



# 2022 OHIO MANUFACTURING COUNTS

FACTS ABOUT THE ECONOMIC IMPACT OF OHIO MANUFACTURING

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## FACTS ABOUT THE ECONOMIC IMPACT OF OHIO MANUFACTURING

Ohio is powered by manufacturing. Ohio manufacturing is responsible for **17.5%** of Ohio's (all private industries) Gross Domestic Product (2020) and contributes to the quality of life in Ohio by providing:

- More than **650,000** jobs for Ohio workers;
- An annual payroll of **\$42 billion**, the highest total annual wages of any Ohio industry sector;
- **\$45 billion** in exported products to **209** countries and territories; and
- A **safer environment** through decreased emissions and increased recycling.

Manufacturing is the **largest of the 20 Ohio economic sectors**, including government, with **15.5% of total output** in 2020, of which 8.5% were durable goods and 7% were non-durable goods.

In 2020, Ohio's manufacturing sector GDP was **\$105.3 billion**, making it **fourth in the nation** – following California, Texas, and Illinois. Ohio was **third in the nation** in total manufacturing employees and total annual payroll.<sup>1</sup>

The average annual earnings of Ohio workers on manufacturing payrolls in 2020 were **\$65,000**.

The Ohio Manufacturers' Association has prepared these data to provide Ohioans with an understanding of the importance of manufacturing to the economic future of the state. The data in this publication were the most current available as of February 2022.

Contact the OMA at **(800) 662-4463** or **oma@ohiomfg.com**.

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<sup>1</sup> U.S. Census Bureau 2020 Annual Survey of Manufacturers, January 2022



# TABLE OF CONTENTS

Ohio Manufacturing and Ohio's Economy . . . . .	2
Ohio Manufacturing and Jobs . . . . .	7
Ohio Manufacturing Earnings and Wages . . . . .	15
Ohio Manufacturing and the Global Economy . . . . .	18
Ohio Manufacturing and the Environment . . . . .	21

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# OHIO MANUFACTURING AND OHIO'S ECONOMY



*Site Selection 2018-2020 Top Ten states (ranked by number of total qualifying projects)*

## FACT:

Ohio has ranked second nationally in the total number of new site selections in the past nine years, bested only by Texas each year. In 2020, Site Selection Magazine ranked Ohio number one in projects per capita (419) for the second year in a row.

To be listed, projects must meet at least one of three criteria:

1. Minimum investment of \$1,000,000, or
2. New square footage of 20,000 or more, or
3. Job creation of 20 or more.

Projects are generally credited to the year first announced.

*Manufacturing projects as a percent of all new qualifying Ohio projects*

## FACT:

Typically, more than half of Ohio's new site selection projects are manufacturing projects.

2020		2019		2018	
State	# Sites	State	# Sites	State	# Sites
TX	781	TX	859	TX	608
OH	419	OH	448	OH	454
GA	360	IL	423	IL	444
IL	329	GA	296	GA	300
NC	194	IN	194	KY	228
IN	189	NC	190	NC	217
KY	152	VA	171	VA	197
VA	136	KY	164	CA	190
FL	125	AL	150	MI	171
PA	123	MI	142	FL	151

Source: Site Selection Magazine, March 2021,  
<http://siteselection.com/>

Year	# Manufacturing Projects	# Total Ohio Qualifying Projects	% Manufacturing Projects
2020	220	409	54%
2019	243	449	54%
2018	238	434	55%

Source: Ohio Development Services Agency, Research Office,  
Ohio Private Investment Survey 2018-2020, June 2021



*Manufacturing sector  
investment projects  
2018 – 2020*

Sector	2020	2019	2018
Foods and Beverages	36	30	20
Fabricated Metal Products	30	27	33
Plastic and Rubber Products	28	33	40
Chemicals	24	18	17
Machinery	18	39	23
Transportation Equipment	17	41	39
Miscellaneous Goods	11	11	9
Primary Metals	10	10	8
Nonmetallic Mineral Products	10	7	14
Paper and Related Products	8	8	6
Appliances and Electrical Equipment	7	14	18
Petroleum and Coal Products	5	3	1
Printing and Support	5	3	8
Computer and Electronics	4	NA	NA
Textiles/Apparel/Leather	4	1	5
Furniture and Related Products	2	3	7
Wood Products	1	9	4

*Source: Ohio Development Services Agency, Research Office,  
Ohio Private Investment Survey, 2018-2020, June 2021*

**FACT:**

In 2020, Foods and Beverages projects led Ohio's new manufacturing investment projects, followed by Fabricated Metal Products.

# OHIO MANUFACTURING AND OHIO'S ECONOMY



*Manufacturing GDP ranking  
by state (2017, 2018, 2020)*

Rank	2020		
	State	Mfg. GDP (\$ in billions)	% of U.S.
1	CA	\$356.4	15.69%
2	TX	\$211.5	9.31%
3	IL	\$105.8	4.66%
4	OH	\$105.3	4.63%
5	NC	\$96.5	4.25%
6	IN	\$94.9	4.18%
7	PA	\$94.3	4.15%
8	MI	\$90.2	3.97%
9	NY	\$69.8	3.07%
10	WI	\$61.1	2.69%

Rank	2018			2017		
	State	Mfg. GDP (\$ in billions)	% of U.S.	State	Mfg. GDP (\$ in billions)	% of U.S.
1	CA	\$316.8	13.57%	CA	\$300.3	13.38%
2	TX	\$230.4	9.87%	TX	\$226.2	10.08%
3	OH	\$112.2	4.81%	OH	\$107.9	4.81%
4	IL	\$108.4	4.64%	IL	\$103.7	4.62%
5	NC	\$103.6	4.44%	IN	\$102.6	4.57%
6	MI	\$102.3	4.38%	NC	\$102.5	4.57%
7	IN	\$102.1	4.37%	MI	\$99.2	4.29%
8	PA	\$93.8	4.02%	PA	\$87.6	3.91%
9	NY	\$74.6	3.19%	NY	\$72.9	3.25%
10	GA	\$64.6	2.77%	GA	\$61.1	2.72%

**Total U.S. Manufacturing GDP (\$ in billions):**  
**2020 - \$2,272.0 • 2018 - \$2,334.6 • 2017 - \$2,244.3**

*Source: Bureau of Economic Analysis, U.S. Department of Commerce, provided by  
The Ohio State University, Ohio Manufacturing Institute*

## **FACT:**

Ohio's manufacturing Gross Domestic Product (GDP) in 2020 shows the impact of the COVID-19 pandemic. Ohio lost its third-place position to Illinois by \$531,700,300 or 0.5%.



