INDIANA ECONOMIC ANALYSIS REPORT

INDIANA DEPARTMENT OF
WORKFORCE
DEVELOPMENT

Richard Paulk, Commissioner **October 2024**

Acknowledgements

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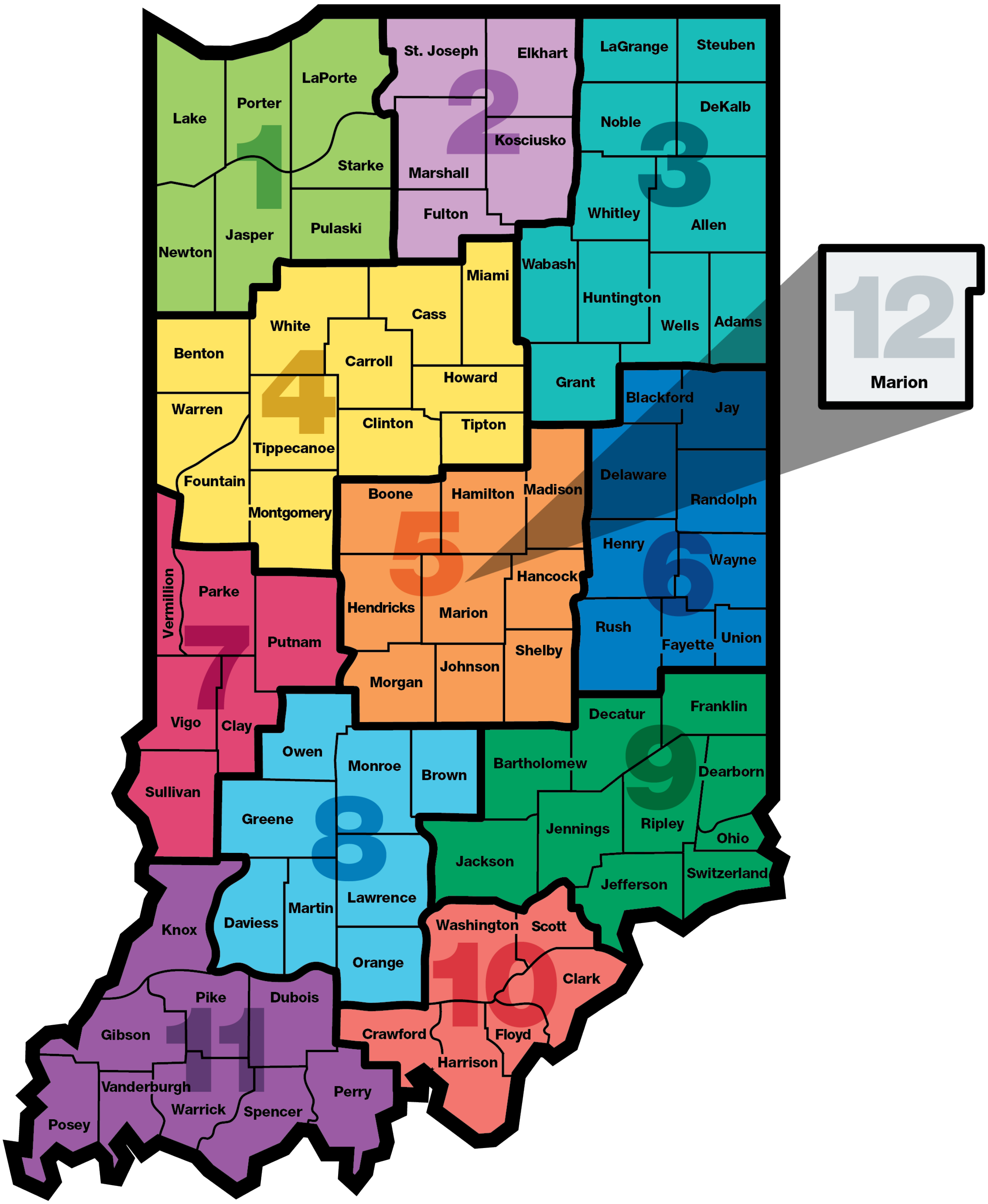
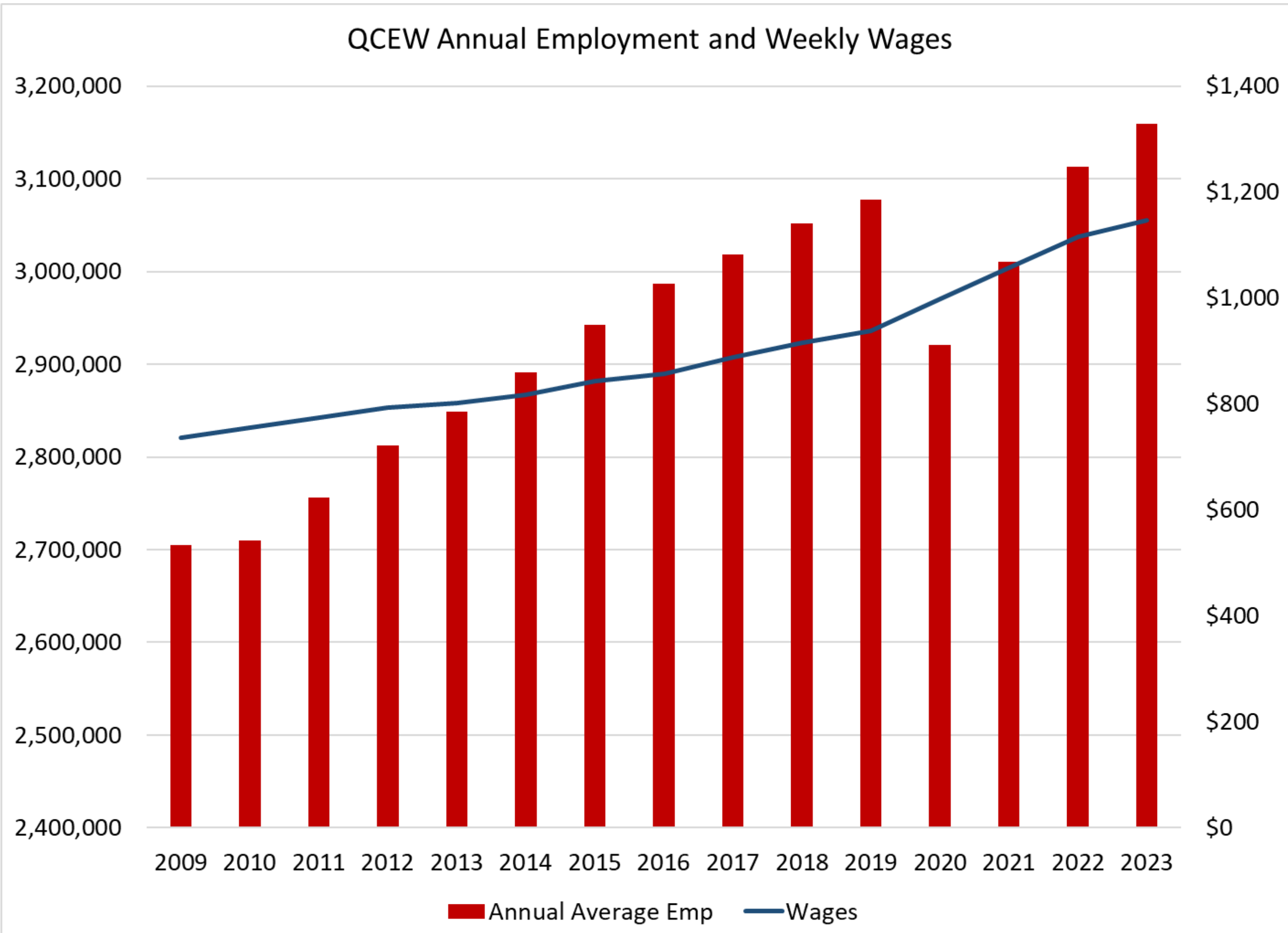
Economic Growth Regions



2023 Indiana Employment in Brief

Following the 2020 pandemic employment had completely recovered by 2022. In 2023 average annual employment level was 2,769,920 for private employment and 3,159,759 for all public and private sectors. Those numbers are a gain of 36,397 in private sector jobs from 2022. 2022 average weekly wages have risen to $1,147 for all Industries. The following charts summarize Indiana's 2023 Employment from the Quarterly Census of Employment and Wages (QCEW) program.



Source: *IDWD Quarterly Census of Employment and Wages*

Summary: Current Employment Statistics 2023

January 2024 estimates from the Current Employment Statistics (CES) and Local Area Unemployment Statistics (LAUS) indicate the expansion recovery in private sector employment. From January 2023 to January 2024 every industry sector in Indiana gained except manufacturing jobs. Indiana's Total Non-Farm employment increased 52,700 over the year. Private Education & Health Services gained 23,700 jobs over the year. Trade, Transportation & Utilities gained 8,700 jobs over the year.

Source: *Current Employment Statistics January 2024*

IN Employment Change Over the Month, and Over the Year (seasonally adjusted)					
Supersector	**January 2023**	**December 2023**	**January 2024**	**Y-to-Y Change**	**Month Change**
Private Educational & Health Services	487.3	509.1	511.0	23.7	1.9
.....Private Educational Services	59.7	62.7	63.7	4.0	1.0
.....Health Care & Social Assistance	427.6	446.4	447.3	19.7	0.9
Manufacturing	533.9	532.4	530.8	-3.1	-1.6
Professional & Business Services	365.8	363.7	366.2	0.4	2.5
Financial Activities	148.4	148.5	149.6	1.2	1.1
Construction	161.6	165.3	168.0	6.4	2.7
Leisure and Hospitality	311.0	313.0	314.0	3.0	1.0
Trade, Transportation & Utilities	633.6	639.6	642.3	8.7	2.7
.....Trade	448.4	451.2	453.1	4.7	1.9
.....Transportation, Warehousing & Utilities	185.2	188.4	189.2	4.0	0.8
All Other	161.7	163.2	163.4	1.7	0.2
Total Private	2,803.3	2,834.8	2,845.3	42.0	10.5
Government (Includes Public Schools & Hospitals)	414.1	425.2	424.8	10.7	-0.4
Total Nonfarm	3,217.4	3,260.0	3,270.1	52.7	10.1
United States Total Private	132,283.0	134,292.0	134,609.0	2,326.0	317.0

Mid -year 2024

Job growth continued over the first six months of 2023. Total Non-Farm jobs were up 48,900 from June 2023 to June 2024. Only manufacturing showed losses over this time frame, losing 7,400 jobs.

