

INDIANA ECONOMIC ANALYSIS REPORT



INDIANA
DEPARTMENT OF
WORKFORCE
DEVELOPMENT

Fred Payne, Commissioner

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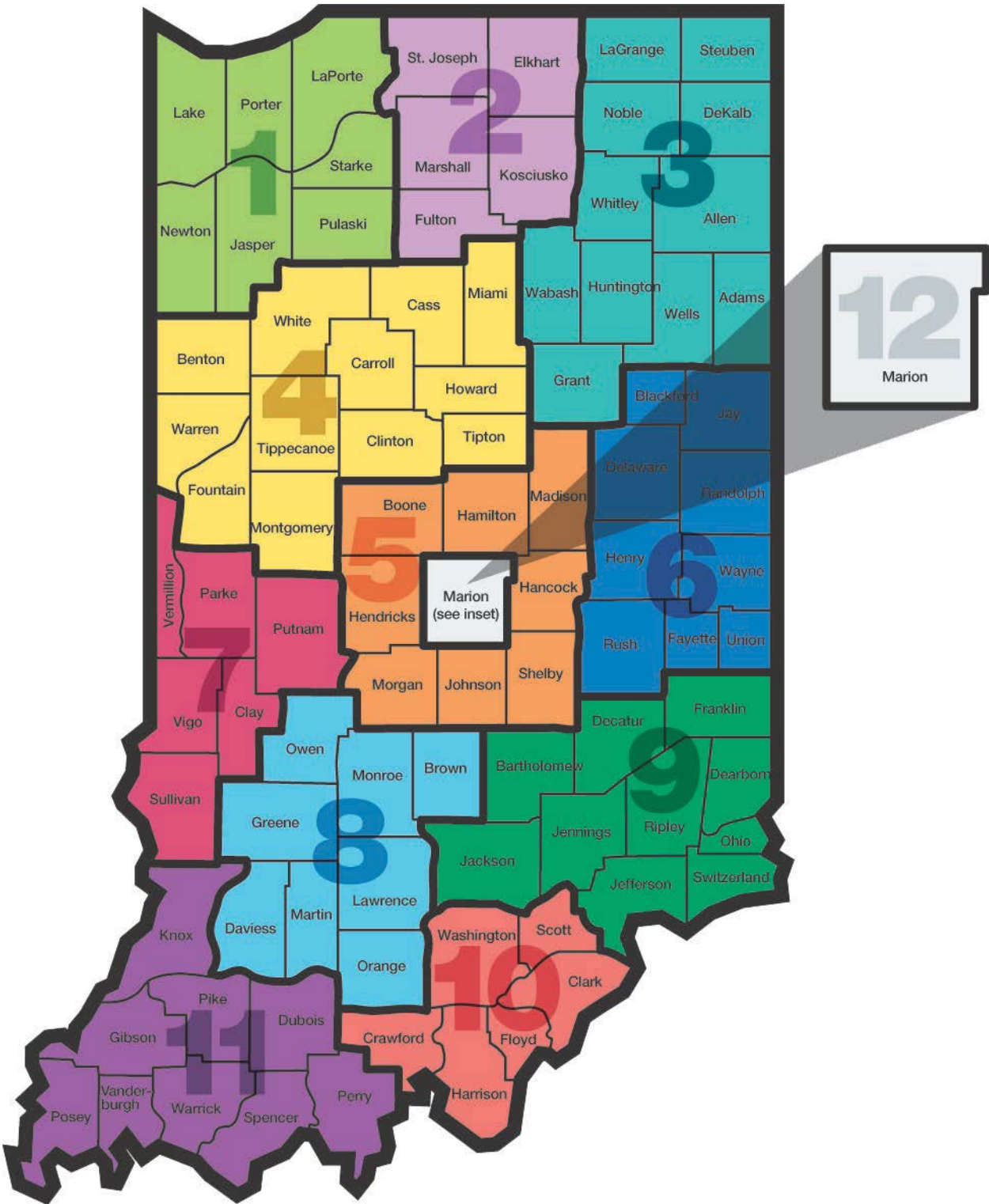
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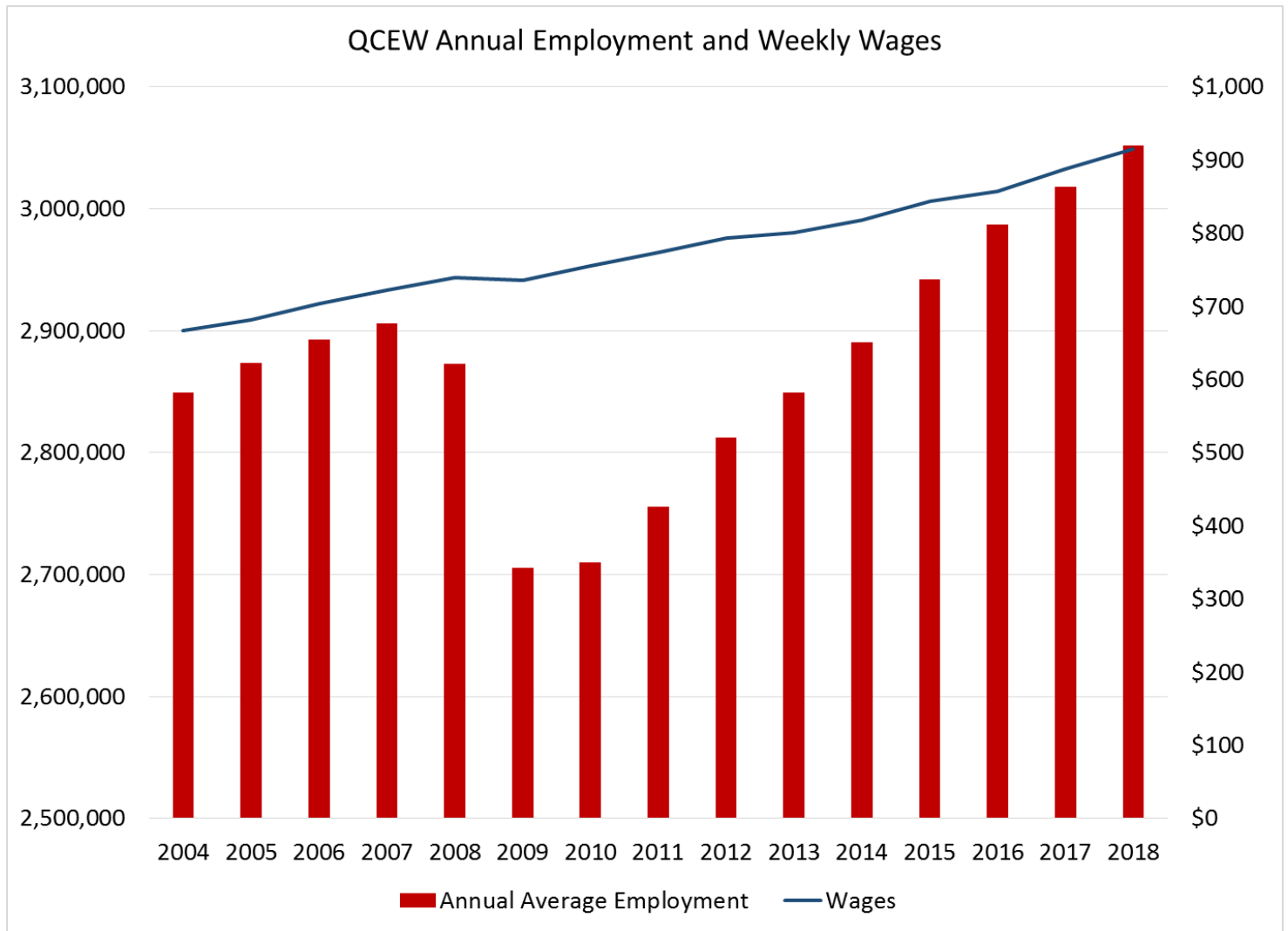
Economic Growth Regions



2018 Indiana Employment in Brief

Indiana has seen steady employment recovery following the Great Recession. The 2018 average annual employment level was 2,659,198 for private employment and 3,051,954 for all industries. This is up 12.8% since the depths of the 2009 recession. This is also the highest this number has ever been.

Average weekly wages have risen to \$915 for all Industries. The following charts summarize Indiana’s 2018 Employment from the Quarterly Census of Employment and Wages (QCEW) program.



Source: IDWD Quarterly Census of Employment and Wages

Summary: Current Employment Statistics and Labor Force 2018

2018 estimates from the Current Employment Statistics (CES) and Local Area Unemployment Statistics (LAUS) indicate growing private sector employment and falling unemployment. Indiana's 2018 labor force is up 43,662 from January 2018 to January 2019. The Labor Force has gained 152,152 since January 2015. Indiana's 2018 annual labor force stands at 3,381,233.