*Manufacturing leads  
Ohio private industries  
in contribution to  
Gross Domestic Product  
(GDP) (2020)*

**FACT:**

At 17.5%, manufacturing's contribution to Ohio's GDP in 2020 (among all private industries) continued to be significantly greater than that of any other industry sector.

Industry	\$ Contributed to Ohio GDP (\$ in millions)	% of Ohio GDP
All private industries	\$6,01,897.5	--
Manufacturing	\$105,303.3	17.5%
Real estate, rental, and leasing	\$77,313.2	12.8%
Finance and insurance	\$76,444.5	12.7%
Health care and social assistance	\$58,654.6	9.7%
Wholesale trade	\$41,728.1	6.9%
Retail trade	\$40,681.6	6.8%
Professional, scientific, and technical services	\$35,483.6	5.9%
Construction	\$26,084.1	4.3%
Management of companies and enterprises	\$22,807.6	3.8%
Transportation and warehousing	\$22,116.3	3.7%
Administrative support and waste management services	\$20,042.6	3.3%
Information	\$17,116.6	2.8%
Accommodation and food services	\$14,424.0	2.4%
Other (except government)	\$13,428.5	2.2%
Utilities	\$10,906.6	1.8%
Educational services	\$5,692.9	0.9%
Arts, entertainment, and recreation	\$5,687.7	0.9%
Mining, quarrying, and oil and gas extraction	\$4,066.4	0.7%
Agriculture, forestry, fishing, and hunting	\$3,915.1	0.7%

*Source: Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Accounts, provided by Office of Workforce Development, Ohio Department of Job and Family Services*

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**FACT:**

6



*Ohio manufacturing: A leader in U.S. manufacturing jobs (2020)*

## FACT:

In 2020, while Ohio kept its third-place rank in manufacturing employment nationally, with 5.4% of all U.S. manufacturing jobs, the COVID-19 pandemic affected the manufacturing economy in the Buckeye State and across the country.

Rank	2020		
	State	Manufacturing Employment	% of Total U.S. Mfg. Jobs
1	CA	1,263,780	10.5%
2	TX	867,807	7.2%
3	OH	653,028	5.4%
4	MI	554,767	4.6%
5	IL	554,712	4.6%
6	PA	537,402	4.4%
7	IN	504,460	4.2%
8	WI	458,262	3.8%
9	NC	452,637	3.7%
10	NY	399,337	3.3%

**Total Ohio manufacturing jobs 2016-2020**

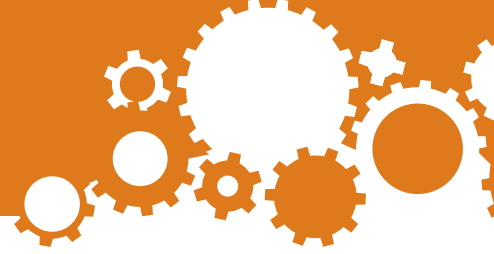
Year	Manufacturing Jobs	Year-to-Year Change
2016	685,083	--
2017	685,942	859
2018	698,950	13,008
2019	700,786	1,836
2020	653,028	(47,758)

**Total U.S. manufacturing jobs 2016-2020**

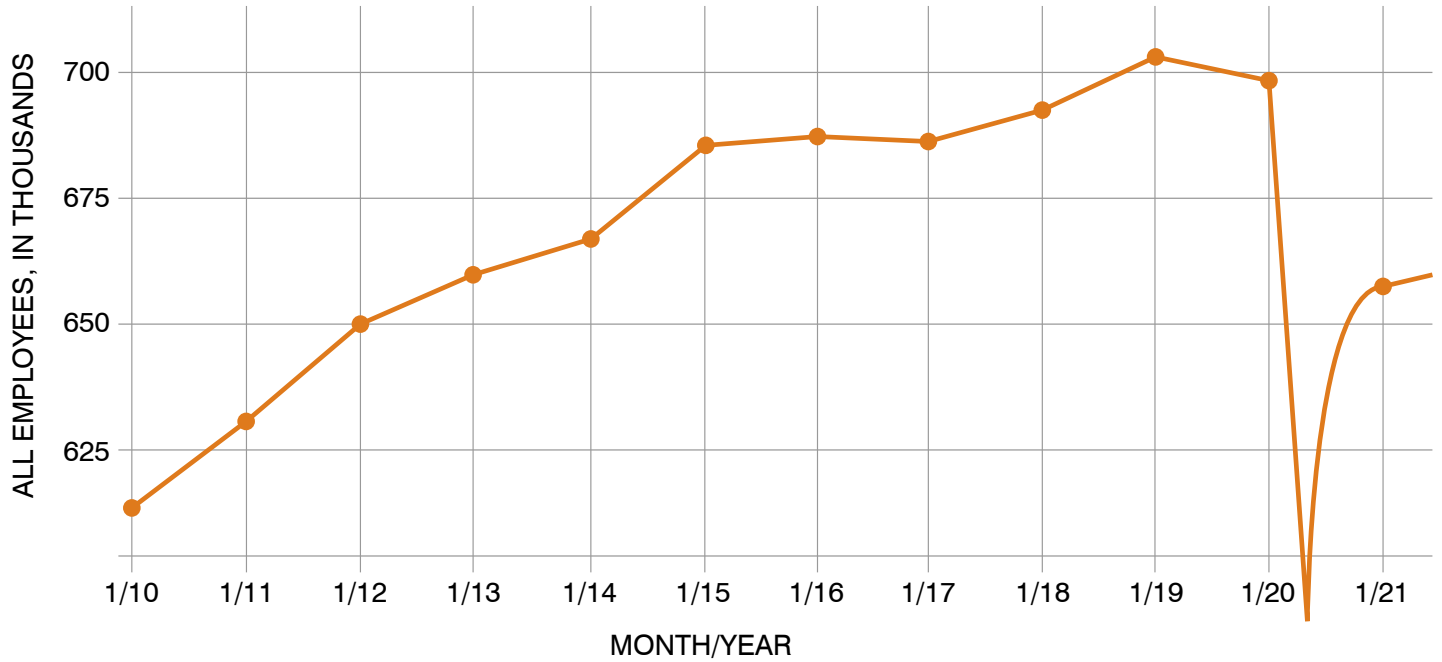
Year	Manufacturing Jobs	Year-to-Year Change
2016	12,296,697	-
2017	12,406,757	110,060
2018	12,647,900	241,143
2019	12,776,157	128,257
2020	12,083,479	(692,678)

Source: U.S. Bureau of Labor Statistics, All Employees in Private NAICS 31-33 Manufacturing for All Establishment Sizes, <https://data.bls.gov/PDQWeb/en>, provided by Office of Workforce Development, Ohio Department of Job and Family Services

# OHIO MANUFACTURING AND JOBS



Ohio manufacturing jobs 2010-2021 (seasonally adjusted, in thousands)



Source: U.S. Bureau of Labor Statistics, <https://data.bls.gov/timeseries/>

## **FACT:**

Ohio manufacturing jobs show recovery from the COVID-19 pandemic.