IN Employment Change Over the Month, and Over the Year (seasonally adjusted)

Supersector	June 2023	May 2024	June 2024	Y-to-Y Change	Month Change
Private Educational & Health Services	**497.6**	**515.2**	**518.8**	21.2	3.6
.....Private Educational Services	**60.9**	**64.8**	**65.5**	4.6	0.7
.....Health Care & Social Assistance	**436.7**	**450.4**	**453.3**	16.6	2.9
Manufacturing	**534.2**	**529.3**	**526.8**	-7.4	-2.5
Professional & Business Services	**364.0**	**368.7**	**369.8**	5.8	1.1
Financial Activities	**148.9**	**150.2**	**149.9**	1.0	-0.3
Construction	**161.2**	**167.6**	**169.3**	8.1	1.7
Leisure and Hospitality	**309.8**	**315.6**	**317.2**	7.4	1.6
Trade, Transportation & Utilities	**633.9**	**637.8**	**634.6**	0.7	-3.2
.....Trade	**448.7**	**449.5**	**446.9**	-1.8	-2.6
.....Transportation, Warehousing & Utilities	**185.2**	**188.3**	**187.7**	2.5	-0.6
All Other	**163.3**	**165.3**	**168.4**	5.1	3.1
Total Private	**2,812.9**	**2,849.7**	**2,854.8**	41.9	5.1
Government (Includes Public Schools & Hospitals)	**419.3**	**429.6**	**426.3**	7.0	-3.3
Total Nonfarm	**3,232.2**	**3,279.3**	**3,281.1**	48.9	1.8
United States Total Private	**133,270.0**	**135,138.0**	**135,274.0**	2,004.0	136.0

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Section A: Economic Analysis

A1: Annual Employment and Wages (2023)

Indiana Industry by Total Wages			
Industry	2023 Total Wages	Emp 2023	Ave annual wages
	$188,491,655,390	3,159,278	$59,663
Manufacturing	$39,636,240,578	533,179	$74,339
Health Care and Social Assistance	$28,937,095,227	467,014	$61,962
Professional & Technical Services	$12,960,104,951	148,589	$87,221
Educational Services	$12,044,225,681	241,314	$49,911
Construction	$11,859,504,126	162,608	$72,933
Retail Trade	$11,489,670,017	315,887	$36,373
Wholesale Trade	$11,369,280,199	133,518	$85,152
Transportation and Warehousing	$10,595,091,091	183,390	$57,774
Finance & Insurance	$9,164,879,878	103,896	$88,212
Administrative and Waste Services	$8,291,831,391	181,251	$45,748
Public Administration	$7,858,422,952	131,052	$59,964
Accommodation and Food Services	$6,173,003,827	273,861	$22,541
Management of Companies & Enterprises	$4,186,714,566	34,814	$120,260
Other Services	$4,001,549,172	93,005	$43,025
Information	$2,272,179,406	32,768	$69,341
Real Estate & Rental & Leasing	$2,241,848,075	37,742	$59,399
Arts, Entertainment & Recreation	$1,729,021,581	41,776	$41,388
Utilities	$1,617,114,361	15,069	$107,314
Agriculture, Forestry, Fishing and Hunting	$822,442,125	16,517	$49,794
Mining	$468,645,969	5,495	$85,286

Source: *Quarterly Census of Employment and Wages*

Major Industries, Composition

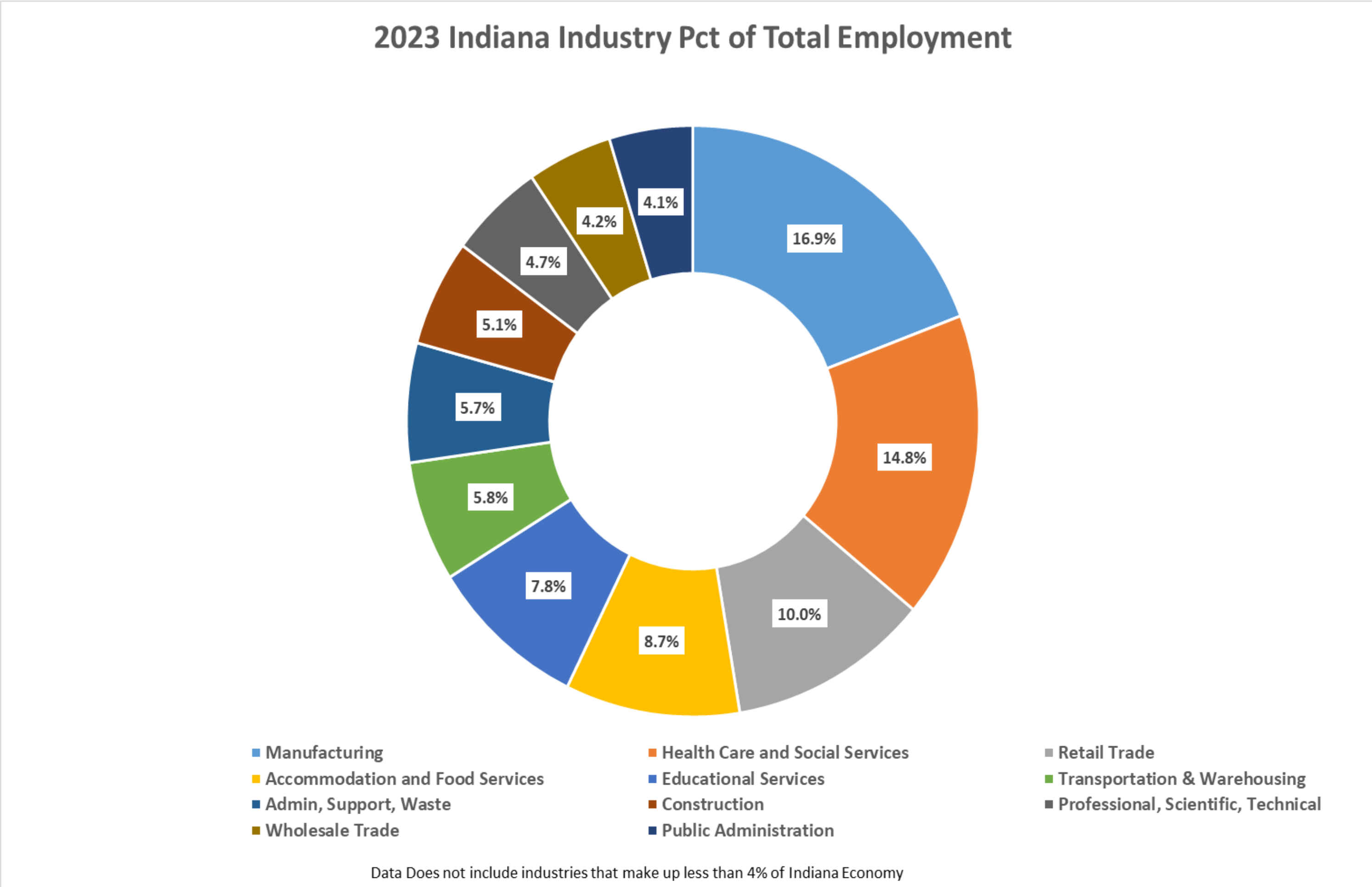

Table 1: Indiana Statewide Employment Change 2019 to 2023

Source: *Indiana Quarterly Census of Employment and Wages (Public and Private)*

Table 1a: Indiana Statewide Employment Change from 2019-2023

INDIANA ANNUAL EMPLOYMENT CHANGE 2019-2023				
Industry	2019	2023	Employment Change	% Change
Total	**3,077,110**	**3,159,269**	82,159	2.7%
Manufacturing	541,152	533,578	-7,574	-1.4%
Health Care and Social Services	447,034	466,922	19,888	4.4%
Retail Trade	317,084	315,887	-1,197	-0.4%
Accommodation and Food Services	271,916	273,849	1,933	0.7%
Educational Services	250,994	247,849	-3,145	-1.3%
Transportation & Warehousing	158,136	183,390	25,254	16.0%
Admin, Support, Waste	190,042	181,280	-8,762	-4.6%
Construction	145,911	162,608	16,697	11.4%
Professional, Scientific, Technical	123,253	148,588	25,335	20.6%
Wholesale Trade	123,429	133,518	10,089	8.2%
Public Administration	130,073	131,052	979	0.8%
Finance and Insurance	98,998	103,896	4,898	4.9%
Other Services (Except Public Administration)	89,552	93,005	3,453	3.9%
Arts, Entertainment, and Recreation	44,552	41,388	-3,164	-7.1%
Real Estate and Rental and Leasing	37,887	37,752	-135	-0.4%
Management of Companies and Enterprises	34,852	34,858	6	0.0%
Information	35,028	32,768	-2,260	-6.5%
Agriculture, Forestry, Fishing and Hunting	15,687	16,517	830	5.3%
Utilities	15,742	15,069	-673	-4.3%
Mining	5,788	5,495	-293	-5.1%

Table 1b: Indiana Statewide Employment One Year Change

INDIANA ANNUAL EMPLOYMENT ONE YEAR CHANGE				
Industry	2022	2023	Employment Change	% Change
Total	**3,113,355**	**3,159,269**	45,914	1.5%
Manufacturing	541,010	533,578	-7,432	-1.4%
Health Care and Social Services	444,982	466,922	21,940	4.9%
Retail Trade	315,597	315,887	290	0.1%
Accommodation and Food Services	266,222	273,849	7,627	2.9%
Educational Services	241,167	247,849	6,682	2.8%
Transportation & Warehousing	181,078	183,390	2,312	1.3%
Admin, Support, Waste	192,204	181,280	-10,924	-5.7%
Construction	156,366	162,608	6,242	4.0%
Professional, Scientific, Technical	120,004	148,588	28,584	23.8%
Wholesale Trade	127,644	133,518	5,874	4.6%
Public Administration	129,625	131,052	1,427	1.1%
Finance and Insurance	103,319	103,896	577	0.6%
Other Services (Except Public Administration)	89,261	93,005	3,744	4.2%
Arts, Entertainment, and Recreation	39,737	41,388	1,651	4.2%
Real Estate and Rental and Leasing	37,315	37,752	437	1.2%
Management of Companies and Enterprises	35,706	34,858	-848	-2.4%
Information	32,766	32,768	2	0.0%
Agriculture, Forestry, Fishing and Hunting	15,082	16,517	1,435	9.5%
Utilities	15,990	15,069	-921	-5.8%
Mining	5,943	5,495	-448	-7.5%

2023 Annual Industry Overview

In 2023 many Indiana sectors grew by 45,914 jobs 1.5% from 2022. From 2019 to 2023 Indiana grew by 82,159 jobs (2.7%) for all industries, including both public and private employment. This is measured from the Quarterly Census of Employment and Wages, annual average employer reported data. This is the most recent full year of data at the time of this report. QCEW is the best measure of true employment levels, from which other surveys (such as the CES cited in the introduction) are benchmarked annually.