From January 2018 to January 2019 Indiana's Total Non-Farm employment grew by 38,900 and the private sector employment grew by 39,100. Key growth sectors over the past year include Private Educational and Health services which gained 16,200, Construction which gained 10,100 and Manufacturing which gained 5,500 jobs over that time.

Source: *Current Employment Statistics January 2019*

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

Industry	January 2018	December 2018	January 2019	Month Change	Y-to-D Change	Y-to-Y Change
Private Educational & Health Services	470.5	484.4	486.7	2.3	2.3	16.2
.....Private Educational Services	63.0	66.4	68.8	2.4	2.4	5.8
.....Health Care & Social Assistance	407.5	418.0	417.9	-0.1	-0.1	10.4
Manufacturing	539.6	544.3	545.1	0.8	0.8	5.5
Professional & Business Services	342.9	344.2	346.5	2.3	2.3	3.6
Financial Activities	138.0	138.4	138.1	-0.3	-0.3	0.1
Construction	139.3	147.0	149.4	2.4	2.4	10.1
Leisure and Hospitality	309.7	308.9	310.0	1.1	1.1	0.3
Trade, Transportation & Utilities	597.0	597.5	599.7	2.2	2.2	2.7
.....Trade	442.3	440.2	440.6	0.4	0.4	-1.7
.....Transportation, Warehousing & Utilities	154.7	157.3	159.1	1.8	1.8	4.4
All Other	167.1	167.4	167.7	0.3	0.3	0.6
Total Private	2,704.1	2,732.1	2,743.2	11.1	11.1	39.1
Government (Includes Public Schools & Hospitals)	428.9	429.0	428.7	-0.3	-0.3	-0.2
Total Nonfarm	3,133.0	3,161.1	3,171.9	10.8	10.8	38.9
United States Total Private	125,393.0	127,772.0	128,098.0	326.0	326.0	2,705.0

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Section A: Economic Analysis

A1: Current (2018) Employment

INDIANA EMPLOYMENT, FIRMS AND WAGES BY INDUSTRY 2018				
Industries	Average Annual Wage	Units	Total Annual Wages (in billions)	Average Employment
Total	\$47,590	167,638	\$145	3,051,941
Manufacturing	\$62,680	8,830	34	541,833
Health Care and Social Assistance	\$49,211	13,895	21.6	439,295
Retail Trade	\$28,001	20,426	9	321,197
Accommodation and Food Services	\$16,633	13,314	4.5	269,005
Educational Services	\$42,189	3,232	10.5	250,037
Administrative and Waste Services	\$33,016	9,719	6.3	190,068
Transportation and Warehousing	\$46,898	6,624	7.2	153,447
Construction	\$58,403	15,177	8.2	141,039
Public Administration	\$48,103	2,805	6.3	130,595
Wholesale Trade	\$68,431	13,942	8.3	120,796
Professional and Technical Services	\$69,691	18,835	8.4	120,004
Finance and Insurance	\$72,315	10,088	7.1	97,978
Other Services	\$32,912	13,140	2.9	88,277
Real Estate and Rental and Leasing	\$45,468	6,536	1.7	36,970
Information	\$53,870	2,399	1.9	35,783
Management of Companies and Enterprises	\$99,958	1,293	3.4	34,339
Arts, Entertainment, and Recreation	\$33,681	2,313	1.5	33,681
Utilities	\$93,017	524	1.5	15,854
Agriculture, Forestry, Fishing, and Hunting	\$40,109	1,893	0.6	15,292
Mining	\$70,468	322	0.41	5,943

Source: Quarterly Census of Employment and Wages

Major Industries, Composition

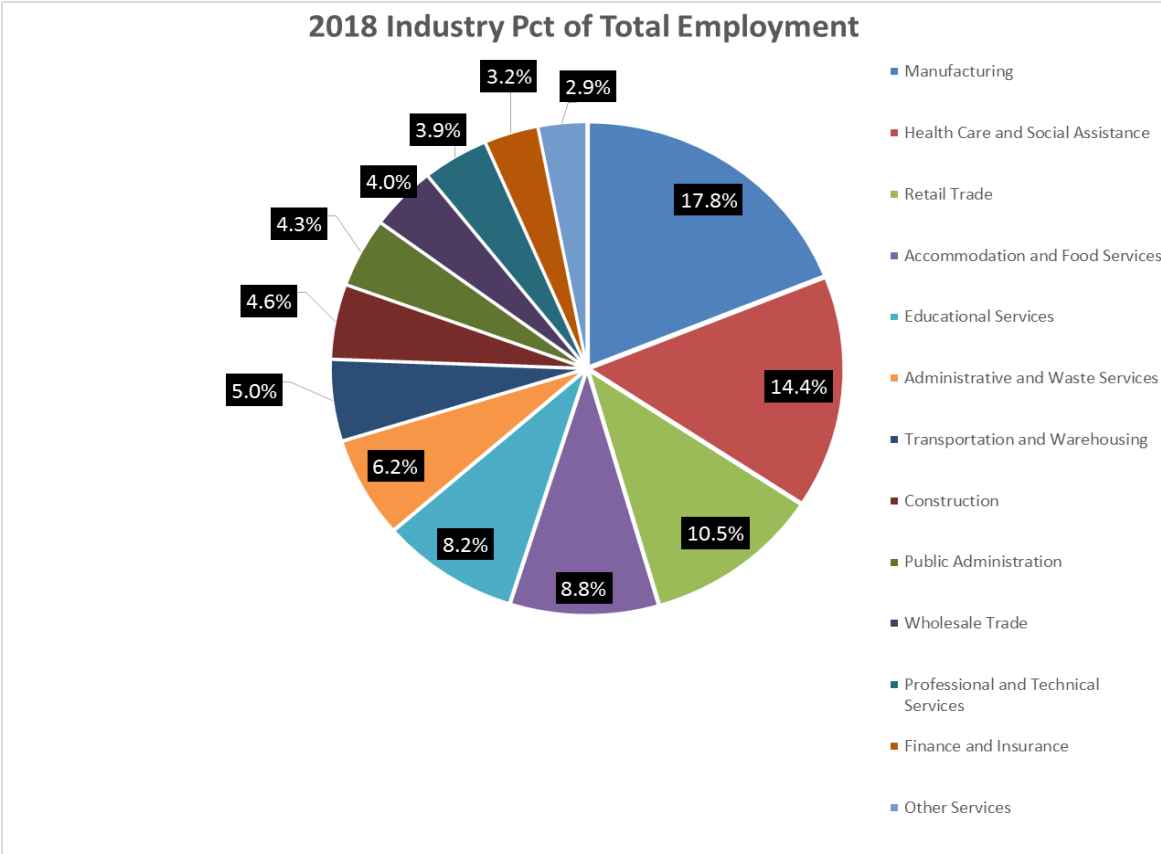


Table 1: Indiana Statewide Employment Change

INDIANA ANNUAL AVERAGE EMPLOYMENT BY INDUSTRY				
Sorted by Total Employment gains from 2013 to 2018				
Industry	2013	2018	Change	% Change
Total	<u>2,849,302</u>	<u>3,051,954</u>	<u>202,652</u>	7.1%
Transportation and Warehousing	130,878	153,443	<u>22,565</u>	17.2%
Professional and Technical Services	102,786	120,010	<u>17,224</u>	16.8%
Construction	123,279	141,039	<u>17,760</u>	14.4%
Management of Companies and Enterprises	31,037	34,339	<u>3,302</u>	10.6%
Manufacturing	491,754	541,851	<u>50,097</u>	10.2%
Real Estate and Rental and Leasing	33,731	36,969	<u>3,238</u>	9.6%
Health Care and Social Assistance	402,916	439,292	<u>36,376</u>	9.0%
Administrative and Waste Services	175,606	190,049	<u>14,443</u>	8.2%
Accommodation and Food Services	250,867	269,021	<u>18,154</u>	7.2%
Agriculture, Forestry, Fishing, and Hunting	14,292	15,293	<u>1,001</u>	7.0%
Other Services	82,838	88,277	<u>5,439</u>	6.6%
Finance and Insurance	92,628	97,978	<u>5,350</u>	5.8%
Arts, Entertainment, and Recreation	42,286	43,922	<u>1,636</u>	3.9%
Public Administration	125,897	130,595	<u>4,698</u>	3.7%
Wholesale Trade	116,978	120,781	<u>3,803</u>	3.3%
Retail Trade	316,358	321,197	<u>4,839</u>	1.5%
Educational Services	250,134	250,051	<u>-83</u>	0.0%
Utilities	16,117	15,854	<u>-263</u>	-1.6%
Mining	6,692	5,943	<u>-749</u>	-11.2%
Information	42,216	35,783	<u>-6,433</u>	-15.2%

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

Industry Overview

From 2013 to 2018 total employment grew by 202,652 jobs (7.1%) overall 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.