*Manufacturing near top of Ohio private sector employment (2020)*

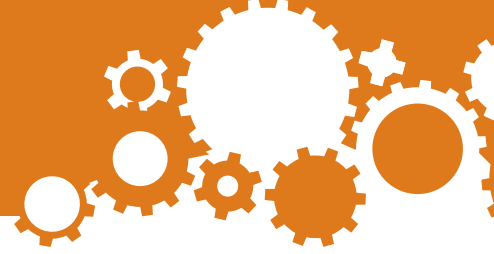
**FACT:**

13% of all (unemployment-insurance covered) Ohio workers were employed in manufacturing in 2020. Only the Health Care and Social Assistance sector had greater employment among Ohio's private sectors.

Rank	Industry Sector	Average Monthly Employment	% of total Ohio jobs
	<b>Total (covered) Ohio employment</b>	<b>5,042,024</b>	<b>100%</b>
1	Health care and social assistance	784,802	15.6%
2	Manufacturing	653,028	13.0%
3	Retail trade	531,147	10.5%
4	Accommodation and food services	404,246	8.0%
5	Administrative support and waste management services	297,024	5.9%
6	Professional, scientific, and technical services	262,044	5.2%
7	Finance and insurance	225,679	4.5%
8	Wholesale trade	225,649	4.5%
9	Transportation and warehousing	223,093	4.4%
10	Construction	218,531	4.3%
11	Other (except government)	139,186	2.8%
12	Management of companies and enterprises	138,176	2.7%
13	Educational services	83,389	1.7%
14	Information	63,865	1.3%
15	Real estate, rental, and leasing	62,312	1.2%
16	Arts, entertainment, and recreation	61,823	1.2%
17	Utilities	18,436	0.4%
18	Agriculture, forestry, fishing, and hunting	16,829	0.3%
19	Mining	9,012	0.2%

*Source: Ohio Department of Job and Family Services, Office of Workforce Development, Bureau of Labor Market Information, Total Wages, Employment and Establishments as Covered Under the Ohio and Federal Unemployment Compensation Laws*

# OHIO MANUFACTURING AND JOBS



*Of Ohio's 100 top employers by employment (headcount), 19 are manufacturers*

## FACT:

Large, global industrial enterprises employ large numbers of Ohioans; many have Ohio headquarters.

Rank	Company	Ohio Employment Estimate: Headcount	Headquarters	Product
1	Honda Motor Co., Ltd.	14,100	Tokyo, Japan	Motor vehicles
2	Whirlpool Corporation	11,079	Benton Harbor, MI	Consumer products
3	<b>Procter &amp; Gamble Company</b>	<b>11,000</b>	<b>Cincinnati, OH</b>	<b>Soaps and consumer goods</b>
4	Berkshire Hathaway, Inc.	9,800	Omaha, NE	Machinery and fiberglass products
5	General Electric Company	9,410	Boston, MA	Aerospace and electrical equipment
6	Ford Motor Company	6,850	Dearborn, MI	Motor vehicles
7	Fiat Chrysler Automobiles N.V.	6,700	Onbekend, The Netherlands	Motor vehicles
8	<b>Sherwin-Williams Company</b>	<b>6,111</b>	<b>Cleveland, OH</b>	<b>Paints</b>
9	<b>Cleveland Cliffs, Inc.</b>	<b>6,000</b>	<b>Cleveland, OH</b>	<b>Steel</b>
10	<b>Crown Equipment Corporation</b>	<b>5,000</b>	<b>New Bremen, OH</b>	<b>Lift trucks</b>
11	<b>Goodyear Tire &amp; Rubber Company</b>	<b>4,615</b>	<b>Akron, OH</b>	<b>Rubber products</b>
12	<b>Swagelok Company</b>	<b>4,450</b>	<b>Solon, OH</b>	<b>Fluid systems</b>
13	General Motors Corporation	4,322	Detroit, MI	Motor vehicles
14	Nestlé, S.A.	4,000	Vevey, Switzerland	Frozen foods
15	Honeywell International, Inc.	3,800	Morris Plains, NJ	Aerospace and electrical equipment
16	Essilor Luxottica	3,500	Charenton-le-Pont, France	Lenses
17	<b>Lincoln Electric Holdings, Inc.</b>	<b>3,170</b>	<b>Cleveland, OH</b>	<b>Welding equipment</b>
18	<b>Marathon Petroleum Corporation</b>	<b>3,100</b>	<b>Findlay, OH</b>	<b>Petroleum</b>
19	Emerson Electric Co.	2,900	St. Louis, MO	Electrical products

Source: Ohio Development Services Agency, Research Office, Ohio Major Employers, December 2021



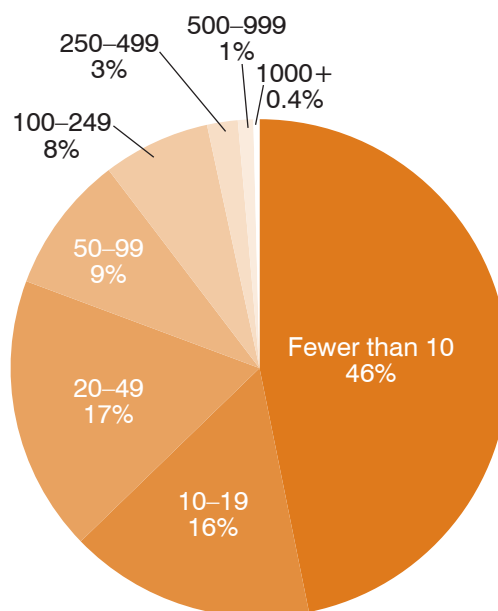
*Manufacturing means large and small businesses in Ohio*