Industries showing the highest employment increases from 2019 to 2023

Professional, Scientific and Technical Services

Professional, Scientific and Technical Services has shown healthy growth from 2019 to 2023. This is an industry that will be key to Indiana's future. Among the industries this sector contains are Legal Services, Architectural and Engineering, Research and Development and Computer Systems Design and Related Services. Many of these areas have been the focus of Indiana economic development. The sector has grown 25,335 jobs at a 20.6% gain over this time frame. The average weekly wages for 2022 for this sector are above the state average at $1,696, a growth rate of 3.3%.

Transportation and Warehousing

Transportation and Warehousing has grown by 25,254 from 2019-2023. This industry has also been a target for economic development for several years. This industry grew by 16.0% during this five-year period. This industry showed annual growth in the face of the pandemic. The average weekly wages for Transportation and Warehousing grew by 3.3% to $1,111 for 2023.

Health Care and Social Assistance

Health care and social assistance employment has grown by 4.4% from 2019 to 2023 with an increase of 19,888 jobs. This sector growth includes physicians' offices, hospitals, and a wide range of providers. Wages in this industry decreased by -0.3% in 2023 to an average weekly wage of $1,192.

Construction

The Construction industry grew by 16,697 or 11.4% between 2019 and 2023. The average weekly wages for this industry are at $1,403 for 2023, a 5.9% increase from 2022.

Wholesale Trade

Wholesale trade grew 10.089 or 8.2% from 2019-2023. The average weekly wages for this industry are at $1,638 for 2023, a 4.3% increase from 2022.

Finance and Insurance

Finance and Insurance grew 4,898 or 4.9% from 2019-2023. The average weekly wages for this industry are at $1,696 for 2023, a 3.3% increase from 2022.

Other Services (Except Public Administration)

This industry has grown by 3,453 over 2019-2023 at a rate of 3.9%. This industry includes Repair and Maintenance, Personal and Laundry Services, Religious, Grant Making, Civic, Professional & Similar Organizations and Private Households. Wages for these industries vary widely, and the weekly averages may include part time workers. From 2022 to 2023 the average weekly wage increased by 5.2% for this industry sector to $827.

Accommodation and Food Services

Accommodation and Food Services grew by 1,933 jobs or 0.7% in 2023. While many of these jobs are lower or middle wage jobs, this industry also includes many part time workers, and average weekly wages were just $433 during 2023, 4.5% higher than 2022.

Public Administration

Public Administration employment doesn't normally change much since it represents government employment at all levels. In 2023 Public Administration employment was 131,052 an increase of 979 jobs or 0.8% growth. Wages stand at $1,153 weekly wages or an increase of 10.2% from 2022.

Industries showing decline from 2019 to 2023

The following industries are among those that have shown employment declines over the time frame from 2019 to 2023. This is based on the annual average employment from QCEW and includes public and private jobs.

Real Estate and Rental and Leasing

Real Estate and Rental and Leasing employment is now at 37,752 or a decrease of 135 jobs from 2019 to 2023. This is a decline of -0.4%. Wages are at $1,142 per week which is an increase of 27.3% from 2019 to 2023.

Mining

Mining is the smallest industrial sector in Indiana with 5,495 job. Over the 2019 to 2023 time frame this industry lost 293 jobs or a loss of -5.1% of its total. Mining does have a very high average wage of $1,640 which increased by 11.7% since 2019.

Utilities

Utilities is one of the smaller industries in Indiana with 15,069. From 2019-2023 the sector changed by -4.3% or a loss of 673 jobs. Utilities are also one of the higher paying industries, growing at a rate of 8.0% from 2022 to a weekly wage of $2,151 in 2023.

Retail Trade

From 2019-2023 employment fell by 1,197 for a decline of -0.4 and stands at 315,887. Retail is also one of the lower paying industries with an average weekly pay of $699, an increase of 0.1% since 2023.

Information

The information sector lost 2,260 jobs at a rate of 6.5% decline from 2019 to 2023 and stood at 32,768 in 2023. This sector includes publishing, telecommunications, and internet broadcasting which all saw moderate declines over these years. Average weekly wages were above the state average, at $1,333 during 2023 and increased by 4.9% from 2022.

Educational Services

This sector lost employment by 3,145 from 2019-2023 for a decrease of -1.3% as an industry for Indiana. This industry's wages increased by 3.5% to an average weekly wage of $994 during 2023.

Manufacturing

Indiana manufacturers lost employment by 7,574 for a 1.4% decrease, from 2019-2023. Manufacturing pays wages greater than average, with average weekly wages of $1,428 during 2023, 2.6% higher than 2022.

Admin, Support, Waste

From 2019-2023 employment lost 8,762 jobs for a decrease of 4.6%. This industry had an average weekly pay of $888 or 3.0% increase from 2022.

Wages

Average annual/weekly wages are affected by the ratio of full-time to part-time workers as well as the number of individuals in high-paying vs. low-paying occupations. Table 2 shows the historical annual averages from 2007-2023 with 2023 showing a 2.8% increase from 2022.

Table 2a shows percentage growth of wage changes over the last six years from 2019-2023. Over this time, all sectors experienced an increase in wages. The highest increases were Administrative, Support and Waste Management and Remediation Services (34.1%), Accommodation and Food Services (31.3%). The slowest percentage wage increases from 2019-2022 was in Mining (11.7%).

Table 2: Indiana Statewide Total Wages

Year	Employment	Average Weekly Wage	% Chg
2007	2,905,725	$722	2.7%
2008	2,872,442	$739	2.4%
2009	2,705,331	$736	-0.4%
2010	2,709,831	$755	2.6%
2011	2,755,826	$774	2.5%
2012	2,812,347	$793	2.5%
2013	2,849,311	$801	1.0%
2014	2,890,758	$818	2.1%
2015	2,941,991	$844	3.2%
2016	2,987,091	$857	1.5%
2017	3,017,933	$888	3.6%
2018	3,052,308	$915	3.1%
2019	3,077,240	$938	2.5%
2020	2,920,298	$999	6.5%
2021	3,010,407	$1,057	5.8%
2022	3,156,918	$1,116	5.6%
2023	3,159,759	$1,147	2.8%

Source: *DWD Quarterly Census of Employment and Wages, data not seasonally adjusted*

Table 2a: Indiana Statewide Data

2023 INDIANA AVERAGE WEEKLY WAGES BY INDUSTRY (comparison to 2019 & 2022)					
NAICS Code	2019	2022	2023	% Change from 2019	% Change from 2022
Indiana State Totals	$939	$1,116	$1,147	22.2%	2.8%
Agriculture, Forestry, Fishing and Hunting	$781	$909	$958	22.7%	5.4%
Mining	$1,469	$1,563	$1,640	11.7%	5.0%
Utilities	$1,849	$1,992	$2,151	16.3%	8.0%
Construction	$1,154	$1,324	$1,403	21.5%	5.9%
Manufacturing	$1,218	$1,393	$1,428	17.3%	2.6%
Wholesale Trade	$1,333	$1,570	$1,638	22.9%	4.3%
Retail Trade	$556	$692	$699	25.7%	1.0%
Transportation & Warehousing	$922	$1,075	$1,111	20.4%	3.3%
Information	$1,069	$1,272	$1,333	24.8%	4.9%
Finance and Insurance	$1,444	$1,642	$1,696	17.4%	3.3%
Real Estate and Rental and Leasing	$898	$1,173	$1,142	27.3%	-2.6%
Professional, Scientific, Technical	$1,362	$1,610	$1,677	23.2%	4.2%
Management of Companies and Enterprises	$1,944	$2,263	$2,309	18.7%	2.0%
Admin, Support, Waste	$657	$854	$880	34.0%	3.0%
Educational Services	$830	$960	$994	19.8%	3.5%
Health Care and Social Services	$977	$1,195	$1,192	22.0%	-0.3%
Arts, Entertainment, and Recreation	$676	$792	$796	17.8%	0.5%
Accommodation and Food Services	$330	$415	$433	31.3%	4.5%
Other Services (Except Public Administration)	$649	$787	$827	27.4%	5.2%
Public Administration	$969	$1,046	$1,153	19.0%	10.2%

Source: *DWD Quarterly Census of Employment and Wages*

A2: Analysis - INDemand Jobs

INDIANA CAREER READY is an Indiana Department of Workforce Development website that focuses on high-demand, high-wage jobs for today and tomorrow. The INDemand focus will help ensure a long and rewarding career. The demand indicator used is based on a methodology that ranks all Indiana jobs based on future growth and wages. Whether you are searching for your first job, changing jobs, re-entering the workforce, or planning a career change make the INDemand Jobs page the cornerstone of your efforts.

Updated Methodology

Indiana has established an occupational demand ranking system designated by “Flames.” An occupation will be assigned between 1 and 5 Flames, depending on how “in demand” that occupation is in Indiana. The methodology for the occupational demand ranking system is detailed below.

Each occupation in Indiana is designated a 1-10 score in 5 categories: Total Openings (x2), Growth Openings, Percentage Change, Real Time Labor Market Information, and Wages for both Short Term and Long Term outlook using 2022-2024 Short Term Projections and 2021-2031 Long Term Projections and Bureau of Labor Statistics wage estimates. The scoring method is determined by deciles or, in other words, a percentile system ranging from the 90th percentile and above, down to the 10th percentile and below. The averaged total for each occupation is then divided by 2 to produce an Indiana Demand Ranking in both outlooks. Lastly, both the short term and long term outlook Indiana Demand Ranking scores for each occupation are averaged to calculate the occupation’s final rating.

