Workforce Information Grant
Annual Performance Report
Program Year 2023

INDIANA
DEPARTMENT OF
WORKFORCE
DEVELOPMENT

Submitted by:

Indiana Department of Workforce Development

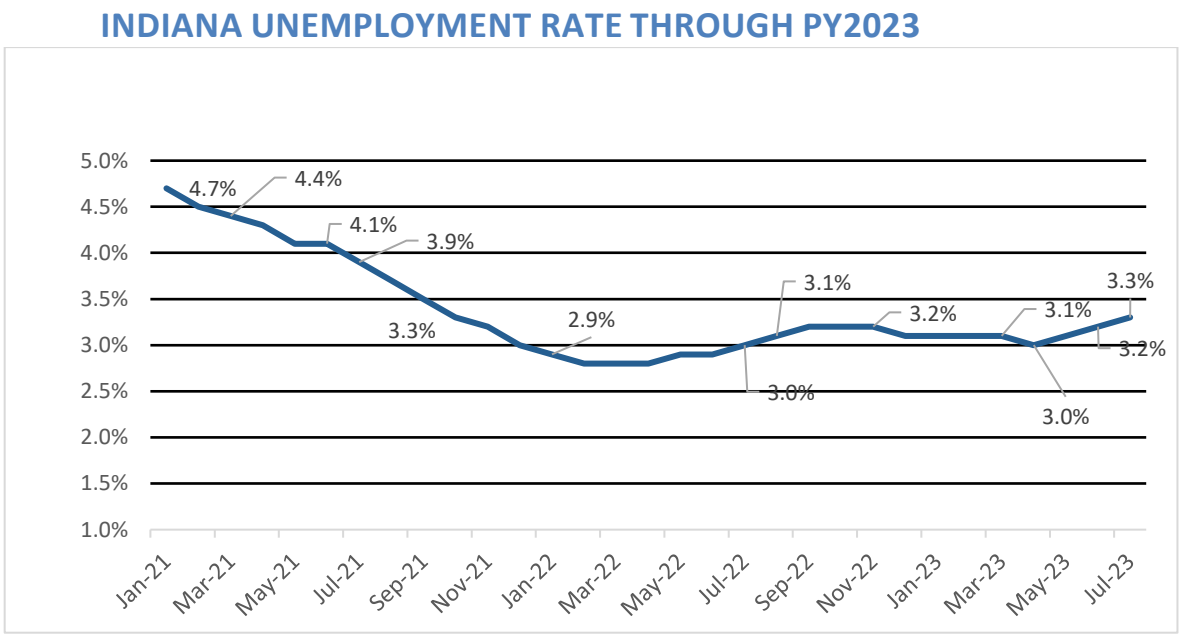
Research and Analysis

October 2023

Introduction

By the end of 2021, the private sector had all but completely recovered from the job losses sustained from the 2020 pandemic. In addition, by January 2023 Current Employment Statistics (CES) estimates showed the private sector had exceeded the private employment peaks seen at the end of 2019. The first half of 2023 Total Private jobs had set a new peak for Indiana each of the first four months of the year. As of this writing the Private Employment peak is July 2023. Sectors showing the largest Job recovery were manufacturing recovering 118,200 and Leisure and Hospitality which recovered 136,600 jobs since the April 2020 trough.

For the same time frame the Local Area Unemployment Statistics (LAUS) the unemployment rate would drop as low as 2.8% by February 2022. Though the rest of 2022 and through July 2023 the unemployment rate stayed in the 3% range. The Labor force recovery was slow immediately after the pandemic. By April 2022 the total Labor Force had recovered, and the Labor Force Participation also recovered most of where it was prior to March of 2020 but not completely.



Over the past several years, the Indiana Department of Workforce Development (DWD) has developed, and keeps building on different initiatives to highlight labor market information:

1) **Indiana Career Ready:** Through the creation of a Demand Driven Workforce System entitled Indiana Career Ready (ICR), DWD seeks to provide more actionable information to our state's employers, job trainers, job seekers and educators by projecting the trends in our employer workforce demand. ICR leverages advanced data analytics and data science to enhance insights of employer workforce demand using data already collected by DWD, other state agencies, and external data sources (where applicable). The goal of this project is to highlight and add to the occupational projections program with a new emphasis on current demand and greater details on the skills and certifications employers

are seeking, as well as to develop an all-inclusive site for stakeholder use.