*Number of Ohio manufacturing firms by number of employees*

Number of Employees	Number of firms (2019)	Number of Firms (2018)	Number of Firms (2017)	Number of Firms (2016)	Number of Firms (2015)
Fewer than 10	6,330	6,467	6,489	6,510	6,612
10–19	2,217	2,269	2,283	2,320	2,314
20–49	2,404	2,367	2,370	2,462	2,484
50–99	1,231	1,262	1,266	1,246	1,240
100–249	1,038	990	989	957	994
250–499	344	342	326	331	322
500–999	137	137	126	122	121
1000+	53	54	53	52	52
<b>Total</b>	<b>13,754</b>	<b>13,888</b>	<b>13,902</b>	<b>14,000</b>	<b>14,139</b>

Source: U.S. Census 2019 County Business Patterns

*Distribution of Ohio manufacturing firms by number of employees (2019)*



### FACT:

Almost 50% of Ohio manufacturing firms employ fewer than 10 people, while 0.4% of firms employ 1,000 or more people.



*Traditional industries continue to be Ohio's manufacturing job producers*

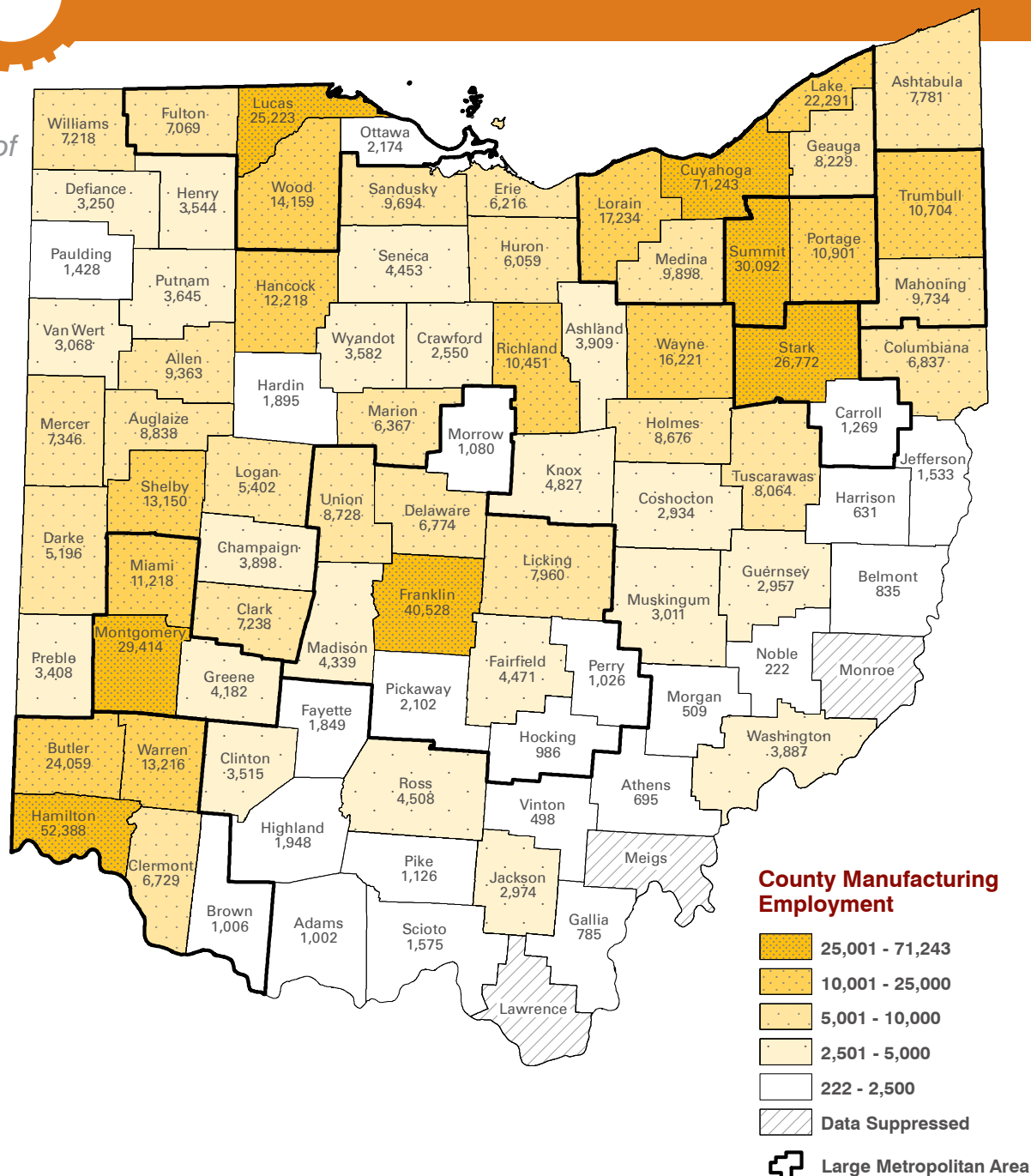
## FACT:

Traditional industries are foundational to the state's economy. Job loss from 2019 to 2020 reflects the effect of the COVID-19 pandemic. Transportation Equipment and Printing and Related Support Activities contracted the most, more than 12%. Chemical and Food Manufacturing declined the least, less than 1%.

Manufacturing industry	Number of jobs (2020)	Number of jobs (2019)	Number of jobs (2018)
<b>Durable Goods</b>			
Transportation equipment	113,054	128,820	128,100
Fabricated metal products	92,171	102,296	102,100
Machinery	74,399	79,954	80,000
Primary metals	34,241	35,852	35,800
Nonmetallic mineral products	25,512	27,481	27,300
Electrical equipment and appliances	25,437	26,406	26,600
Computer and electronic products	20,664	21,309	20,900
Furniture and related products	14,580	15,559	16,100
<b>Nondurable Goods</b>			
Food manufacturing	59,321	59,889	61,400
Plastics and rubber products	54,518	58,289	57,900
Chemical manufacturing	45,874	46,024	45,700
Paper	20,275	NA	NA
Printing and related support activities	18,507	21,049	21,400

*Source: Ohio Department of Job and Family Services, Office of Workforce Development, Bureau of Labor Market Information, Total Wages, Employment and Establishments as Covered Under the Ohio and Federal Unemployment Compensation Laws*