- 5 Categories for Short Term and Long-Term Outlook
    - Total Job Openings x2 (Projected total openings, includes growth and separations)
    - Growth Openings (Occupational growth openings)
    - Percentage Change (Occupational percentage change from base year to projected year)
    - Real time labor market information (Job posting data)
    - Wages (OES Wage Estimates)

Table 3: Five Flame INDemand Jobs

SOCCode	SOCTitle	Final Score	Flames
11-1021	General and Operations Managers		5 «««««
11-3021	Computer and Information Systems Managers		5 «««««
11-3031	Financial Managers		5 «««««
11-9021	Construction Managers		5 «««««
11-9111	Medical and Health Services Managers		5 «««««
13-1071	Human Resources Specialists		5 «««««
13-1082	Project Management Specialists		5 «««««
13-1111	Management Analysts		5 «««««
13-1161	Market Research Analysts and Marketing Specialists		5 «««««
13-2052	Personal Financial Advisors		5 «««««
15-1211	Computer Systems Analysts		5 «««««
15-1252	Software Developers		5 «««««
15-2051	Data Scientists		5 «««««
17-2112	Industrial Engineers		5 «««««
23-1011	Lawyers		5 «««««
25-1071	Health Specialties Teachers, Postsecondary		5 «««««
29-1123	Physical Therapists		5 «««««
29-1171	Nurse Practitioners		5 «««««
47-2111	Electricians		5 «««««
49-9041	Industrial Machinery Mechanics		5 «««««

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Indiana college graduates and the question of brain drain

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Indiana is third in the nation (behind Pennsylvania and Arizona) in the net in-migration of college freshmen. But we lose nearly 40% of graduates within one year after graduation. Retention is key to Indiana's talent future.

One decade ago, Amia Foston and Tanya Hall wrote in this publication about Indiana graduates and the prevalent concept of "brain drain," where graduates or the most highly trained and/or best educated leave one place for another. With shortages of skilled workers in many industries, Indiana companies have had to compete for talent, making brain drain more relevant than ever.

To update Foston and Hall's work, we looked at two separate but related datasets:

- Longitudinal Employer-Household Data (LEHD), particularly Postsecondary Employment Outcomes (PSEO) from the Census Bureau
- State residency tuition data from the National Center for Education Statistics (NCES)

Each of these data sources are used to identify the number of graduates and two key characteristics: where they work after graduation and whether they paid resident tuition. As part of our research, we compared Indiana's data to a selected group of 11 benchmark states.[1]

Ten years later, we find that Indiana is still losing college graduates to other states. But it is important to note, and as the data show, Indiana's large out-of-state student population doesn't remain in Indiana after graduation.

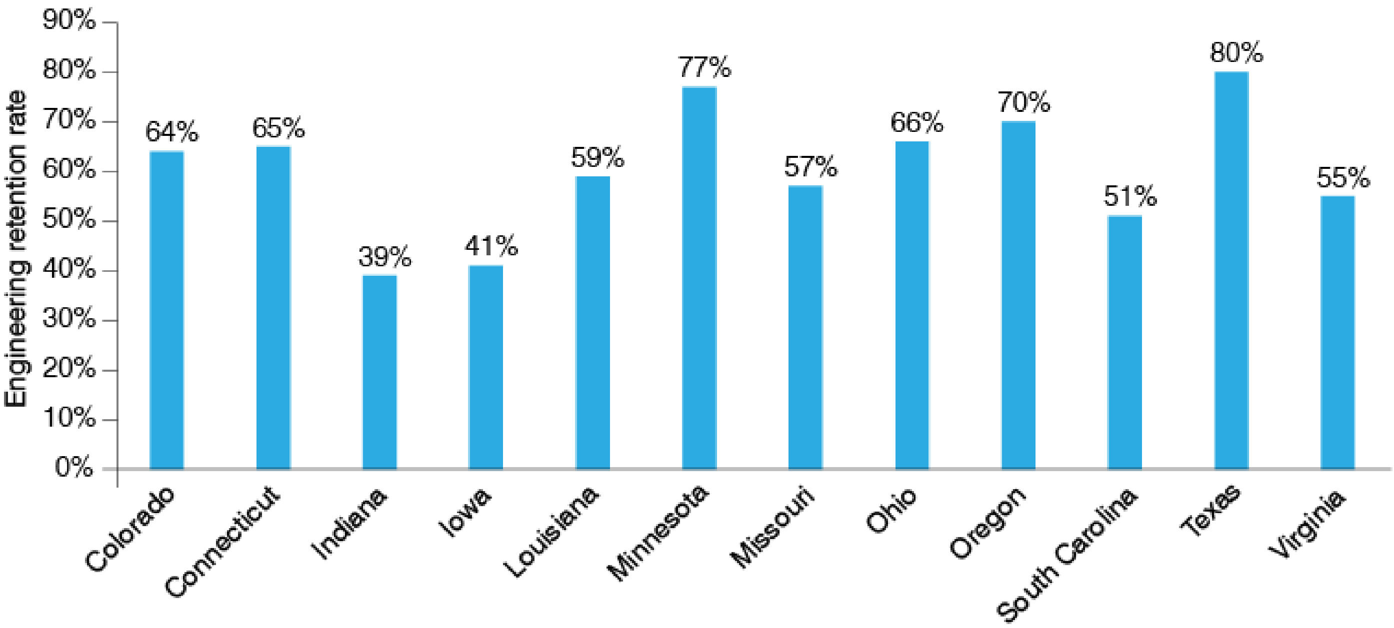
The Census Bureau currently collaborates with multiple states (including Indiana via the Commission for Higher Education) to integrate university within their national worker dynamics database to determine the migration flows of graduates from Indiana institutions.

From this data, we learned the following:

- 61% of Indiana college grads with a bachelor's degree were still employed in Indiana one year after graduation.[2]
- Retention dropped to 55% after five years.
- The results did differ, however, when examining the field of study – engineering had a high number of graduates from Indiana colleges, but a very low retention rate – that is, they didn't stay in Indiana to work.

Engineering was given particular attention due to the high number of graduates produced in Indiana alongside the low retention rate observed in the state. In Indiana, for the 2016-2018 graduation cohort, engineering had the fourth-lowest retention rate for graduates compared to other fields of study, besting only mathematics and statistics (with 37% retention), philosophy and religious studies (26%) and area, ethnic, cultural, gender and group studies (21%). While schools like Purdue and Rose-Hulman produce many qualified graduates every year, the data showed that Indiana retained only 39% of these engineers one year after graduation. Other benchmark states boasted engineering retention rates ranging from 41% in Iowa to 80% in Texas (see **Figure 1**).

Figure 1: Engineering retention rate for Indiana and benchmark states

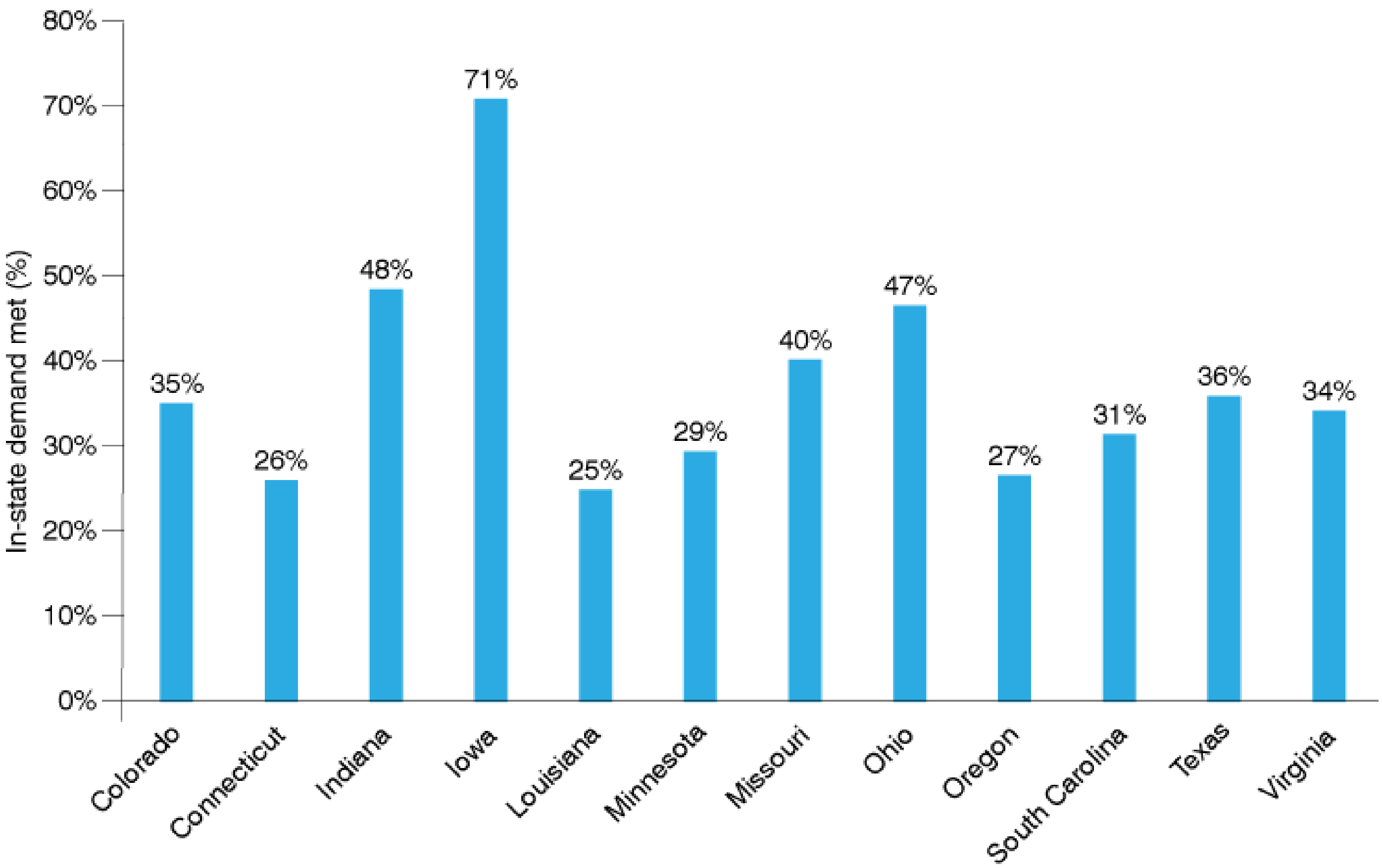


Source: Post-Secondary Employment Outcomes Explorer from the U.S. Census Bureau, 2016-2018 cohort analysis.