2) **Longitudinal Data Systems:** Indiana has a longitudinal data system called the Education and Workforce Database (EWD). EWD is housed in the Indiana Management and Performance Hub (MPH) and it hosts pre-defined, public facing data sets. EWD creates enhanced opportunities to combine workforce and education data to better understand the linkages between education and the workforce, explore employment outcomes, retention of graduates, and differential outcomes based on degree type and area of study. Partner agencies who contribute their data to the EWD database include the Indiana Commission for Higher Education (CHE), the Indiana Department of Education (DOE), the Department of Workforce Development (DWD), and the Family and Social Services Administration (FSSA).

   EWD does not replace agency data collection and administration responsibilities and serves as a clearing house where data elements are linked across agencies.

   The Research and Analysis Unit housed in DWD has its own longitudinal data warehouse (Research and Analysis Warehouse – RAW) in which it maintains nearly 625 million records on claims, new hires, EQUI, wage records, case management, labor exchange system, as well as data from other systems housed in DWD. This combined repository of data helps to answer questions from DWD leadership, as well as data requests from external parties seeking workforce outcomes data achieved by matching wage records. The comprehensive, integrative nature of RAW plays an integral role in ensuring information regarding wage outcomes can be obtained for decision making and policy planning.

   In 2019, RAW was enriched with standard occupation classification codes which are received directly from employers within quarterly wage filings (described below).

3) **Workforce Data Quality Initiative (WDQI):** In 2014, Indiana was awarded a grant to further the state's longitudinal research and evaluation of workforce training and educational programs. Under this grant, and in partnership with the Indiana Business Research Center (IBRC), an Occupational Assignment Engine was developed which matches occupational codes with employer UI wage records. The engine is also responsible for filling in the missing wage records data through a coding estimation schema. Data continues to be pulled in to fill in missing SOC codes with plausible values based upon observed demographic information.

   In July 2017, DWD with its long-standing partner, IBRC, received another grant under WDQI Round VI to continue to improve upon the work completed in the previous round. As part of this new funding a WDQI website was set up to facilitate knowledge transfer. Occupational Assignment Engine will continue to be improved and expanded upon with new data sets incorporated as they become available. In addition to this, knowledge transfer data modules will be developed and deployed via a website to encourage similar projects in other states.

   Furthermore, in Q2 2019 DWD made large shift in its UI collection process and is now incorporating a section for 6-digit SOC code individual wage record assignment that

employers are requested to fill out when submitting their quarterly UI data to the state via Employer Self Service (ESS) portal. To facilitate determining the correct SOC codes, DWD made available an occupation coding tool on its WDQI website using the NASWA Occucoder O*NET autocoding tool with project-specific modifications. Employers can use the tool to determine SOC codes based on job titles, uploading batch job titles, or individually. The employers can select either 2010 or 2018 version and the conversion to 2018 codes is then done internally to ensure consistency across all records. The tool is currently being updated to reflect the newest codes upon job title entry.

Upon collection of this data the Occupational Assignment Engine will be used to validate the findings as well as look for potential discrepancies.