## Manufacturing employment as of 2018: 730,959



Source: Ohio Development Services Agency, Research Office, Ohio County Indicators, July 2020 (U.S. Bureau of Economic Analysis)

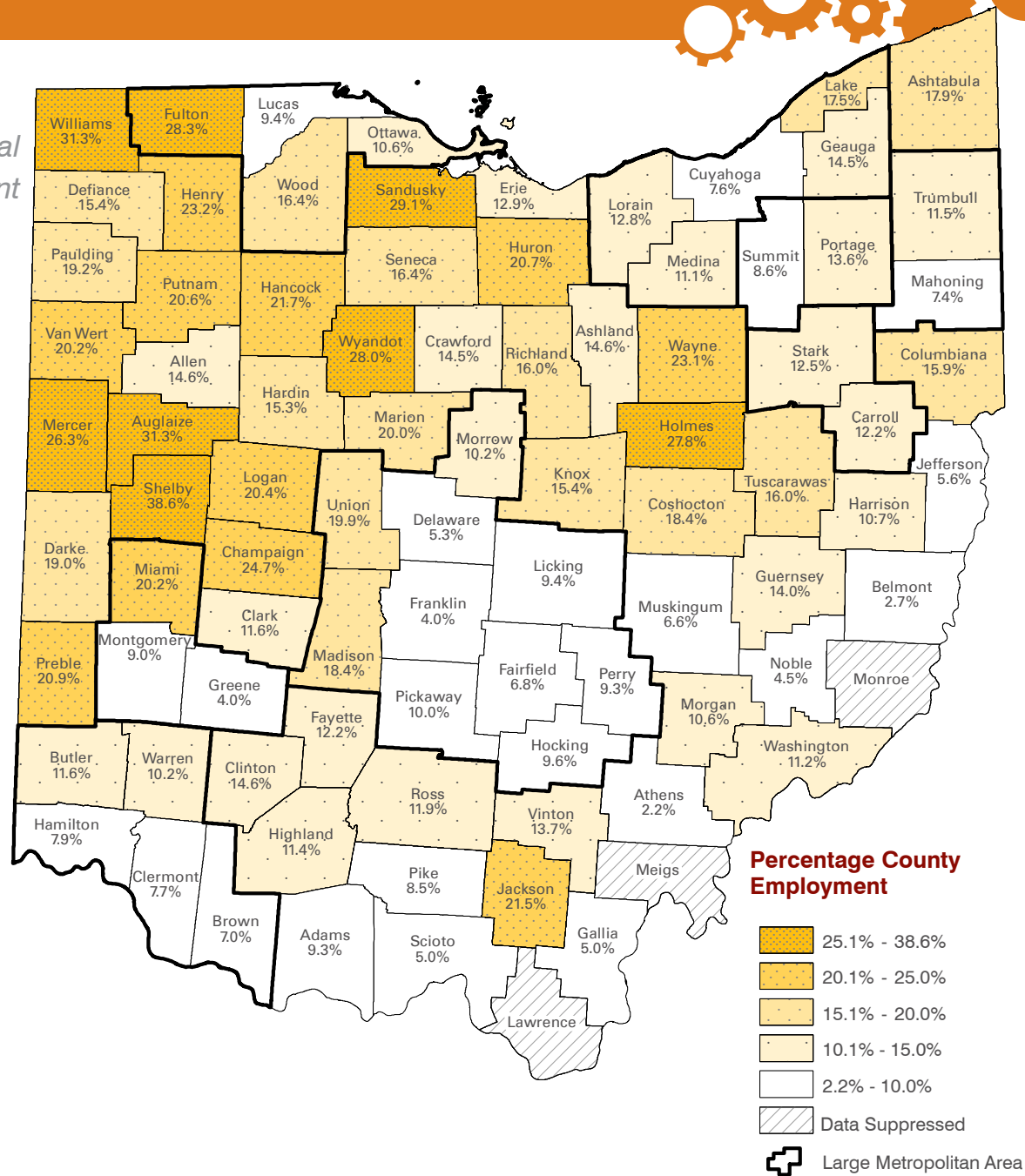
### FACT:

According to this source, the state's manufacturing employment in 2018 was 730,959. Cuyahoga County continued to have the greatest manufacturing employment at 71,243.

Note: Employment estimates are made for full-time and part-time jobs where the jobs are located, not where the job-holders reside. People holding more than one job are counted in each job.

# OHIO MANUFACTURING AND JOBS

*Manufacturing employment of total county employment as of 2018: 10.3%*



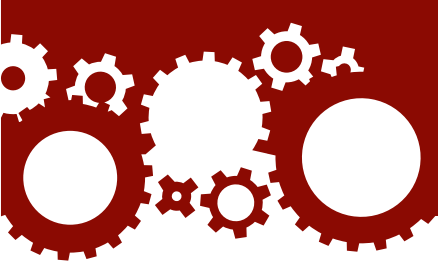
Source: Ohio Development Services Agency, Research Office, Ohio County Indicators, July 2020 (U.S. Bureau of Economic Analysis)

## FACT:

In 2018, manufacturing employed more than one out of every ten Ohio workers. Manufacturing employment as a percentage of total Ohio employment was 10.3%. Shelby County had the greatest manufacturing employment density at 38.6%.

*Note: Employment estimates are made for full-time and part-time jobs where the jobs are located, not where the job-holders reside. People holding more than one job are counted in each job.*





# OHIO MANUFACTURING EARNINGS & WAGES

*Ohio annual wages by  
industry sector (2020)*

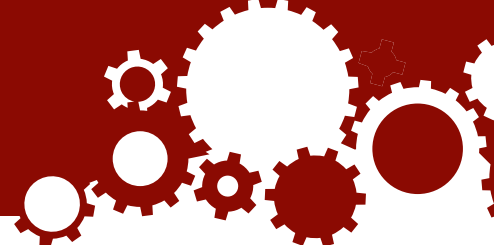
Industry sector	Total all wages (\$ in thousands)	Average annual wage
Manufacturing	\$42,443,669	\$64,995
Health care and social assistance	\$41,090,402	\$52,358
Professional, scientific, and technical services	\$21,569,474	\$82,313
Finance and insurance	\$20,388,750	\$90,344
Wholesale trade	\$17,285,523	\$76,604
Retail trade	\$17,162,933	\$32,313
Management of companies and enterprises	\$16,796,926	\$121,562
Construction	\$14,227,301	\$65,104
Administrative support and waste management services	\$11,779,026	\$39,657
Transportation and warehousing	\$11,600,237	\$51,997
Accommodation and food services	\$7,301,671	\$18,062
Other (except government)	\$5,351,243	\$38,447
Information	\$5,112,570	\$80,052
Educational services	\$3,504,831	\$42,030
Real estate, rental, and leasing	\$3,323,290	\$53,333
Arts, entertainment, and recreation	\$2,498,578	\$40,415
Utilities	\$1,958,343	\$106,223
Mining, quarrying, and oil and gas extraction	\$664,261	\$73,708
Agriculture, forestry, fishing, and hunting	\$644,049	\$39,460