The data also confirm what Hoosiers already know: Indiana is a prime educator of engineers nationally. Additionally, Indiana's colleges produce almost half of its in-state demand, unlike most of the other benchmark states. Between 2016 and 2018, Indiana graduated 48% of its statewide engineering demand (when comparing engineering job openings to the number of statewide engineering graduates). Indiana placed second in the field of our 12 benchmark states in meeting in-state engineering demand, trailing only Iowa which met an impressive 71% of its demand (see **Figure 2**).

Among the benchmark states, Indiana colleges and universities produced the third-most engineers per capita, behind only Iowa and Colorado. Since Indiana punches above its weight in the production of engineering graduates, migration outflow to other states is to be expected as our graduates are pursued by out-of-state employers or those students return to their region of origin.

Figure 2: In-state engineering demand met by graduates produced for Indiana and benchmark states



Note: This dataset comprises graduates with a bachelor's degree in engineering from the 2016-2018 cohort and engineering job openings from 2016 to 2018.
Source: Post-Secondary Employment Outcomes Explorer from the U.S. Census Bureau; Lightcast engineering job openings data

When comparing per capita engineering jobs between states, Indiana falls within 6% of the mean of our benchmark states, suggesting steady employment and growth comparatively. The notion of a weak engineering sector in Indiana is not strongly supported by the per capita job openings for 2016 to 2018 either, as Indiana fell within 5% of our benchmarked mean. Although the median annual earnings for engineers in Indiana were the lowest of the states we compared,[3] this was expected due to Indiana's lower cost of living and higher purchasing power parity.

Low wages are a factor driving the outbound engineer migration mostly to other Midwestern states. However, other outflows show an attraction to Pacific and South Atlantic states, attracting 15% of Indiana's engineering graduates from the 2016-2018 cohort, where wages have shown to be significantly higher. Other variables that potentially contribute to these outflows (but are not measured here) include cost of living, natural amenities, former residency and quality of life expectations.

As part of our research, we looked at the university with the highest number of engineering graduates per benchmark state (for Indiana, that is Purdue University). In most cases, these benchmark universities produced more than half of each state's total engineering graduates. Although our benchmark universities from other states boasted far better retention of engineers at the one-year mark, Purdue draws the highest percentage of out-of-state and foreign student populations compared to those universities, according to the National Center for Education

Statistics (NCES) College Navigator.[4] We believe this contributes significantly to a brain drain, as out-of-state students are generally perceived to leave Indiana for jobs in another state or country that may or may not be their home location.

Since the PSEO data doesn't include variables on state of origin for the students, we utilized the NCES resident tuition rates from our benchmarked institutions to estimate residency of our total student population.[5] With these rates, the results support our hypothesis that Indiana is indeed an education hub for out-of-state students. This is further evidenced by Indiana ranking third among the 50 states in the net in-migration of college freshmen and tenth in the number of total graduate-level engineering students (see the IBRC's States in Profile).

We believe Indiana's perceived "brain drain" in highly skilled occupations, such as engineering, seems overstated. We need to consider the high percentage of out-of-state and foreign student populations. Many engineering students select Indiana for its prestigious educational programs and cost efficiency when compared to other high quality state schools. So, an important question is, how can Indiana compete to retain these graduates with high-demand degrees?

There is a growing need to retain Indiana's domestically educated engineers to work on many of the new (and some quite large) economic development projects. These projects include the multi-billion-dollar White River Project, Amazon's data center project in north central Indiana, the development of the LEAP district in Lebanon, multiple tech commitments from Meta and Google, several foreign computer chip manufacturers and statewide investment in fiber broadband internet and electrical vehicle manufacturers, to name a few. As these capital projects develop, we should expect engineering demand in Indiana to increase accordingly.

Looking at 10-year occupation projections, architecture and engineering occupations are expected to grow 5.2% nationally through the year 2032.[6] The average employment change percent for all occupations is only expected to be 2.8% through 2032. It's worth noting that STEM occupations are projected to increase by 10.8% while non-STEM occupations are only projected to increase by 2.3% by 2032.[7] According to data produced by Indiana's Department of Workforce Development, industrial engineers are the most in-demand engineering occupation in Indiana and those jobs will grow by more than 16% by 2031.[8]

As demand for engineers grows in Indiana, the state's retention of graduates needs to ramp up to compete for the graduates being produced right here.

Notes

1. For our purposes, we compared Indiana data with data for the following states: Colorado, Connecticut, Iowa, Louisiana, Minnesota, Missouri, Ohio, Oregon, South Carolina, Texas and Virginia. For the purposes of this article, we compared all programs of member institutions with undergraduate degree completions from the 2016-2018 cohort.
2. Post-Secondary Employment Outcomes Explorer from the U.S. Census Bureau. We used all cohorts for average migration flows data, but used the 2016-2018 cohort for the engineering-specific data. https://lehd.ces.census.gov/applications/pseo/?type=flows&specificity=2&state=18&institution=18&degreelevel=05&gradcohort=0000-3&filter=1&destination=geography&display=share&program=00
3. Lightcast data.
4. Purdue University page on the College Navigator from the National Center for Education Statistics. https://nces.ed.gov/collegenavigator/?q=purdue&s=IN&p=14&l=93&id=243780#enrolmt

5. College Navigator from the National Center for Education Statistics. https://nces.ed.gov/collegenavigator/
6. Occupational projections, 2022-2032, from the U.S. Bureau of Labor Statistics. https://www.bls.gov/emp/tables/occupational-projections-and-characteristics.htm
7. Employment in STEM occupations, 2022-2032, from the U.S. Bureau of Labor Statistics. https://www.bls.gov/emp/tables/stem-employment.htm?src_trk=em663d7d2df1a110.285990601802444130
8. Industrial engineers page on INDemand Jobs from the Indiana Department of Workforce Development. https://indemandjobs.dwd.in.gov/Occupation/Soc/17-2112.00/

Section B: Workforce Analysis

B1: Labor Force

Estimates

In 2023 the labor force reached to a near record in total labor force. The Labor Force Participation Rate remained over 63% for all of 2023.

Table 4: Indiana Labor Force and Unemployment, non-seasonally adjusted 2004-2023 annual averages

INDIANA LABOR FORCE AND UNEMPLOYMENT 2004-2023 (NON-SEASONALLY ADJUSTED)				
Year	**Labor Force**	**Employment**	**Unemployment**	**Unemployment Rate**
2004	3,165,247	2,993,991	171,256	5.4
2005	3,202,215	3,029,258	172,957	5.4
2006	3,235,980	3,075,761	160,219	5.0
2007	3,202,589	3,054,548	148,041	4.6
2008	3,244,790	3,053,593	191,197	5.9
2009	3,216,535	2,880,173	336,362	10.5
2010	3,175,885	2,854,843	321,042	10.1
2011	3,189,011	2,904,397	284,614	8.9
2012	3,172,556	2,911,925	260,631	8.2
2013	3,193,683	2,953,672	240,011	7.5
2014	3,228,524	3,036,685	191,839	5.9
2015	3,266,392	3,109,791	156,601	4.8
2016	3,331,821	3,186,420	145,401	4.4
2017	3,333,693	3,217,049	116,644	3.5
2018	3,392,579	3,276,805	115,774	3.4
2019	3,399,870	3,287,462	112,408	3.3
2020	3,328,778	3,086,279	242,499	7.3
2021	3,332,745	3,201,829	130,916	3.9
2022	3,373,887	3,270,662	103,225	3.1
2023	3,401,387	3,288,017	113,370	3.3

Source: *Local Area Unemployment Statistics (LAUS), Non-Seasonally Adjusted*

Table 5: Indiana Regional Labor Force Data

Source: *DWD, Local Area Unemployment Statistics (LAUS) Region 5 EGR data in this publication includes Marion County, Region 12.*

INDIANA ECONOMIC GROWTH REGIONS (EGRs), LABOR FORCE AND UNEMPLOYMENT (N.S.A.), 2023				
EGR	Labor Force	Employment	Unemployed	Unemployment Rate
EGR 1	402,370	384,396	17,974	4.5
EGR 2	316,481	304,442	12,039	3.8
EGR 3	389,487	377,437	12,050	3.1
EGR 4	250,743	242,521	8,222	3.3
EGR 5	1,097,554	1,064,622	32,932	3.0
EGR 6	149,612	144,300	5,312	3.6
EGR 7	96,144	92,671	3,473	3.6
EGR 8	152,288	147,242	5,046	3.3
EGR 9	168,249	163,155	5,094	3.0
EGR 10	155,711	151,035	4,676	3.0
EGR 11	222,750	216,196	6,554	2.9
EGR 12	511,700	494,846	16,854	3.3

Unemployment Rates

Indiana's annual unemployment rate dropped every year from 2011 to 2020. The Indiana unemployment rate was below or equal to the national rate from October 2013 to April 2020. This stopped abruptly in April 2020 due to the pandemic and economic shut down. In 2023 the Indiana ranged from the low to mid 3% range during the year.