Over the most recent five year period of recovery over half (54%) of the increase in jobs was in three sectors in Indiana. Manufacturing has also seen the largest growth in raw numbers with gains of 50,097 or 25% of the total jobs gained since 2013. Health Care and Social Services increased by 36,376 jobs or 18% of the growth since 2013. Transportation and Warehousing gained 22,565 jobs or 11% of the jobs gained since 2013.

Industries showing the highest employment increases from 2013 to 2018

Manufacturing

Indiana manufacturers grew employment by 50,097 over this time frame. Manufacturing remains the largest increase in the recovery of total jobs of all industries. Manufacturing had a growth rate of 10.2% as an industry for Indiana and pays wages greater than average, with average weekly wages of \$1,205 during 2018.

Health Care and Social Assistance

Health care and social assistance facilities have grown by 9.0% in the last 5 years with an increase of 36,376 jobs. This sector growth includes physicians' offices, hospitals, and a wide range of providers. Wages in this industry increased by 11.6% in 2018 to an average weekly wage of \$1,036.

Transportation and Warehousing

Transportation and Warehousing has grown by 22,565 from 2013-2018. This industry has also been a target for economic development for several years. This industry grew by 17.2% during this five year period. The average weekly wages for Transportation and Warehousing were at \$902 for 2018.

Accommodation and Food Services

The Accommodation and Food service industries have grown at a rate of 7.2% since 2013, adding 18,154 jobs. While many of these jobs are lower or middle wage jobs, growth in these industries indicates growth in consumer spending and confidence and may indicate positive economic trends for the state. This industry includes many part time workers, and average weekly wages were just \$320 during 2018.

Construction

The Construction industry grew by 17,760 or 14.4% between 2013 and 2018. This sector grew slowing early in the economic recovery but has gained momentum in recent years. The average weekly wages for this industry are at \$1,123 for 2018.

Professional and Technical Services

Professional and Technical Services has shown healthy growth from 2013 to 2018. 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 17,224 jobs at a 16.8% gain over the past five years. The average weekly wages for 2018 for this sector are above the state average at \$1,340.

Administrative Support and Waste Services

This industry has grown by 14,443 over this five year period, at a rate of 8.2%. Gains have been dominated by growth in temporary employment services. Once concentrated in office support or manufacturing, recent growth indicates employment services now provide temporary labor to a wide variety of industries throughout the state. Wages for these industries vary widely, and the weekly averages may include part time workers. During 2018 the average weekly wage for this industry sector was \$635.

Industries showing decline from 2013 to 2018

The following industries are among those that have shown employment declines over the time frame from 2013 to 2018. This is based on the annual average estimates from QCEW, and includes public and private jobs.

Educational Services

This sector declined slightly, losing 83 jobs over this five year period. These jobs pay an average weekly wage under the statewide average at \$811 in 2018. Employment in this industry includes private schools, and may also include early education programs.

Utilities

Utilities is one of the smaller industries in Indiana. From 2013-2018 the sector declined by 263 jobs and a -1.6%. Utilities are also one of the higher paying industries and had a weekly wage of \$1,789 in 2018.

Mining

Mining is the smallest industrial sector in Indiana. Over the 2013 to 2018 time frame this industry lost 749 jobs or a loss of -11.2% of its total. Mining does have a very high average wage of \$1,355 but wage growth has also stalled in this industry.

Information

The information sector lost 6,433 jobs at a rate of 15.2% decline from 2013 to 2018. 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 \$1,036 during 2018.

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 on the next page shows the historical annual averages from 2004-2018 with 2018 showing a 3.1% increase from 2017.

Table 2a shows percentage growth of wage changes over the last five years (2013-2018). Over this time several sectors experienced a more dramatic percentage change while other sectors were modest in their increase. The highest increases were Information wages increasing by 27.6% and Health Care and Social Services increasing 25%. Other industries with healthy wage increases included Real Estate and Rental and Leasing at 21.2%, Finance and Insurance as well as Accommodation and Food Services both at 18.5%, and Administrative Support and Waste Services at 18.1%.

The slowest percentage wage increases from 2013-2018 were in Manufacturing (11.1%), Construction (9.1%), and Mining (4.7%).

Table 2: Indiana Statewide Total Wages

Year	Employment	Average Weekly Wage	% Chg
2004	2,848,873	\$667	3.9%
2005	2,873,795	\$681	2.1%
2006	2,892,419	\$703	3.2%
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	3,051,953	\$915	3.1%

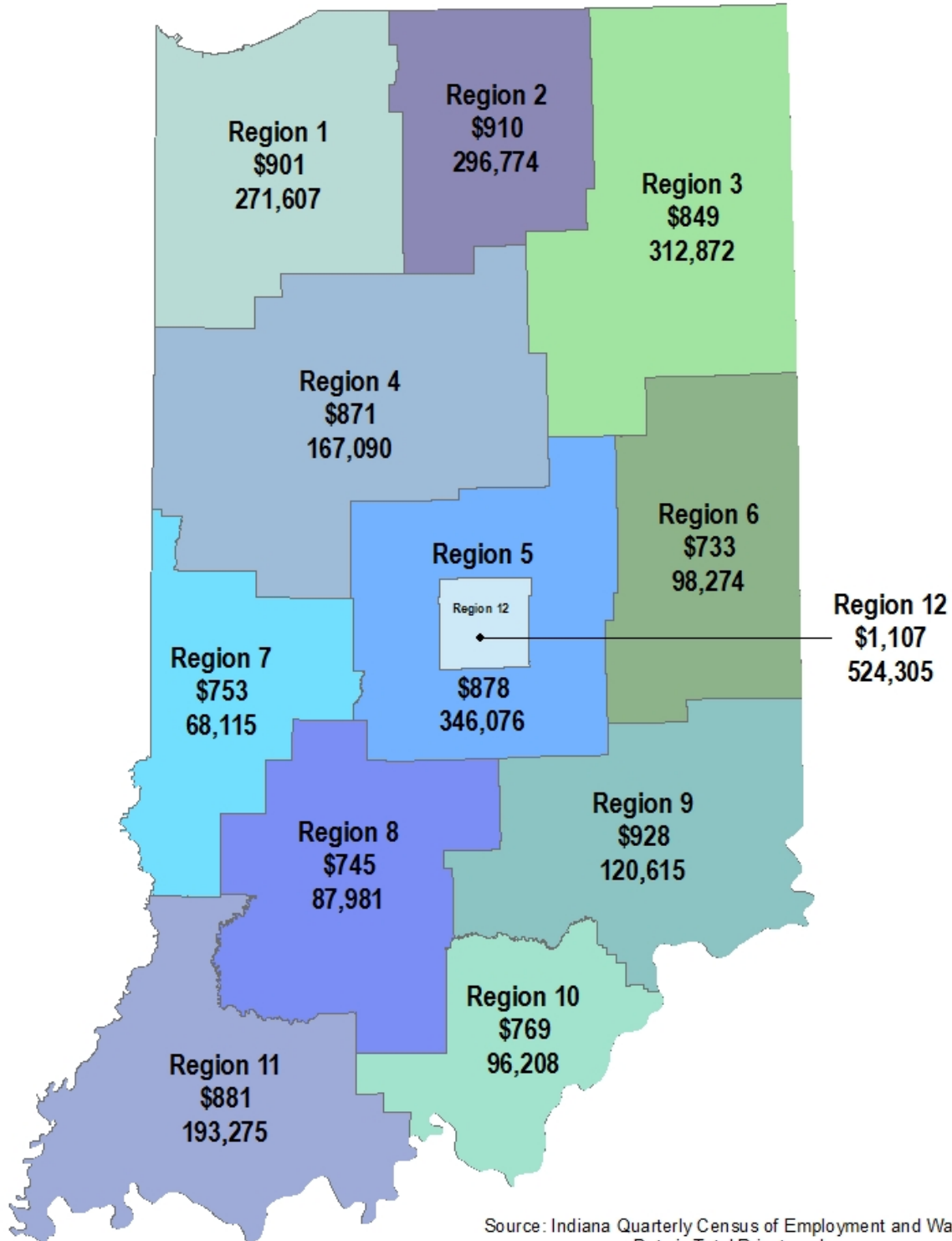
Source: DWD Quarterly Census of Employment and Wages, data not seasonally adjusted