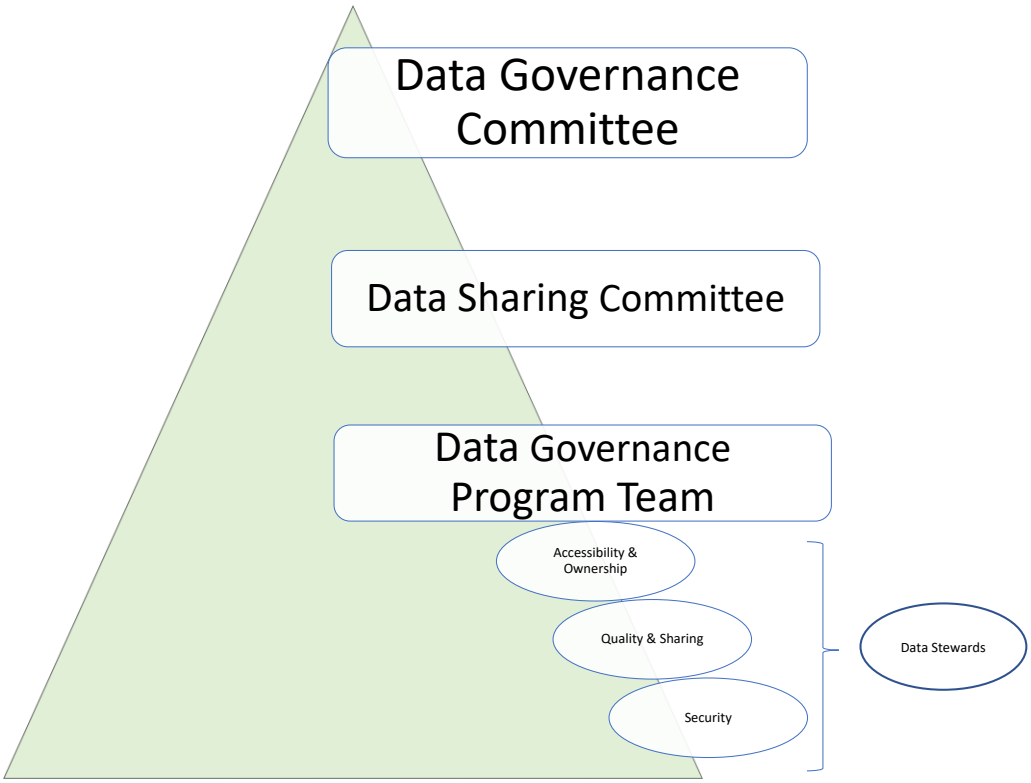
The latest information shows that around 59% of the employers submit occupation codes for their employees, and around 49% of employees have an occupation code associated with their wage record.

	2021 Q1	**2022 Q1**	**2023 Q1**
Employees submitting SOC	54%	58%	59%
Employee records with SOC	44%	43%	49%

In June 2021, DWD was selected to be one of the recipients of WDQI Grant Round 8. With the help of this grant (2021-2024) we have established a data governance structure and continue to collaborate with other entities to ingest additional data into the longitudinal database (self-employment, credentials, additional demographics), and publish data products that include the newly ingested data.

Our Data Governance structure has been established and is depicted on the following page. We have interdisciplinary teams meeting weekly, biweekly, monthly, and quarterly to discuss different data management related topics and advance data governance efforts.

DATA GOVERNANCE STRUCTURE



PURPOSE:

1. **Data Governance Committee**
    a) overseeing data governance processes
    b) identifying and prioritizing data governance projects
2. **Data Sharing Committee**
    a) assisting in implementing DWD's data governance processes pertaining to data sharing requests
    b) authorizing data share requests
    c) assigning accountability for executing the data share decision (i.e., assigning who will be pulling the requested data)
3. **Data Governance Program Team**
    a) determine priority operational needs
    b) propose and develop operational documents
    c) ensure implementation of decisions and policies (Data Stewards)

4) **Case Management and Labor Exchange System:** Indiana launched a combined case management and labor exchange data system (Indiana Career Connect - ICC) in October 2016. This system aligns with the state's labor market information data, interactive website, and tools for jobs seekers and career counselors. Research and Analysis houses both Indiana's labor market information division as well as the federal reporting team who are responsible for working on training performance reports as dictated through the PIRL (Participant Individual Record Layout) as well as assisting with data questions and analysis of outcomes against current economic and wage data.

Provision of Regional and Statewide Labor Market Information

Hoosiers by the Numbers (HBTN) LMI Website

Regional labor market analysts and DWD staff continue to provide statewide and localized labor market information for economic development efforts, job seekers, educators, career counselors, and the public. The most requested information includes:

- Labor force trends;
- Industry/Occupation employment and wage statistics;
- Demographic and characteristic profiles of individuals and households;
- Job posting analytics;
- Unemployment insurance claimant profiles; and
- Economic Growth Region profiles.

There are a variety of consumers of labor market information, including regional operators, state and local economic development organizations, training institutions, colleges/universities, high school teachers and career counselors, WorkOne employment offices, local legislators, human resource departments, sector partnerships, grant writers, media, business groups and researchers to which each regional analyst is responsible to assist when requested. While the website has experienced significant increase in the number of page views in previous years, in Program Year 2023 the number of pageviews dropped from 1.5 million to 1.4 million.