Table 5: Indiana Unemployment Rates, Non-Seasonally Adjusted (Annual Averages of Monthly Data)

2004-2023 INDIANA UNEMPLOYMENT RATES, NON-SEASONALLY ADJUSTED (ANNUAL AVERAGES OF MONTHLY DATA)		
Year	Indiana	U.S.
2004	5.4	5.5
2005	5.4	5.1
2006	5.0	4.6
2007	4.6	4.6
2008	5.9	5.8
2009	10.5	9.3
2010	10.1	9.6
2011	8.9	8.9
2012	8.2	8.1
2013	7.5	7.4
2014	5.9	6.2
2015	4.8	5.3
2016	4.4	4.9
2017	3.5	4.4
2018	3.4	3.9
2019	3.3	3.7
2020	7.3	8.1
2021	3.9	5.3
2022	3.1	3.6
2023	3.3	3.6

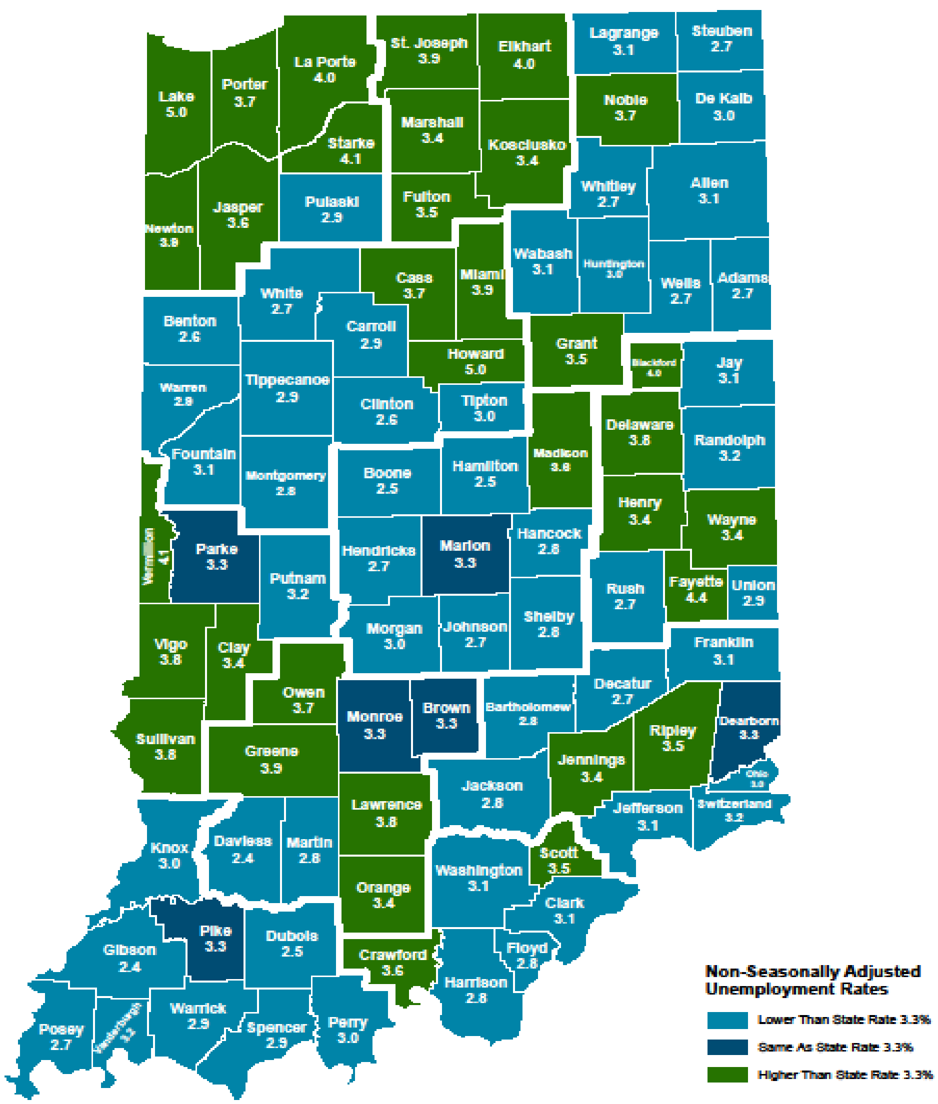
Source: *DWD, Local Area Unemployment Statistics*

2024: Over the first six months of 2024 the rate gradually increased towards 5.0%

INDIANA LABOR FORCE AND UNEMPLOYMENT 2024 (NON-SEASONALLY ADJUSTED)				
Year	Labor Force	Employment	Unemployment	Unemployment Rate
Jan	3,329,451	3,201,844	127,607	3.8
Feb	3,351,647	3,211,749	139,898	4.2
Mar	3,366,330	3,228,754	137,576	4.1
Apr	3,383,143	3,267,361	115,782	3.4
May	3,383,788	3,250,844	132,944	3.9
Jun	3,418,535	3,268,177	150,358	4.4

The map below illustrates the variances in unemployment rates across the state. 2023 continued a trend of low unemployment county.

County Unemployment Rates
2023 Annual Averages



Source: DWD, Local Area Unemployment Statistics

Unemployment Claims by Industry

The manufacturing and construction industries historically have been leading industries with unemployment claims.

Figure 6: Indiana 2023 Claims by Industry

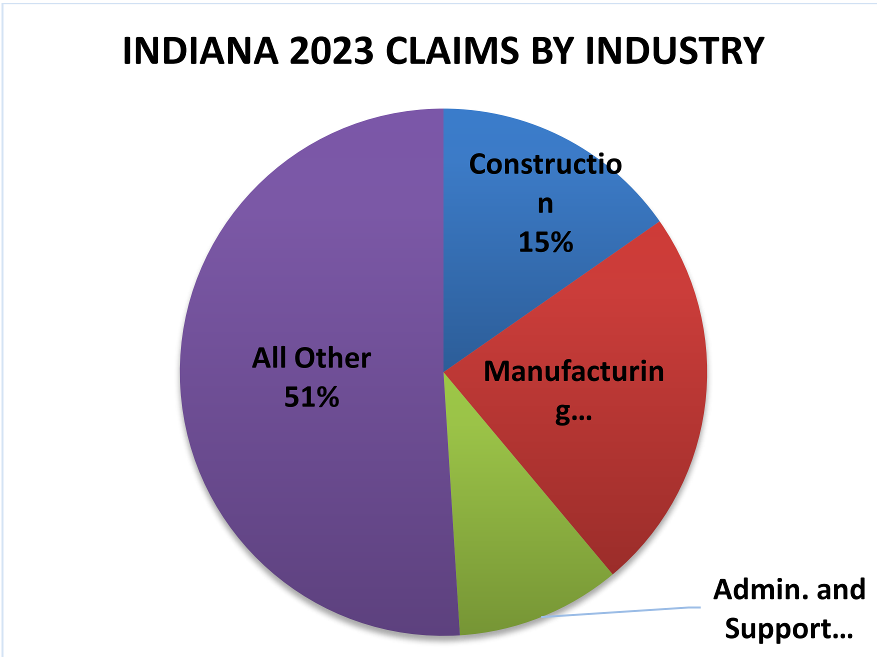
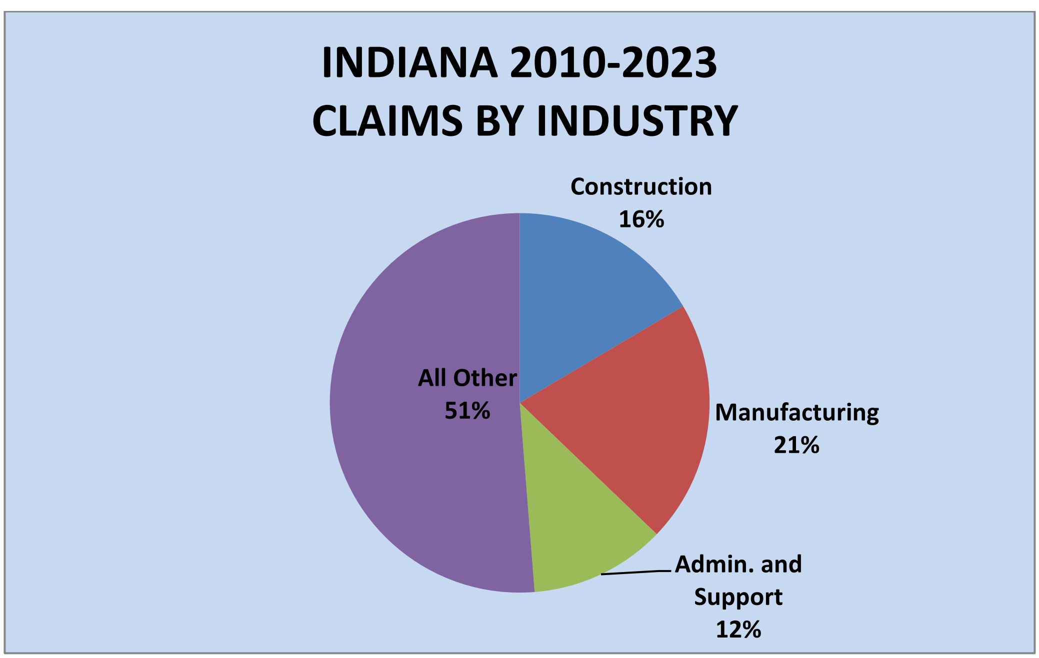