Table 2a: Indiana Statewide Data

2018 INDIANA AVERAGE WEEKLY WAGES BY INDUSTRY (comparison to 2013 & 2018)					
NAICS Code	2013	2017	2018	% Change From 2013	% Change From 2017
Indiana State Totals	\$801	\$888	\$915	14.2%	3.1%
Management of Companies and Enterprises	\$1,641	\$1,884	\$1,922	17.1%	2.0%
Utilities	\$1,578	\$1,724	\$1,789	13.3%	3.8%
Finance and Insurance	\$1,173	\$1,332	\$1,391	18.5%	4.4%
Mining	\$1,295	\$1,368	\$1,355	4.7%	-0.9%
Professional, Scientific, Technical	\$1,180	\$1,301	\$1,340	13.5%	3.0%
Wholesale Trade	\$1,114	\$1,268	\$1,316	18.1%	3.8%
Manufacturing	\$1,085	\$1,175	\$1,205	11.1%	2.6%
Construction	\$1,030	\$1,098	\$1,123	9.1%	2.3%
Information	\$812	\$1,026	\$1,036	27.6%	1.0%
Health Care and Social Services	\$828	\$928	\$1,036	25.0%	11.6%
Public Administration	\$822	\$892	\$946	15.2%	6.1%
Transportation & Warehousing	\$798	\$878	\$902	13.0%	2.7%
Real Estate and Rental and Leasing	\$722	\$845	\$874	21.2%	3.5%
Educational Services	\$728	\$801	\$811	11.4%	1.3%
Agriculture, Forestry, Fishing and Hunting	\$658	\$737	\$771	17.3%	4.7%
Arts, Entertainment, and Recreation	\$570	\$625	\$648	13.7%	3.6%
Admin, Support, Waste	\$537	\$612	\$635	18.3%	3.7%
Other Services (Except Public Administration)	\$542	\$614	\$633	16.8%	3.1%
Retail Trade	\$470	\$527	\$538	14.6%	2.2%
Accommodation and Food Services	\$270	\$307	\$320	18.5%	4.2%

Source: DWD Quarterly Census of Employment and Wages

**Indiana Economic Growth Regions
2018 Annual Averages
Employment and Weekly Wage**



Source: Indiana Quarterly Census of Employment and Wages
Data is Total Private only
Published September 2019

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 2018-2020 Short Term Projections and 2016-2026 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)

Table 3: Five Flame INDemand Jobs

SOC CODE	SOC TITLE	Final Score	Flames
13-1111	Management Consultants	5	*****
11-9111	Medical and Health Services Managers	5	*****
15-1132	Software Developers, Applications	5	*****
11-3031	Financial Managers	5	*****
29-1141	Registered Nurses	5	*****
11-1021	General and Operations Managers	5	*****
17-2112	Industrial Engineers	5	*****
29-1123	Physical Therapists	5	*****
29-1171	Nurse Practitioners	5	*****
47-2152	Plumbers, Pipefitters, and Steamfitters	5	*****
13-2011	Accountants and Auditors	5	*****
17-2141	Mechanical Engineers	5	*****
29-1069	Physicians and Surgeons, All Other	5	*****
41-3099	Sales Representatives, Services, All Other	5	*****

INContext: A Publication of the Indiana Business Research Center at Indiana University's Kelley School of Business

The Role of the Occupational Employment Statistics Survey in Shaping Workforce Data

ALEXIA MAGGOS, *Senior Labor Analyst, Research and Analysis division, Indiana Department of Workforce Development*

The employment and wage data collected via the OES survey are essential labor market indicators with a variety of uses.

Knowing which occupations are growing or declining, where jobs are being created, what skills are in demand, how much someone can expect to earn in a given occupation, and what educational attainment is needed to advance in a career field are all fundamental data points that (should) drive consumer decision making and career counseling, from K-16 through retirement. At the [Indiana Department of Workforce Development \(IDWD\)](#), this is exactly the perspective and labor market information we produce and use to structure effective education and training programs and share publicly through [IndianaCareerReady.com](#), so Hoosiers can live their best lives.

In providing these economic perspectives, having accurate and timely data is paramount to informing business decisions, career choices and training programs for employers, job seekers and other interest groups. Two notable sources of the data that IDWD collects and analyzes come directly from employers via Quarterly Census of Employment and Wages (QCEW) reports and Occupational Employment Statistics (OES) surveys. Nationally, state workforce agencies (e.g., IDWD) work cooperatively with the U.S. Bureau of Labor Statistics (BLS) to collect these data points, estimating employment and wages for over 800 occupations.

Through the QCEW, employers report industry-level employment and wage data for each of their employees as is required for the administration of the Unemployment Insurance Program. The OES survey samples a portion of these same employers to dive deeper into their quarterly wage reports, gathering more occupational-specific information. All states, including the District of Columbia, Puerto Rico, Guam and the Virgin Islands, distribute the OES survey semi-annually to nonfarm establishments. To reduce respondent burden, establishments are only surveyed at most once every three years.

What data are collected

The OES survey collects wage and employment estimates. Defining these two terms is critical for gathering accurate, relevant data. Wages are defined by the BLS as any straight-time gross pay, including:

- **Base rates** – payment for work performed during a specified time
- **Commissions** – payment calculated as a percentage of sales
- **Cost-of-living allowances** – a change in wages utilizing a cost-of-living formula
- **Deadheading pay** – payment for workers' time spent unloading/loading a return trip
- **Guaranteed pay (also known as "make-up pay")** – this is the minimum payment to an employee on an incentive system (e.g., if a worker is guaranteed payment for two hours of work, but their day only consisted of 1.5 hours of work, they are still paid for the two hours)
- **Hazard pay (also known as "add-on to base rate")** – payment based on working conditions
- **Incentive pay (also known as "pay-for-performance")** – compensation to a worker based on performance
- **Longevity pay** – payment that an employee receives for seniority with an employer
- **Over-the-road pay** – payment by the mile
- **Piece rates** – payment based on a constant pay rate per unit of production
- **Portal-to-portal rates** – payment for travel to a job
- **Production bonuses** – payment based on excess production of a quota/completion of a job within a standard time

- **Tips** – voluntary payment in addition to an employee’s base rate for services provided. Any other wages or benefits are excluded. Employment, on the other hand, includes both part- and full-time workers paid either a wage or a salary.

The OES process

There is a confidentiality aspect that is central to the BLS’s mission, wherein the data collected from the OES survey are used only for statistical purposes. As an example, consider if a state workforce agency received wage and employment data from the only pharmaceutical sales company in County X, and publishing this data would reveal the wage and employment information of this company. To ensure confidentiality, prior to releasing any statistical data of County X, the data would be thoroughly reviewed by the BLS (looking at geographic location, company size and industry code) to ensure no business or individual can be identified. Furthermore, respondents are protected under federal laws like the [Confidential Information Protection and Statistical Efficiency Act](#), the [Privacy Act](#), the [Workforce Innovation and Opportunity Act](#), and the [Trade Secrets Act](#).

The OES process

Occupation coding

Once the raw employment and wage data are collected from employers, state workforce agencies manually analyze and classify each job reported into a detailed occupation as required by the Standard Occupational Classification (SOC) system. This coding is an important function of the OES survey because employers may have differing job titles for the same occupation. As an example, a labor analyst from a state workforce agency may come across the following job titles in an OES survey panel: concrete foreman, construction area manager, construction superintendent and general contractor. While these job titles differ among employers, the labor analyst may contact the employer to clarify day-to-day job duties of the reported job title. The analyst may find that these different job titles have common tasks that align with the all-encompassing standard occupational code for construction managers (SOC Code 11-9021).

SOC codes (a BLS statistical standard) provide a classification system standardizing all workers across the nation. There are 867 *detailed* occupations, but workers are classified at four levels of aggregation to determine the detailed occupation. Using the SOC code 11-9021 (construction managers):

- 11-9021 indicates that the occupation falls within the *major group* of “management occupations.”
- 11-9021 indicates the *minor group* of “other management occupations.”
- 11-9021 indicates the *broad occupation* of “construction managers.”
- 11-9021 indicates the *detailed occupation* of “construction managers.”

Estimating employment

Once categorized into appropriate standardized occupations, OES then provides these wage and employment estimates by occupation for specific industries, individual states, and metropolitan and nonmetropolitan areas. *Industry-specific* estimates refer to wage and employment data within one specific industry. Because certain industries employ occupations that may not be found in other industries, the staffing pattern provides an industry-specific resource both at the national and state levels. **Table 1** looks at the national-level wage and employment data for the top five occupations that have the highest percentage of jobs within the manufacturing industry.