*Source: Ohio Department of Job and Family Services, Office of Workforce Development,  
Bureau of Labor Market Information, Total Wages, Employment and Establishments as Covered  
Under the Ohio and Federal Unemployment Compensation Laws*

## **FACT:**

Year after year, Ohio manufacturing leads all industry sectors in total wages.

# OHIO MANUFACTURING EARNINGS & WAGES

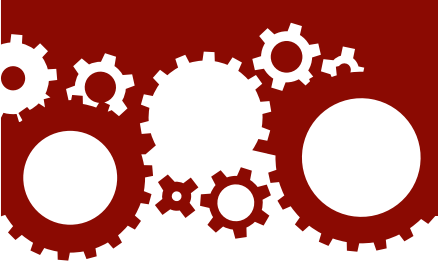


*Average annual earnings within manufacturing subsectors (2020)*

NAICS Category	Industry	# of Annual Avg. Establishments	# of Annual Avg. Employees	Total Wages (\$ in thousands)	Average Annual Wage
311	Food manufacturing	1,102	59,321	\$3,447,245	\$58,111
312	Beverage and tobacco product manufacturing	364	9,718	\$510,260	\$52,505
313	Textile mills	58	1,843	\$122,495	\$66,450
314	Textile product mills	201	2,235	\$98,463	\$44,057
315	Apparel manufacturing	74	1,660	\$69,583	\$41,924
316	Leather and allied product manufacturing	44	927	\$41,305	\$44,554
321	Wood product manufacturing	616	12,545	\$588,226	\$46,889
322	Paper manufacturing	323	20,275	\$1,308,916	\$64,558
323	Printing and related support activities	1,152	18,507	\$889,727	\$48,074
324	Petroleum and coal products manufacturing	112	4,738	\$539,065	\$113,773
325	Chemical manufacturing	825	45,874	\$4,651,319	\$101,392
326	Plastics and rubber products manufacturing	842	54,518	\$2,994,610	\$54,929
327	Non-metallic mineral product manufacturing	680	25,512	\$1,618,282	\$63,432
331	Primary metal manufacturing	437	34,241	\$2,382,722	\$69,587
332	Fabricated metal product manufacturing	3,504	9,2171	\$5,364,656	\$58,203
333	Machinery manufacturing	1,826	74,399	\$4,963,383	\$66,713
334	Computer and electronic product manufacturing	526	20,664	\$1,475,231	\$71,391
335	Electrical equipment and appliance manufacturing	331	25,437	\$1,589,146	\$62,474
336	Transportation equipment manufacturing	812	113,054	\$7,933,431	\$70,174
337	Furniture and related product manufacturing	723	14,580	\$721,595	\$49,492
339	Miscellaneous manufacturing	904	20,807	\$1,134,011	\$54,502
		15,456	653,026	\$42,443,669	\$64,995

*Source: Ohio Department of Job and Family Services, Office of Workforce Development, Bureau of Labor Market Information, Total Wages, Employment and Establishments as Covered Under the Ohio and Federal Unemployment Compensation Laws*

**FACT:** In 2020, the average annual wage in manufacturing increased to \$64,995 from \$62,868 in 2019.



# HIGHLIGHTS

**FACT:**

The leading Ohio industries in terms of number of employees:

NAICS Category	# Employees
336 – Transportation equipment manufacturing	113,054
332 – Fabricated metal product manufacturing	92,171
333 – Machinery manufacturing	74,399
311 – Food manufacturing	59,321
326 – Plastics and rubber products manufacturing	54,518

**FACT:**

The leading Ohio industries in terms of average annual wages:

NAICS Category	Average annual wage
324 – Petroleum and coal products manufacturing	\$113,773
325 – Chemical manufacturing	\$101,392
334 – Computer and electronic product manufacturing	\$71,391
336 – Transportation equipment manufacturing	\$70,174
331 – Primary metal manufacturing	\$69,587

**FACT:**

Ohio has a lot of manufacturing establishments in these NAICS categories:

NAICS Category	# of Establishments
332 – Fabricated metal products manufacturing	3,504
333 – Machinery manufacturing	1,826
323 – Printing and related support activities	1,152
311 – Food manufacturing	1,102
339 – Miscellaneous manufacturing	904

*Source: Ohio Department of Job and Family Services, Office of Workforce Development, Bureau of Labor Market Information, Total Wages, Employment and Establishments as Covered Under the Ohio and Federal Unemployment Compensation Laws*

# OHIO MANUFACTURING AND THE GLOBAL ECONOMY



## *Ohio exports to the world (2020)*

### **FACT:**

In 2020, Ohio became the seventh-largest exporting state, up from ninth place in 2019, with industrial machinery continuing to be the top exported good. The effect of the COVID-19 pandemic is evident in the overall reduction of U.S. exports in 2020 (\$1.425 billion compared with \$1.643 billion in 2019).