Figure 7: Indiana 2010-2021 Claims by Industry

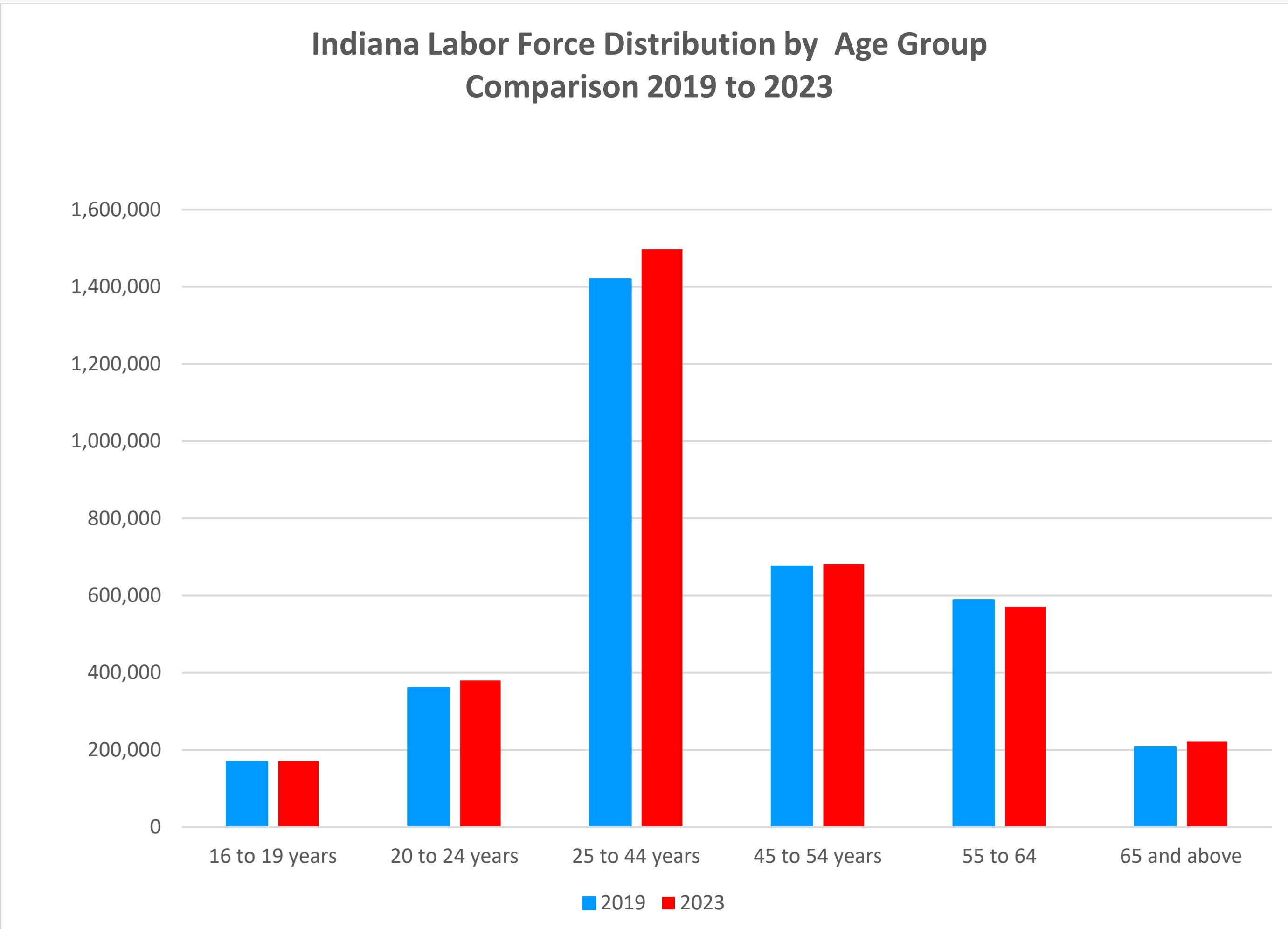


B2: Workforce and Industry Composition

Age Distribution of the Workforce

The age distribution of Indiana's workforce is shown in Figure 8. Between the 2019 and 2023 estimates of the age distribution, Indiana's workforce increased for 25 to 44 years of age as well as 65 and above.

Figure 8: Indiana Labor Force Distribution by Groups



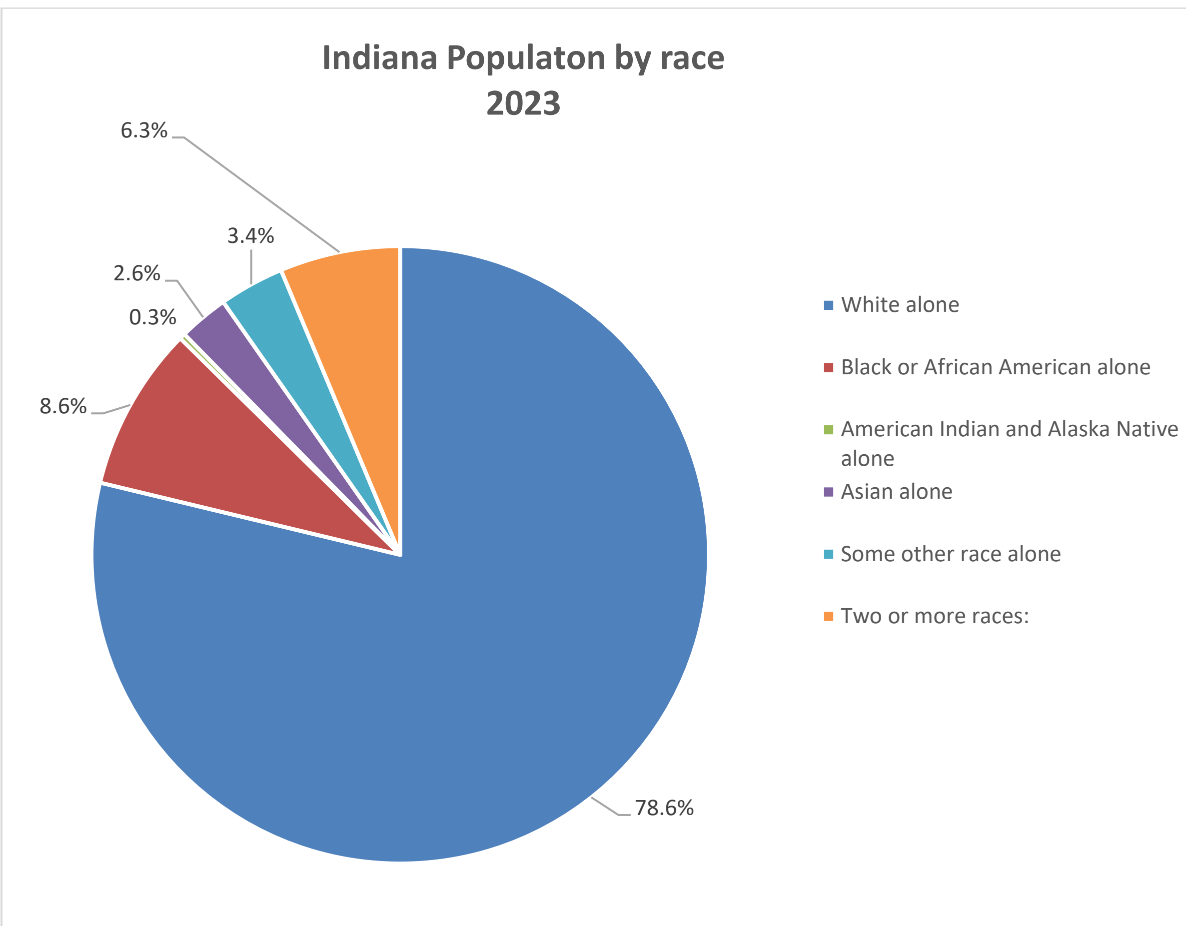
Source: 2019 & 2023 *ACS 1-year estimates*

		Civilian labor force						
	Population Group	Civilian non-institutional population	Labor Force	Percent of Labor Force	Employed	Employment to Population	Unemployed	Unemployment Rate
Indiana	Total	5,356	3,415	63.7	3,305	61.7	110	3.2
Indiana	Men	2,618	1,838	70.2	1,783	68.1	55	3.0
Indiana	Women	2,738	1,576	57.6	1,522	55.6	55	3.5
Indiana	White	4,530	2,857	63.1	2,777	61.3	81	2.8
Indiana	White, men	2,218	1,543	69.6	1,500	67.6	43	2.8
Indiana	White, women	2,311	1,314	56.9	1,277	55.2	37	2.8
Indiana	Black or African American	507	352	69.3	332	65.4	20	5.6
Indiana	Black or African American, men	243	179	73.7	171	70.5	8	4.4
Indiana	Black or African American, women	264	173	65.3	161	60.9	12	6.9
Indiana	Hispanic or Latino ethnicity	401	275	68.5	264	65.8	11	4.0
Indiana	Hispanic or Latino ethnicity, men	207	166	80.4	160	77.4	6	3.7

Source: CPS Annual Averages 2022

Please note some races and genders are omitted due to small sample size.

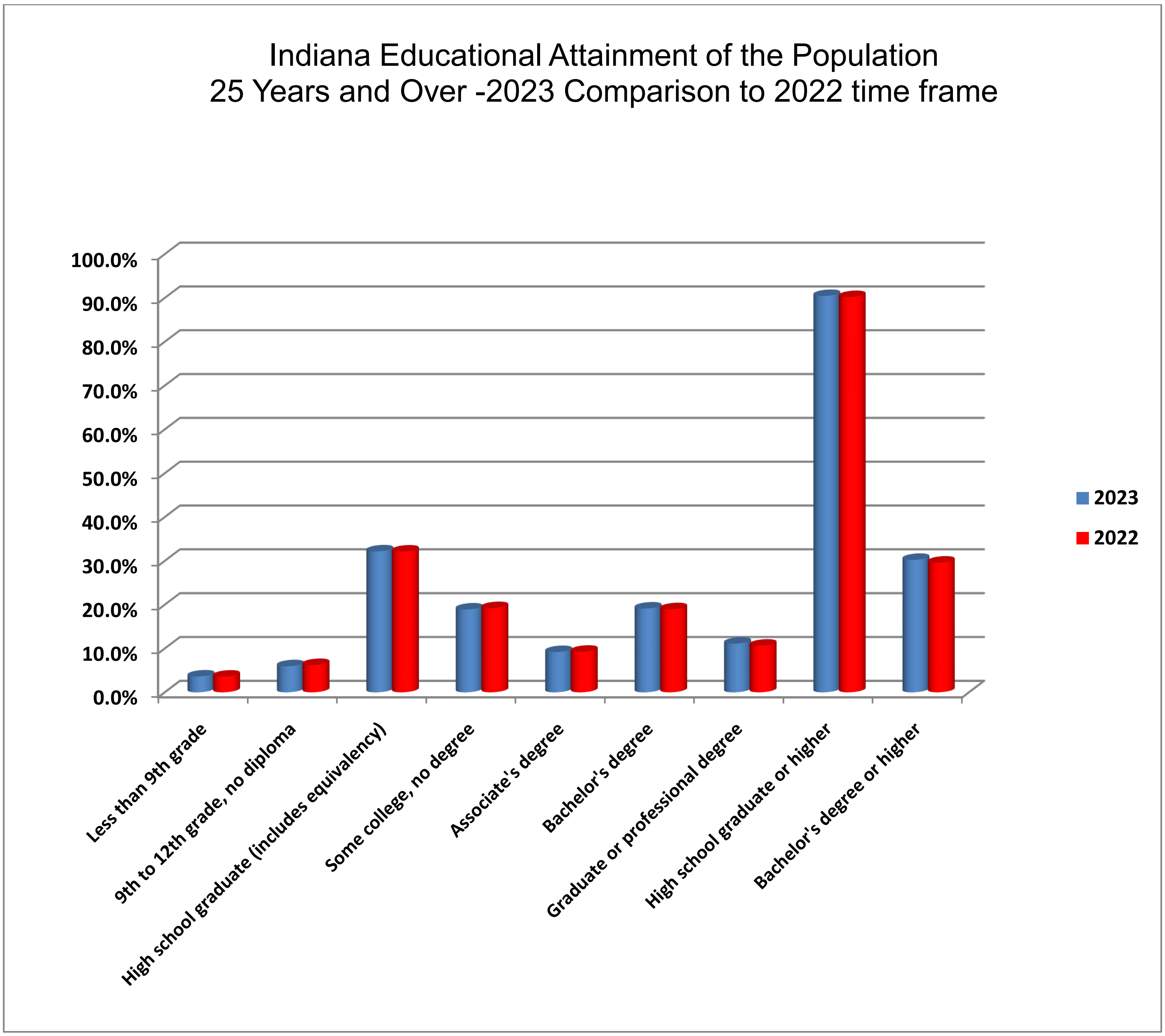
Indiana Total Population by Race – 2023



B3: Education

Rates of educational attainment continue to rise Indiana. In 2022 the percent of the population 25 and older with at least a Bachelor's degree rose to 30.2% compared to 2021 average of 29.6%. The percent of the population without a high school diploma fell from 11.0% in 2018 to 9.6% in 2021, but there are still significant portions of Indiana's population without a high school diploma. Certain areas of the state illustrate greater numbers at risk and in need of continued higher education programs.