Table 1: Top five occupations in U.S. manufacturing, 2017-2018

SOC	Occupation	Employed in industry, 2017	Employed in industry, 2018	Median hourly earnings	Percent of total jobs in industry, 2018
51-2098	Assemblers and fabricators, all other, including team assemblers	959,185	956,023	\$14.83	7.50%
51-1011	First-line supervisors of production and operating workers	445,352	452,165	\$28.02	3.50%
51-9061	Inspectors, testers, sorters, samplers and weighers	336,746	334,460	\$18.20	2.60%
51-4041	Machinists	315,800	321,982	\$20.45	2.50%
53-7062	Laborers and freight, stock, and material movers, hand	310,372	314,881	\$13.10	2.50%

Source: Data was collected from EMSI's Staffing Pattern function, which primarily utilizes the OES staffing pattern

Further information provided at the state level are cross-industry occupational employment and wage estimates. *Cross-industry* estimates differ from industry-specific estimates, as these data refer to wage and employment data in all industries in which an occupation is reported. As an example, a machinist (SOC code 51-4041), while primarily found in the manufacturing industry (82.1 percent), also was reported in administrative, support, waste management and remediation services; wholesale trade; other services (including equipment and machinery repairing industries, among others); and professional, scientific and technical services; as well as other industries not shown. While **Table 2** looks at the national level, these data are also available at the state and metro levels.

Table 2: Machinist cross-industry U.S. staffing pattern, 2017-2018

NAICS	Industry	Percent of occupation in industry
31	Manufacturing	82.1%
56	Administrative & support & waste management & remediation services	4.8%
42	Wholesale trade	4.1%
81	Other services (except public administration)	2.0%
54	Professional, scientific and technical services	1.2%

Source: Data was collected from EMSI's Inverse Staffing Pattern function, which primarily utilizes the OES staffing pattern

Once collected, these data are then aggregated to indicate two- and 10-year wage and employment projections for each occupation.

The Indiana Department of Workforce Development also provides the data for the state's 11 economic growth regions,¹ which are a grouping of counties based on social and economic ties like commuting partners, demographics, similar industries and other quantifiable factors. (For more information, visit www.hoosierdata.in.gov/.)

OES survey limitations

There are limitations to the data collected through the OES survey. This survey is not a(n):

- Time demographics survey
- Estimation for total establishment employment
- Tool to assess unemployment for specific occupations
- Tool to assess job vacancies
- Collection of self-employed individuals
- Collection of public/private ownership data (with the exception of industry-specific estimates for a select few states)
- Collection of benefits associated with occupations

Most notably, however, is that the **OES survey is not a time series**. A time series functions as a data collection method that observes one (or multiple) variable(s) sequentially. Because the OES survey collects data semi-annually and does not collect from the same establishments for at least three years, the survey is merely a *stratified random sample* to produce estimations of employment and wages by occupation.

Uses of OES data

Employment and wage data have been essential labor market indicators, and having accurate historical data and statistically sound projections aids in thorough analysis of declining and growing industries and occupations. With data being released in late March or early April each year, employers, job seekers, state and local workforce

development boards, educational institutions, and policymakers can use it in a variety of ways to support and sustain a state's economy.

For **employers**, these data provide a benchmark comparison among wages paid by occupation, industry and other areas. This free resource provided to employers allows them to identify the competitiveness of the salaries they offer and make informed decisions regarding compensation and other benefits packages for employees.

For **job seekers**, having access to their region's in-demand and high-paying occupations helps these individuals focus their training and job applications. These individuals, whether just starting their career or transitioning careers, can then prepare for these occupations by assessing their current skill level in relation to skills or education required for entry.

For **state and local workforce development boards**, the OES data are a strategic tool used for business and workforce attraction planning. As mandated by the Workforce Innovation and Opportunity Act (WIOA)—a federal act helping job seekers connect to education, training, supportive services and employment opportunities (which in turn provides employers with skilled workers to compete in a global economy)—an imperative function of a state workforce development board is to develop, implement and modify a four-year state plan. To update these four-year plans (which are intended to help align the workforce's education and skills to meet the needs of employers), state boards utilize wage and employment data as provided by the OES survey. Similarly, local boards use these data to develop regional career pathways that guide job seekers toward education and training within high-paying, in-demand occupations.

For **educational institutions**, employment and wage projections extending two and 10 years into the future shape current and future curriculum and work-based learning opportunities. Work-based learning opportunities present themselves as partnerships among institutions and employers operating within in-demand industries (informed by OES data). These partnerships provide students relevant hands-on work experience so they are prepared to enter into these occupations post-graduation.

For **policymakers**, using available employment and wage data provides a clear picture of current and future workforce needs, and directs policymakers toward aligning funding streams to meet the needs of employers. As an example, Indiana's Workforce Ready Grant—offered by the Commission for Higher Education and the Department of Workforce Development—provides tuition assistance to local Indiana community colleges and eligible training providers so students can gain skills and be prepared for in-demand occupations. The qualifying certificate programs were selected using data that OES collects and aggregates like volume of short- and long-term projected demand and growth, opening wages, and real-time employer demand.

Conclusion

The employer-driven data collected through the OES survey directly informs policy decisions that seek to benefit employers and inform job seekers. Furthermore, through employers' voluntary survey contributions, state workforce agencies work collaboratively in a public-private partnership to gather and report a state's real and accurate employment and wage data that directly influence education, workforce and economic decision-making, which benefits employers and job seekers alike.

References

- BLS confidentiality: www.bls.gov/bls/confidentiality.htm
- Employment projections: www.bls.gov/emp/
- EMSI: www.economicmodeling.com/
- Longitudinal data from the Occupational Employment Statistics survey: www.bls.gov/opub/mlr/2016/article/longitudinal-data-from-the-occupational-employment-statistics-survey.htm
- O*NET, Construction Managers: www.onetonline.org/link/summary/11-9021.00
- QCEW: www.bls.gov/cew/
- SOC codes: www.bls.gov/soc/
- Workforce Ready Grant: www.in.gov/che/4773.htm

Section B: Workforce Analysis

B1: Labor Force

Estimates

Indiana's unemployment rate dropped from a 10 year peak of 10.4% in 2010, to 3.4% annually in 2018. This trend below 4.0% unemployment has continued into 2018.

Table 4: Indiana Labor Force and Unemployment, non-seasonally adjusted 1999-2018

INDIANA LABOR FORCE AND UNEMPLOYMENT Non-Seasonally Adjusted 1999 - 2018				
Year	Labor Force	Employment	Unemployment	Unemployment Rate
1999	3,124,851	3,029,834	95,017	3.0
2000	3,126,379	3,029,073	97,306	3.1
2001	3,140,899	3,007,507	133,392	4.2
2002	3,171,168	3,006,811	164,357	5.2
2003	3,182,988	3,014,655	168,333	5.3
2004	3,167,797	2,998,068	169,729	5.4
2005	3,205,436	3,029,959	175,477	5.5
2006	3,235,110	3,072,113	162,997	5.0
2007	3,207,687	3,061,042	146,645	4.6
2008	3,232,097	3,041,828	190,269	5.9
2009	3,193,989	2,864,985	329,004	10.3
2010	3,175,192	2,845,608	329,584	10.4
2011	3,181,991	2,891,945	290,046	9.1
2012	3,169,835	2,905,549	264,286	8.3
2013	3,188,406	2,944,275	244,131	7.7
2014	3,224,772	3,032,497	192,275	6.0
2015	3,266,520	3,108,719	157,801	4.8
2016	3,328,893	3,181,898	146,995	4.4
2017	3,336,655	3,218,115	118,540	3.6
2018	3,381,713	3,265,580	116,133	3.4