In 2023, the Indiana Business Research Center (IBRC who maintains the HBTN website) continued working with DWD to update the site, making it easier to navigate, better organized, and more visually appealing. Following the overhaul of the Regional Analysts pages in 2022, the team primarily focused on reconfiguring the format, design, and content of the home page, receiving input from a variety of stakeholders during interactive user testing sessions. Based on popularity, the County Highlights and Workforce Dashboard were placed at the top of the scrolling page. Below this were popular tools and topical links to make accessing specific information easier for a variety of users. Utilizing visual displays for these links helped to make the home page more modern in appearance and user-friendly, while keeping the navigation bar largely unchanged ensured more experienced users can continue to easily find what they need.

Hoosiers by the Numbers

Your premier source for labor market information for Indiana.

ENHANCED BY Google

Home | Data by Region | Data by Topic | Tools & Resources | Data Request Portal | What's New?

County Highlights Quick Stats

Select a county to view a profile containing population and workforce statistics.

WORKFORCE ECONOMY DASHBOARD »

3,266,700
Total Non-Farm Jobs (SA)
Indiana saw a monthly increase of **10,900** jobs

2,837,600
Private Sector Jobs (SA)
Indiana saw a monthly decrease of **-2,300** jobs

538,300
Manufacturing Jobs (SA)
Indiana saw a monthly decrease of **-2,100** jobs

3.1
Unemployment Rate (SA)
Indiana saw a monthly increase of **0.1** points

0.3%
Employment (SA) Monthly Change
Indiana saw a monthly increase

63.6%
Labor Force Participation Rate (SA)
monthly data remain unchanged for Indiana

3,687
Unemployment Insurance Initial Claims
Indiana saw a weekly decrease of **-1,346** claimants

6.5%
Business Establishments (annual percent change)
Indiana saw a quarterly increase

View all indicators here »

FEATURED TOOLS

Occucoder
Employers can use job titles to classify workers into Standard Occupational Classification (SOC) Code categories.

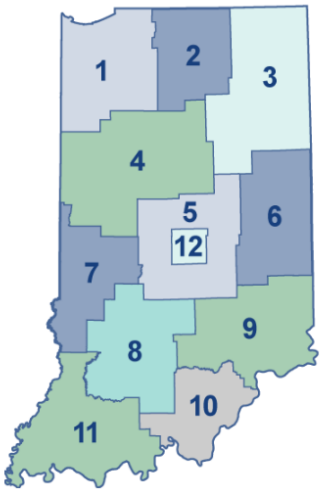
Business Lookup Tool
Find businesses by searching geography, employment size and/or industry. Use for career exploration and job search assistance.

In Reality
A reality check for anyone who needs to make career path decisions and understand what those careers will pay — for real.

Grants and RFI Data Assistant
Access commonly used data for grant applications and requests for information. Helpful for Indiana economic developers.

Regional Analysis

Select an Economic Growth Region to learn more about the region and view the latest regional analysis and reports.



Customized Data Requests

Indiana's team of regional labor market analysts are available to address data and information requests in a timely manner. They provide comprehensive region-specific and locally available data for stakeholders, participate in Regional Workforce Development Board meetings, and supply information and training to members upon request. Our stakeholders do not always know the best places to find the type of data they need, nor do they have the time and resources to pull this. The regional analysts' work allows DWD to maintain data integrity with the local stakeholders while fostering a collaborative environment with local stakeholders and the state.

Indiana LMI staff also offer webinars and trainings to local workforce staff that focuses on effective usage of LMI and its application to career research and guidance. Every other week, a short 30–60-minute training is provided to the regional analysts group. The topic of those trainings is decided upon the need and can range from using new LMI tools or mastering data visualization software for more effective dissemination of labor market information. Additionally, IBRC provides periodic trainings to the LMI team, and per request can provide training to other teams as well. Regional reports such as monthly labor market reviews, wage and occupation reports, job postings and skills reports, industry employment and wage reports as well as analysis of unemployment insurance claimants (labor supply) reports that are regularly distributed and published on the state's Hoosiers by the Numbers (HBTN) website. Recently, the regional analyst pages were added to the HBTN website, that give a profile of each EGR and provide contact information for the assigned analyst as well as access to a large amount of regional data. The regional analysts also produce customized LMI reports with requested data specific to businesses, locales, or industry needs.