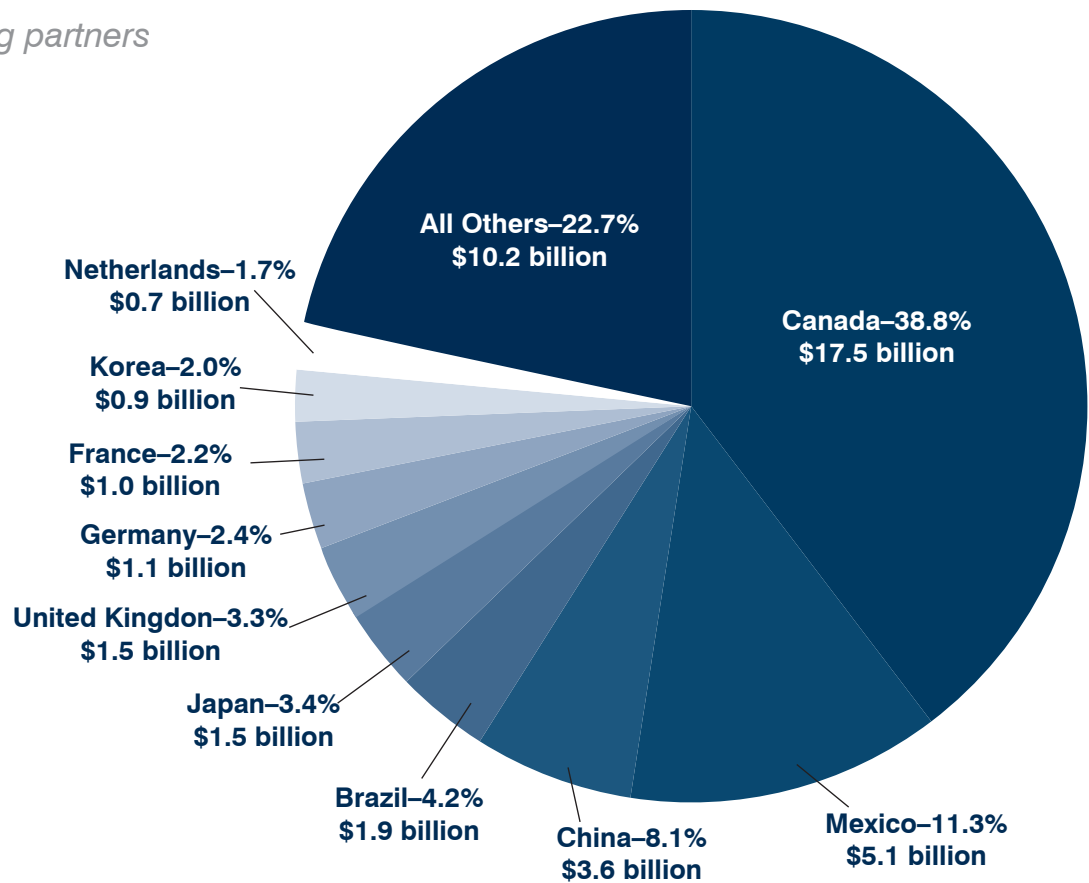
Rank	2020		Top Export
	State	Exports (\$ in billions)	
1	TX	\$276	Mineral fuel, oil, etc.
2	CA	\$156	Electric machinery
3	NY	\$66	Prec. stones; jewelry
4	LA	\$58	Mineral fuel, oil, etc.
5	IL	\$53	Industrial machinery
6	FL	\$46	Electric machinery
7	<b>OH</b>	<b>\$45</b>	<b>Industrial machinery</b>
8	MI	\$44	Vehicles and parts
9	WA	\$41	Aircraft and parts
10	GA	\$39	Aircraft and parts

Rank	2019		Top Export
	State	Exports (\$ in billions)	
1	TX	\$331	Mineral fuel, oil, etc.
2	CA	\$173	Electric machinery
3	NY	\$73	Prec. stones; jewelry
4	LA	\$64	Mineral fuel, oil, etc.
5	IL	\$60	Industrial machinery
5	WA	\$60	Aircraft and parts
7	FL	\$56	Electric machinery
8	MI	\$55	Vehicles and parts
9	<b>OH</b>	<b>\$53</b>	<b>Industrial machinery</b>
10	PA	\$43	Mineral fuel, oil, etc.

Source: Ohio Development Services Agency, Research Office,  
Ohio Exports Report 2020, June 2021



Ohio's top 10 trading partners  
(2020)



Source: Ohio Development Services Agency, Research Office,  
Ohio Exports Report 2020, June 2021

**FACT:**

In 2020, Ohio exported \$45B in goods to 209 countries and territories, a decrease in value of 15.4% from 2019 (\$53B). Half of Ohio's exports went to Canada and Mexico.

# OHIO MANUFACTURING AND THE GLOBAL ECONOMY



*Ohio's top 10 export commodities (2020)*

## **FACT:**

Machinery continued to be Ohio's leading export in 2020 (\$8.6 billion). Ohio was fourth among states in this category with 4.7% of the U.S. total.

Commodities	Exported goods (\$ in billions) 2020	% of Ohio exports 2020	Ohio's State Ranking 2020	Exported goods (\$ in billions) 2019	% of Ohio exports 2019
Machinery (including computers)	\$8.6	19.0%	4th	\$9.7	18.3%
Vehicles and parts	\$5.9	13.2%	7th	\$8.8	16.6%
Aircraft, spacecraft, and parts	\$4.4	9.7%	7th	\$5.9	11.2%
Electric machinery; sound/TV equipment	\$2.8	6.1%	14th	\$3.2	6.0%
Plastics and articles thereof	\$2.7	6.1%	3rd	\$3.0	5.6%
Optic, photo; medical instruments	\$1.5	3.2%	17th	\$1.7	3.3%
Soap, waxes, lubricating preparations, etc.	\$1.3	2.8%	1st	\$1.1	2.0%
Perfumery, cosmetic, etc.	\$1.2	2.7%	3rd	\$1.4	2.6%
Iron and steel products	\$1.2	2.6%	4th	\$1.3	2.5%
Misc. chemical products	\$1.0	2.3%	10th	\$1.1	2.0%

*Source: Ohio Development Services Agency, Research Office, Ohio Exports Report 2020, June 2021*



# OHIO MANUFACTURING AND THE ENVIRONMENT

*Industry leads statewide reduction/recycling of Ohio-generated waste*

Year	Tons Reduced/Recycled			Percentage of Total Reduced/Recycled		
	Residential/Commercial	Industrial	Total	Residential/Commercial	Industrial	Total
1990	2,260,000	2,186,000	4,446,000	19.4	38.2	25.6
1995	1,942,000	6,523,000	8,465,000	17.0	42.8	31.7
2000	2,712,535	12,199,869	14,912,404	20.0	65.6	46.3
2005	3,745,758	9,474,260	13,220,018	25.7	56.9	42.3
2010	3,500,240	8,985,171	12,485,411	27.4	51.4	41.3
2015	3,728,582	8,546,359	12,274,941	27.3	53.5	41.4
2018	4,321,847	8,056,035	12,377,882	29.7	50.2	40.5
2019	4,301,306	8,560,651	12,861,957	28.5	67.1	46.2
2020	4,386,564	6,550,058	10,936,622	30.0	52.6	40.4

Source: Ohio Environmental Protection Agency

Note: Ohio EPA attributes some of the year-to-year variations in recycling rates to changes in economic activity/output. However, year-to-year changes are also due to how many, and which, entities respond to annual Solid Waste Management District surveys. Consequently, Ohio EPA generally focuses on trends over several years when evaluating changes in recycling activity rather than changes from one year to the next.