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

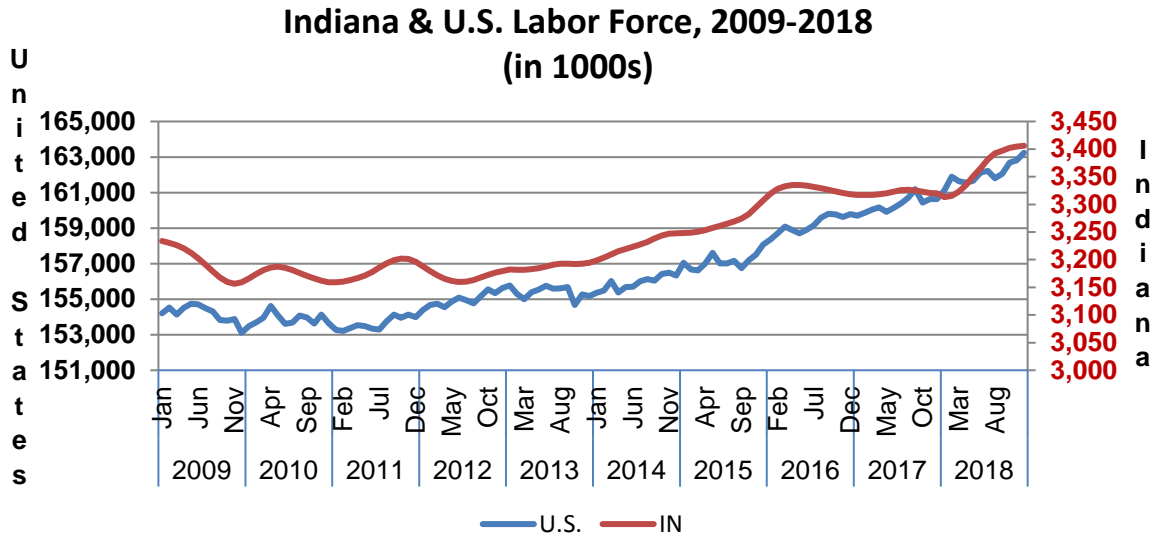


Table 5: Indiana Regional Labor Force Data

INDIANA ECONOMIC GROWTH REGIONS (EGRs), LABOR FORCE AND UNEMPLOYMENT (N.S.A.), 2018				
EGR	Labor Force	Employment	Unemployed	Unemployment Rate
EGR 1	407,803	389,267	18,536	4.5
EGR 2	329,131	319,034	10,097	3.1
EGR 3	387,045	375,045	12,000	3.1
EGR 4	255,948	247,366	8,582	3.4
EGR 5	546,556	530,328	16,228	3.0
EGR 6	156,663	150,783	5,880	3.8
EGR 7	101,310	96,955	4,355	4.3
EGR 8	151,947	146,442	5,505	3.6
EGR 9	171,778	166,289	5,489	3.2
EGR 10	152,530	147,224	5,306	3.5
EGR 11	230,304	223,272	7,032	3.1

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

Unemployment Rates

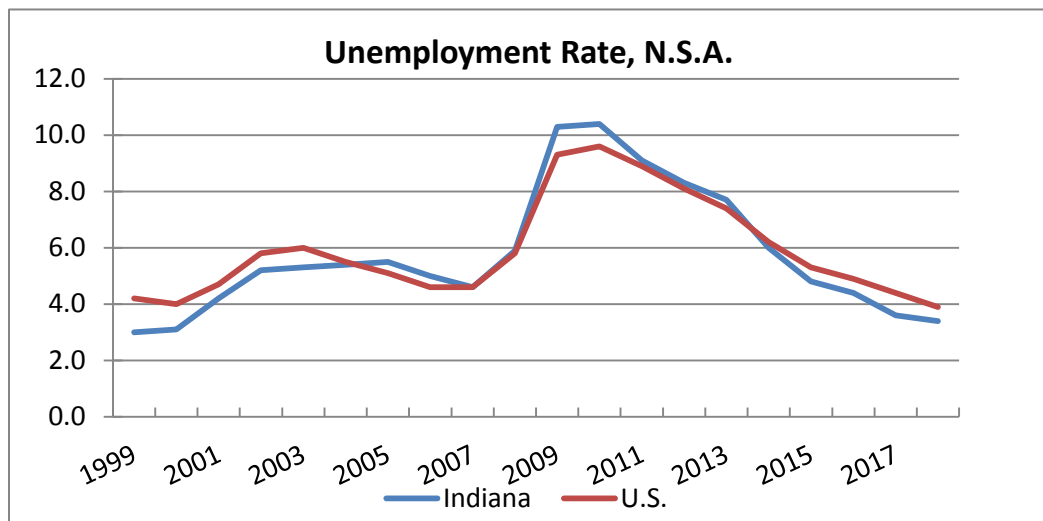
Over the decade from 1998 to 2004, Indiana’s unemployment rate was below the national average. Although a national recession was a contributor to a rate climb beginning in 2001, the Hoosier state still managed to stay below the nation for the next four years. The unemployment rate went above the national average in 2005-2006. During the Great Recession Indiana was above the national rate much of the time. Since 2014 has been Indiana below the US rate. Table 5 and chart 5 on the next page illustrate how Indiana’s unemployment rate has compared to the nation as a whole over this time frame.

Unemployment rates continued to fall statewide in 2018, with the lowest unemployment levels in Economic Growth Region 5 at 3.0% and Region 2, Region 3 and Region11 tied with 3.1% unemployment.

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

2018 INDIANA UNEMPLOYMENT RATES, NON-SEASONALLY ADJUSTED (ANNUAL AVERAGES OF MONTHLY DATA)		
Year	Indiana	U.S.
1999	3.0	4.2
2000	3.1	4.0
2001	4.2	4.7
2002	5.2	5.8
2003	5.3	6.0
2004	5.4	5.5
2005	5.5	5.1
2006	5.0	4.6
2007	4.6	4.6
2008	5.9	5.8
2009	10.3	9.3
2010	10.4	9.6
2011	9.1	8.9
2012	8.3	8.1
2013	7.7	7.4
2014	6.0	6.2
2015	4.8	5.3
2016	4.4	4.9
2017	3.6	4.4
2018	3.4	3.9

Figure 5: Unemployment Rate, Non-Seasonally Adjusted



2018 showed gains of 44,910 annually in Labor Force over 2017. Since the trough of July 2009, the Labor Force has increased 201,300.

Unemployment Claims by Industry

The manufacturing and construction industries have historically have been leading industries with unemployment claims. This is still true but in the post-recession era construction has surpassed manufacturing. From 2009-2018 manufacturing accounted for over almost a fourth of all claims and in 2018 stood at 24%. Construction from 2009-2016 was at 18% but for 2018 alone it had risen to 24% of all claims.

Figure 6: Indiana 2018 Claims by Industry

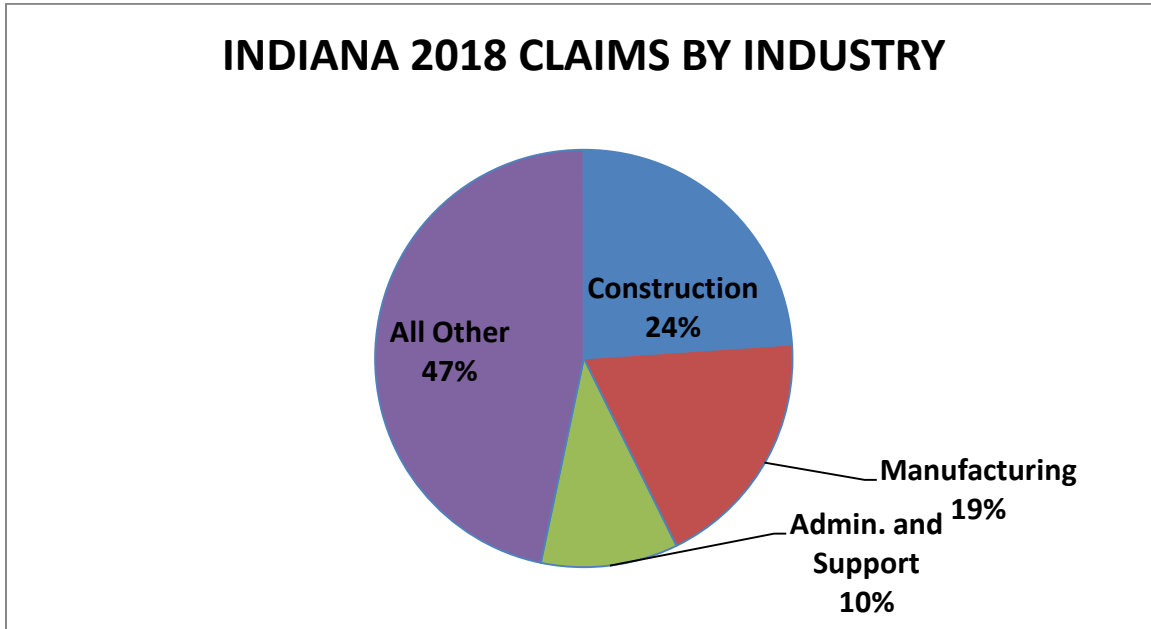
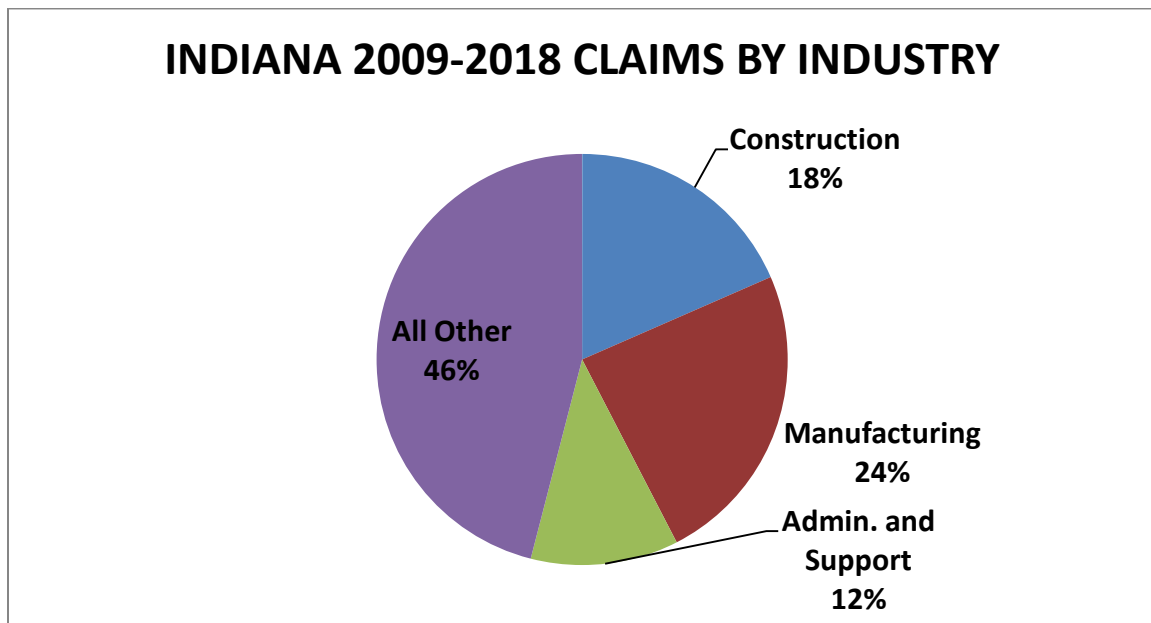