Chart 6: Indiana Educational Attainment in from 2023 aggregate compared to 2022



Source: *Census 2022 and 2023 ACS1-year estimates*

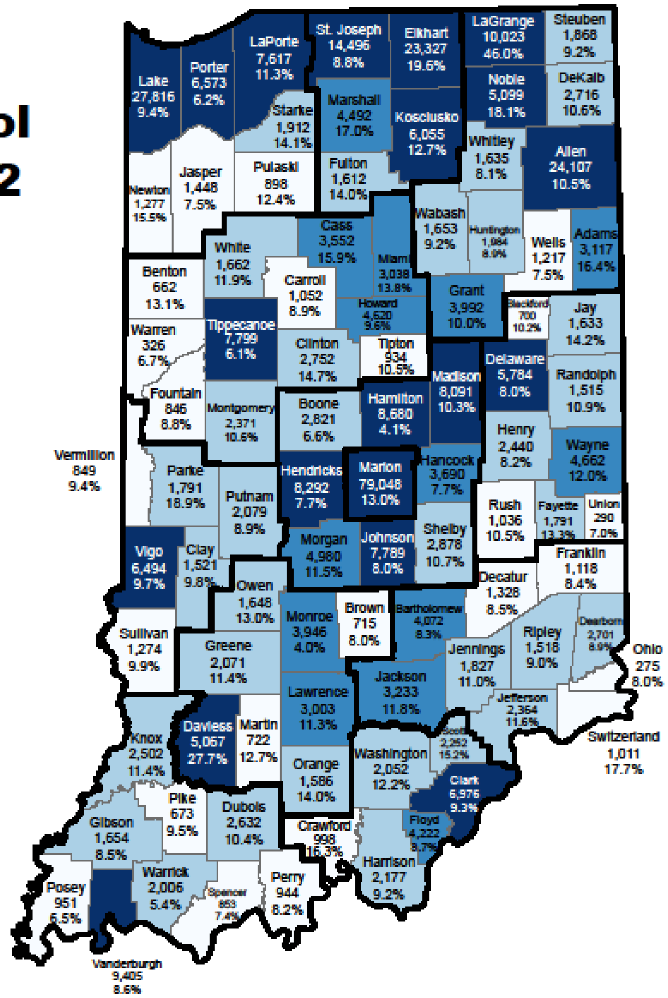
Adults Age 18 to 64 without a High School Diploma or HSE, 2022

Indiana = 423,178 adults
(10.3% of total age group)

Number of Adults

- 266 - 1,500 (25)
- 1,501 - 3,000 (33)
- 3,001 - 5,000 (14)
- 5,001 - 80,252 (20)
- Economic Growth Region

Labels also show the percent of adults in this age group without a high school diploma or high school equivalency (HSE).



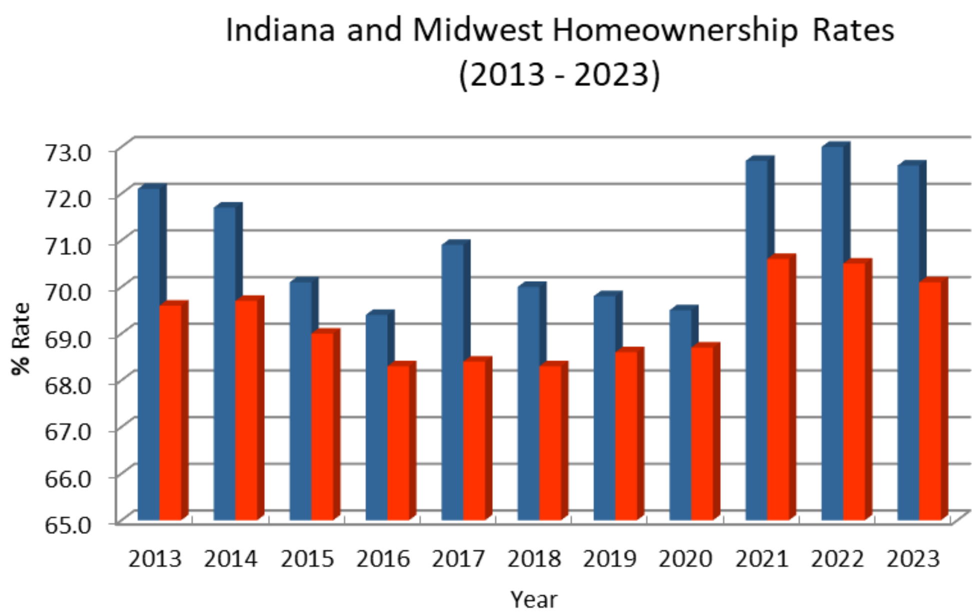
Map produced by the Indiana Business Research Center, using the American Community Survey 2018-2022 five-year estimates that were released by the U.S. Census Bureau in December 2023.

B4: Housing

Homeownership Rates

According to data from the U.S. Bureau of Census's Housing Vacancy Survey (HVS), from 2013 to 2023 Indiana maintained a higher percentage of homeownership in comparison to the Midwest region. In 2020 to 2023 Indiana had an increase in homeownership. In 2023, the state finished with a homeownership rate of 73.3% compared to the Midwest's 70.0%. For a year-by-year comparison, see Figure 7.

Figure 9: Indiana and Midwest Homeownership Rates 2013-2023



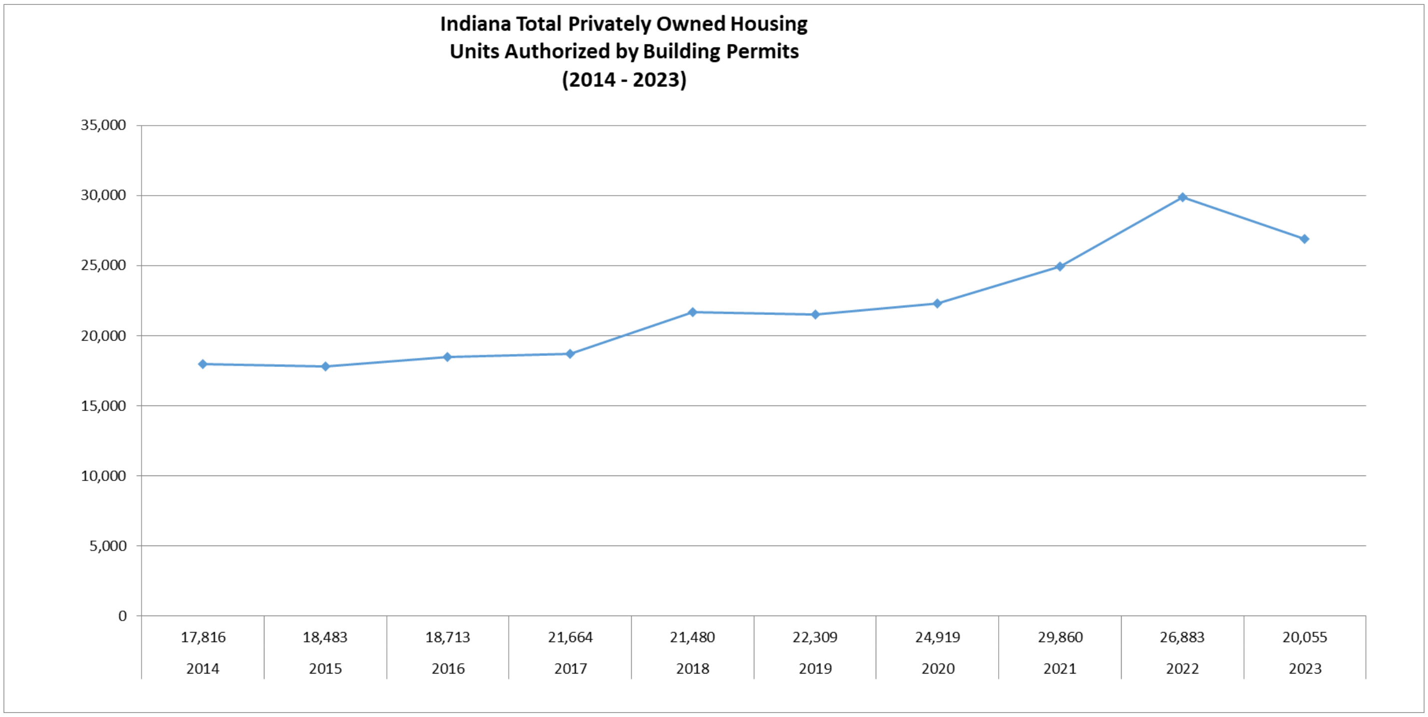
Source: *U.S. Bureau of Census, Housing Vacancy Survey (HVS)*

Midwest: Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota

Housing Permits

Indiana number of home building permits declined in 2023 for the second year in a row. In 2023 there were 20,055 home building permits which was the lowest number since 2016.

Figure 8: Indiana Total Privately Owned Housing Units Authorized by Building Permits, 2014-2023



Source: *U.S. Bureau of Census*