## FACT:

Industry leads the way in solid waste reduction and recycling. Reduction and recycling include source reduction activities, reuse, recycling, composting and incineration. Industry is an enormous consumer of recycled materials, including metals, glass, paper, and plastics; thus, manufacturers are strong advocates for improving recycling systems in Ohio and the U.S.

Each year, Ohio's 52 local solid waste management districts survey businesses in their districts about the amounts and types of materials being recycled. This provides a statewide picture of recycling activities, trends, and opportunities. While reporting is voluntary, measuring and reporting recycling efforts is valuable for all of Ohio's audiences.

Ohio EPA offers grants, technical assistance and recognition to businesses that want to increase recycling or develop markets for recycled products.

Ohio EPA has an online platform – called the Ohio Materials Marketplace – which provides Ohio businesses a venue to advertise and acquire scrap and by-product materials that might otherwise be destined for disposal in landfills.



## Emissions data

<sup>2</sup>The 2010 and more recent summarized point source emissions are calculated from information provided to Ohio EPA from Title V and Synthetic Minor permitted facilities.

See Ohio EPA Emission Inventory System (EIS) web page: <https://epa.ohio.gov/divisions-and-offices/air-pollution-control/reports-and-data/emission-inventory-system>.

The 1980 emissions data are derived from a 1995 Ohio EPA publication, "Emission Trends Report for Stationary Air Contaminant Sources within the State of Ohio 1980-1990."

Percent reductions are calculated based on the formula:  $((\text{Old value} - \text{new value}) / \text{Old value}) * 100$

It is difficult to compare the historical figures to the current figures due to changes in how the emissions data are reported.

PM emissions in 1980 accounted for filterable particulate matter only. PM emissions in 2010 and after accounted for filterable and condensable particulate matter. The PM reduction from the 1980 emissions would have been significantly larger if the condensable fraction was inventoried.

Only Volatile Hydrocarbon Compounds (VOCs) were included in the 1980 inventory. Both VOCs and Organic Compounds (OC) were inventoried in 2010 and after. VOCs are a fraction of OCs. For illustration purposes, the 1980 report assumed  $\text{VOC} = \text{OC}$  emissions. The OC reduction from the 1980 emissions would have been significantly larger if the OC emissions were inventoried besides the VOC emissions.

The number of facilities included in EIS varies from 1980 to 2010 and beyond. In 1980, only large emission units were inventoried. In 2010 and after, emission units with greater than one ton for any of the criteria pollutants were inventoried.

	1980 (tons)	2010 (tons)	% reduction 1980:2010	2019 (tons)	% reduction 2010:2019
SO <sub>2</sub>	2,659,612	619,267	77%	96,862	84%
NO <sub>x</sub>	690,195	150,891	78%	80,094	47%
Particulate Matter	174,250	66,303	62%	21,963	67%
Organic Compounds	169,515	36,284	79%	35,463	2%
Carbon Monoxide	329,700	243,864	26%	101,753	58%

	1982 (PPB)	2012 (PPB)	% reduction 1982:2012	2020 (PPB)	% reduction 2012:2020
Highest 4 <sup>th</sup> -high eight-hour ozone concentration in Ohio	115	91	20.9%	76	16.5%
	1983 (PPB)	2012 (PPB)	% reduction 1983:2012	2020 (PPB)	% reduction 2012:2020
Highest annual average Sulphur dioxide (SO <sub>2</sub> ) concentration in Ohio	24.07	5.25	78.2%	2.14	59.2%
	2000 μ/m <sup>3</sup>	2012 μ/m <sup>3</sup>	% reduction 2000: 2012	2020 μ/m <sup>3</sup>	% reduction 2012:2020
Highest annual average Particulate Matter (2.5 μ or smaller) concentration in Ohio	19.7	12.31	37.5%	10.79	12.3%

Source: Ohio Environmental Protection Agency

## FACT:

Manufacturers have invested billions of dollars in environmental control technologies and more efficient processes, which has significantly reduced emissions.<sup>2</sup>





*Toxic releases to the environment (pounds per year): multi-year trend for core chemicals at base years 1988 and 2001, all industries*

Year	Total air emissions	Surface water discharges	Total underground injection	Total on-site releases to land	Total on- and off-site disposal or other releases
<i>1988 core chemicals</i>					
<b>1988</b>	104,341,351	1,043,905	11,538,544	29,291,941	188,489,950
<b>1999</b>	37,672,554	458,895	12,077,836	19,036,238	113,789,099
<b>2018</b>	14,551,704	161,579	7,167,366	11,447,225	55,762,360
<b>2019</b>	15,041,761	184,351	8,059,626	10,638,310	55,949,855
<b>2020</b>	12,934,895	194,257	5,208,933	8,999,230	45,234,723
<b>% change 1988-2020</b>	-87.60	-81.39	-54.86	-69.28	-76.00
<b>% change 1999-2020</b>	-65.66	-57.67	-56.87	-52.73	-60.25
<i>2001 core chemicals</i>					
<b>2001</b>	119,894,999	10,006,806	31,985,954	66,020,183	282,121,623
<b>2018</b>	36,606,143	6,842,263	17,338,122	26,222,761	112,410,389
<b>2019</b>	34,930,989	8,329,339	16,208,245	17,028,051	104,190,977
<b>2020</b>	31,134,336	7,497,051	12,013,728	14,741,045	90,953,014
<b>% change 2001-2020</b>	-74.03	-25.08	-62.44	-77.67	-67.76

*Source: Ohio Environmental Protection Agency*

*Note: U.S. EPA requires an annual Toxic Release Inventory from facilities. Chemicals in the annual inventory are added or delisted in any year. Thus, base year core chemical amounts vary.*

## **FACT:**

Ohio manufacturers have contributed significantly to reducing toxic releases.



**The mission of The Ohio Manufacturers'  
Association is to protect and grow Ohio manufacturing.**

For more information about the services and activities of the OMA, contact us at  
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