Figure 7: Indiana 2009-2018 Claims by Industry

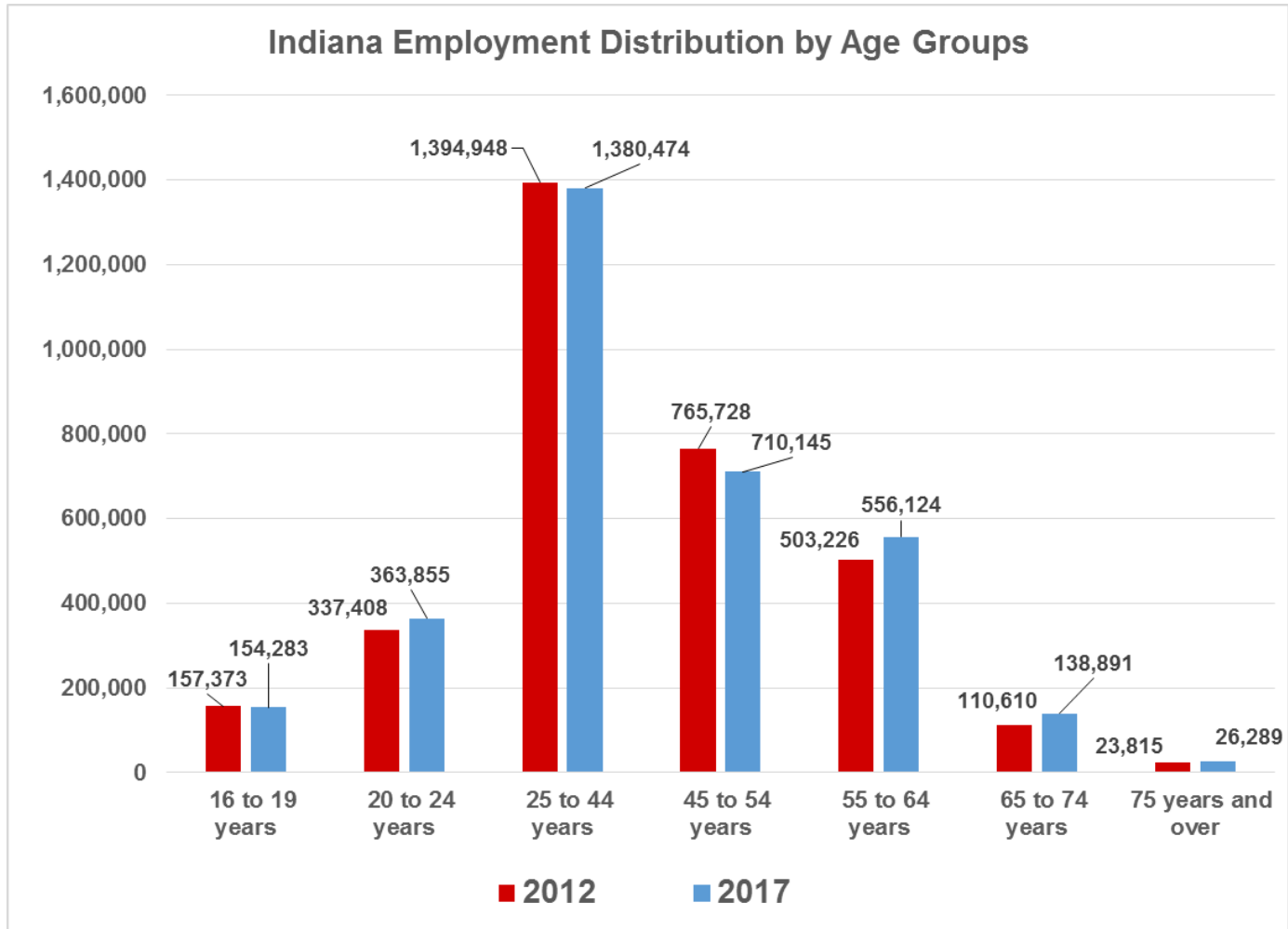


B2: Workforce and Industry Composition

Age Distribution of the Workforce

The age distribution of Indiana’s workforce is shown in Figure 8. Between the 2012 and 2017 estimates of the age distribution, Indiana’s workforce continued to grow older. The number of workers age 55 and older increased from 637,651 to 721,305. Workers under age 55 decreased from 2.66 million to 2.61 million reversing a trend of recent years.

Figure 8: Indiana Employment Distribution by Groups



B3: Education

Rates of educational attainment continue to rise in Indiana. Since 2010, the percent of the population 25 and older with at least a Bachelor's degree rose from 22.4% to 25.3% as illustrated below. The percent of the population without a high school diploma fell from 13.8% to 11.7%, 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.

Table 6: Indiana Educational Attainment in 2010, 2016, and 2017

INDIANA EDUCATIONAL ATTAINMENT in 2010, 2016, and 2017						
	2010	Pct. Of Pop. 25+	2016	Pct. Of Pop. 25+	2017	Pct. Of Pop. 25+
Total Population 25+	4,165,617	100.00%	4,339,687	100.00%	4,369,451	100.00%
Less than High School Diploma	574,855	13.80%	517,458	11.90%	510,793	11.70%
High School Graduate (incl. equivalency)	1,507,953	36.20%	1,486,051	34.20%	1,474,872	33.80%
Some College, No Degree	845,620	20.30%	903,839	20.80%	904,964	20.70%
Associate's Degree	304,090	7.30%	364,277	8.40%	372,514	8.50%
Bachelor's or Higher Degree	933,098	22.40%	1,068,062	24.60%	1,106,308	25.30%

Source: 2010 Census and 2016, 2017 ACS 5-year estimates

Adults Age 18 to 64 without a High School Diploma or HSE, 2017

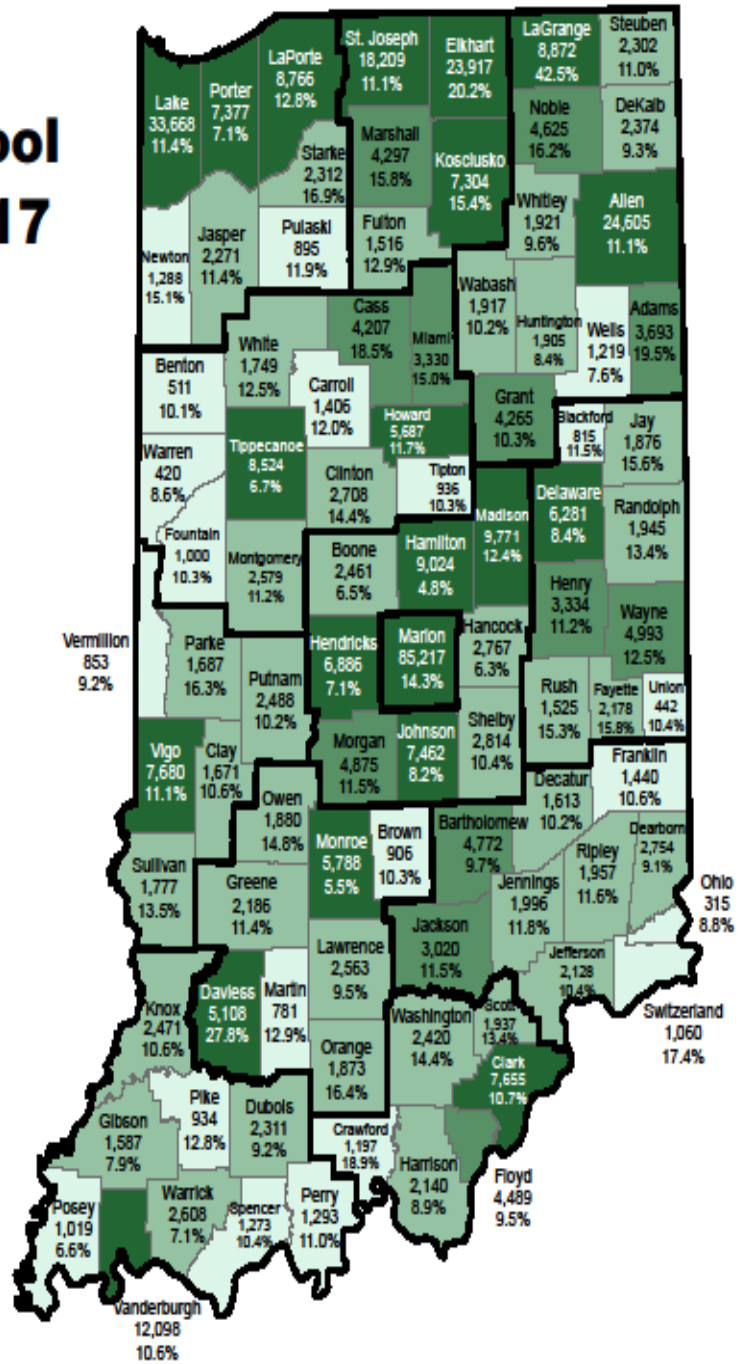
Indiana = 460,969 adults (11.3% of total age group)

