171	Petroleum Engineers	43	62
47-5012	Rotary Drill Operators, Oil and Gas	54	54
47-5081	HelpersExtraction Workers	18	41
47-5097	Earth Drillers, Except Oil and Gas	48	36
51-8092	Gas Plant Operators	12	18
47-5071	Roustabouts, Oil and Gas	8	17
47-2151	Pipelayers	17	15
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	8	8
53-7071	Gas Compressor and Gas Pumping Station Operators	1	4
47-5011	Derrick Operators, Oil and Gas	0	1
	Total	185,417	148,363

Figure 6. Demand for Workers in Key Shale-Related Occupati	ons
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Source: TalentNeuron

From 2020 to 2021, the estimated number of construction trade jobs in core shale-related industries in Ohio shrank 11.1%, from 2,813 to 2,500. Oil and gas pipeline construction had the

largest loss. The number of extraction trade jobs shrank 6.3%, from 1,400 to 1,312. Most of the decrease in extraction jobs was in support activities for oil and gas operations. See Figure 7 for details.

Indust	ries							
		2020		2021		2020-2021 2020 2021 Numeric Change		
		Construction	Extraction	Construction	Extraction	Construction	Extraction	
NAICS	Title	Trades	Trades	Trades	Trades	Trades	Trades	
2111	Oil and Gas Extraction	151	199	165	218	14	19	

109

966

109

17

1,400

137

267

1,904

2,500

27

91

893

95

16

1,312

-28

-22

-275

-313

-2

-19

-73

-14

-1

-88

Figure 7. Estimated Number of Construction and Extraction Jobs in the Core Shale-Related Industries

165

289

29

2,179

2,813

Source: Ohio Bureau of Labor Market Information

213111 Drilling Oil and Gas Wells

213112 Support Activities for Oil and Gas Operation

237120 Oil and Gas Pipeline Construction

486210 Pipeline Transportation of Natural Gas

Shale-Related Industries' Worker State of Residence

Core Industries Totals

Although data are not available on the state of residence for all workers, limited information is available from the State Directory of New Hires. This database was developed to help collect child support. State law requires all Ohio employers to report all independent contractors and newly hired and rehired employees to the directory within 20 days of the hire or rehire date.³ Hiring activities that generate W-4 tax forms are included in the data.

On average in 2021, core-industry Ohio employers reported an average of 544 new hires from Ohio and 592 new hires from other states each quarter. This was a -0.8% decrease from 2020 for in-state new hires and a 502.8% increase in out-of-state new hires. The percentage of core-industry new hires from Ohio decreased from 84.8% in 2020 to 47.8% in 2021. See Figure 8 for details.

Ancillary shale-related industry employers reported an average of 25,374 Ohio new hires and 15,618 out-of-state new hires each quarter during 2021. This was a 172.5% increase over 2020 for Ohio new hires and a 326.4% increase for out-of-state new hires. Among the ancillary industry, the percentage of new hires from Ohio decreased from 71.8% in 2020 to 61.9% in 2021. See Figure 9 for details.

³ Ohio Revised Code Section 3121.89-3121.8911 and the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996, 42 U.S.C. 653a.

			Numeric	Percent
State of Residence	2020	2021	Change	Change
Ohio	548	544	-4	-0.8%
Total Out-of-State	98	592	494	502.8%
Indiana	7	12	6	84.6%
Kentucky	8	35	27	324.2%
Michigan	5	9	5	94.7%
Pennsylvania	6	79	72	1156.0%
West Virginia	10	93	83	804.9%
All Other States	62	365	303	485.9%

Figure 8. 2020 and 2021 Average Quarterly New Hires in the Core Shale-Related Industries

Source: Ohio Directory of New Hires

New miles in the Anchary Shale-Related industries								
		Numeric		Percent				
State of Residence	2020	2021	Change	Change				
Ohio	9,312	25,374	16,062	172.5%				
Total Out-of-State	3,663	15,618	11,955	326.4%				
Indiana	328	927	599	182.5%				
Kentucky	322	824	502	155.8%				
Michigan	167	801	634	378.9%				
Pennslyvania	315	775	460	146.2%				
West Virginia	250	371	122	48.6%				
All Other States	2,281	11,920	9,639	422.6%				

Figure 9. 2020 and 2021 Average Quarterly New Hires in the Ancillary Shale-Related Industries

Source: Ohio Directory of New Hires

Total Wage Growth in the Core Shale-Related Industries

Total wages in the core shale-related industries decreased 10.4% from 2020 to 2021. In comparison, total wages across all industries in Ohio increased 6.9% over the same period. The decrease in wages among core shale-related industries was driven by an employment decline in oil and gas pipeline construction. See Figure 10 for detailed industry wage data.

NAICS	Title	Total Wages (thousands), 2020	Total Wages (thousands), 2021	Numeric Change (thousands)	Percent Change
2111	Oil and Gas Extraction	\$83,511	\$93,935	\$10,424	12.5%
213111	Drilling Oil and Gas Wells	\$34,729	\$27,265	-\$7,464	-21.5%
213112	Support Activities for Oil and Gas Operations	\$222,275	\$214,809	-\$7,466	-3.4%
237120	Oil and Gas Pipeline Construction	\$380,937	\$304,867	-\$76,070	-20.0%
486210	Pipeline Transportation of Natural Gas	\$58,110	\$57,746	-\$364	-0.6%
	Core Industries Totals	\$779,562	\$698,622	-\$80,940	-10.4%

Figure 10. Core Shale-Related Industry Total Wages and Year-to-Year Change

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Local and Regional Workforce Development Plans

Ohio's workforce development boards establish local policies for workforce services funded by the federal Workforce Innovation and Opportunity Act. They also develop four-year plans to identify target populations, in-demand occupations and employment trends to guide service delivery to support growing industries and successful job placement. The four-year local plans may also include regional plans developed by multiple local areas assigned by the state. The workforce development boards are required to submit these plans to the Ohio Department of Job and Family Services, which reviews them for viability, especially as they relate to compliance and performance. The most recent plans became effective July 1, 2021.

Local workforce development boards are required to review their local and regional plans and submit biannual modifications to their plans, if needed. The modifications reflect planned changes in service delivery to respond to evolving economic and occupational needs. Local areas that identify occupations in shale-related core and ancillary industries as in-demand occupations include that information in their local plans and policies. Modifications to plans will be due to the Ohio Department of Job and Family Services in January 2023.

Mike DeWine, Governor Jon Husted, Lt. Governor State of Ohio http://Ohio.gov

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

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

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

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