Number of Adults

- 315 - 1,500 (21)
- 1,501 - 3,000 (38)
- 3,001 - 5,000 (12)
- 5,001 - 85,217 (21)

Economic Growth Region

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



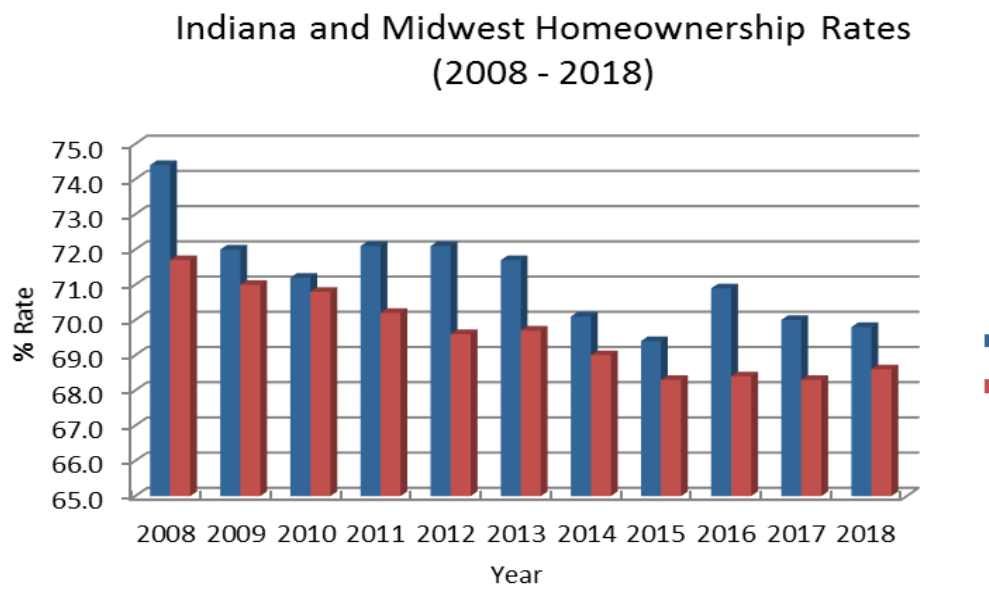
Map produced by the Indiana Business Research Center, using the American Community Survey 2013-2017 five-year estimates that were released by the U.S. Census Bureau in December 2018.

B4: Housing

Homeownership Rates

According to data from the U.S. Bureau of Census’s Housing Vacancy Survey (HVS), from 2008 to 2018 Indiana maintained a higher percentage of homeownership in comparison to the Midwest region as a whole. Indiana showed declines in Homeownership from 2012-2015 but that has leveled off since 2016. There has been a slight dip in 2017 and 2018. In 2018, the state finished with a homeownership rate of 69.8% compared to the Midwest’s 68.6%. For a year by year comparison, see Figure 7.

Figure 9: Indiana and Midwest Homeownership Rates 2008-2018



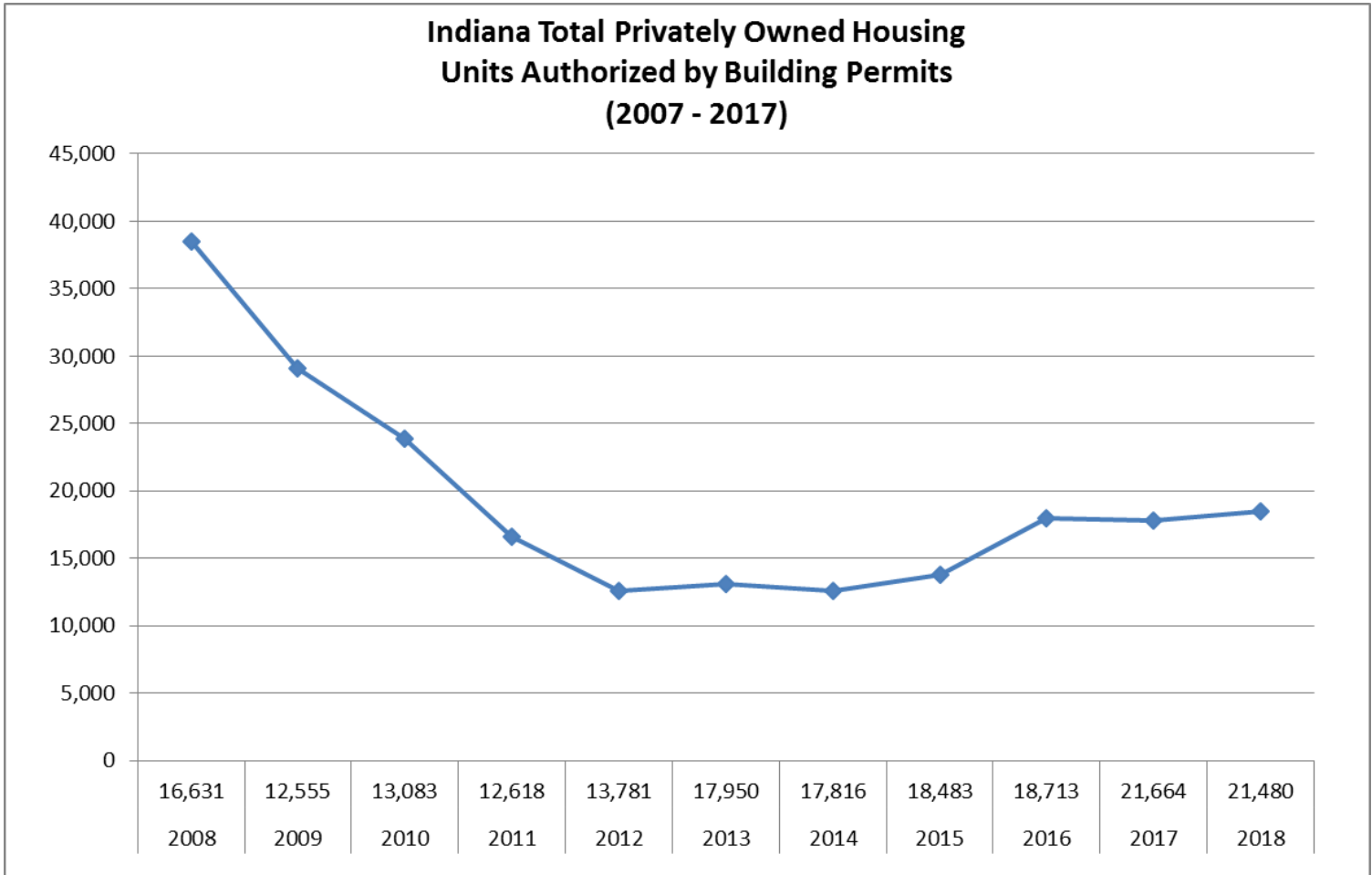
Source: U.S. Bureau of Census, Housing Vacancy Survey (HVS)

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

Housing Permits

Indiana number of home building permits declined slightly in 2018. In 2018 there were 21,480 home building permits. In 2017 21,664 permits were the most since 2007. As shown in Figure 8, the number of home building permits increased has been relatively flat but stable since 2013.

Figure 8: Indiana Total Privately Owned Housing Units Authorized by Building Permits, 2007-2017



Source: U.S. Bureau of Census