Regional analysts are the first responders to local economic developers and regional workforce planning boards. They provide data and analysis in a timely and easily digestible fashion for business, chambers of commerce, and attraction project requests for information. Below are annual totals of regional analysts' recorded activity, as well as the percent change between PY 2020 and PY 2021:

	Customized LMI Requests	Quick Email/Phone Responses	Workforce Development Board Meetings	Presentations	All other (stakeholder meetings, conferences, webinars, job fairs, educational events, etc.)
PY22 Total	1647	610	49	70	165
PY22 Avg Monthly	137	51	4	6	14
PY21 Total	1,666	418	50	58	228
PY21 to PY 22 percent change	-1%	46%	-1%	21%	-38%

Longitudinal Data System Analysis

The Education and Workforce Database (EWD) continues to create enhanced opportunities to combine workforce and education data (K-12 and higher education) to examine employment outcomes, retention of graduates, differential outcomes based on degree type, area of study and other research to better understand the linkages between education and the workforce. This longitudinal data set is combined to answer key questions about the education and workforce pipeline. It allows stakeholders such as education professionals, employers, policymakers, students, community leaders, and the public to use data and information previously not available. Department of Workforce Development (DWD), Commission on Higher Education (CHE) and Department of Education (DOE) continue to contribute data into the database, with DWD providing unemployment claims, wage records, case management records, and adult education data.

DWD continues to contribute data to a data hub which was created by the Management Performance Hub (MPH) for users to access pre-defined data sets. Data from DWD are also available in dashboard format on DWD's website and include Occupational Employment and Wage Estimates (OEWS), Occupational Projections, and funded Eligible Training Programs. Data sets for this hub have been contributed by other agencies and partners such as IBRC, Indiana Department of Homeland Security, CHE, the Indiana Department of Transportation, and several other agencies. EWD continued to work on additional pre-determined data sets which are available for download through the website and empower researchers to conduct in depth analysis as well as guide decision making for policy leaders. Under MPH, the EWD system as well as the groups guiding the research are well funded to continue this important work and answer questions which without the collaboration of these agencies and the state would remain unanswered.

In conjunction with MPH and the Office of Chief Equity, Inclusion, and Opportunity Officer, DWD has contributed unemployment claimant data to an Equity Portal as part of an effort to keep the state

accountable for ensuring all Indiana residents are served equitably. Data included in this portal are health, public safety, social services, education, and workforce data. The portal is located at https://www.in.gov/equity/data-portal/.

The Enhanced Research Environment (ERE) launched by MPH is a secure, cloud-based virtual environment for internal and external research partners to perform analysis on Indiana data directly within an environment monitored and maintained by the state. This allows end user access to approved data without the data ever being transferred or maintained by the end user. The end user cannot take anything out of the environment and needs to go through an export process to get data and analyses out of the environment.

Several open-source tools for analysis are available within the environment.

DWD and MPH has partnered with a consulting firm, Resultant, on the Workforce Recovery Engine (WRE). The purpose of this project is to build an analysis engine driven by longitudinal data to provide citizens with information and direction to achieve workforce outcomes through individualized recommendations for training and career paths. The overarching goal is to utilize big data and artificial intelligence technologies to provide an individualized, automated career-counseling tool based on real-time and real-world data. The data provided for this project includes:

- Employment and wage data
- Unemployment insurance data
- Education, training, and certification data
- Demographic data
- Job market data

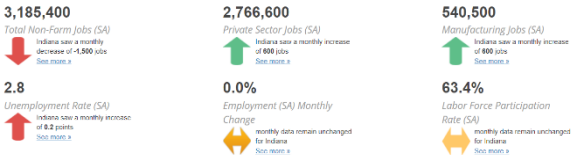
Tool	Type	Programming Language	IDE/GUI	Links
Python	OOP[2]	Python	Jupyterlab	https://nbviewer.jupyter.org/
R	FPL[3]	R	RStudio	https://www.rstudio.com/
	FPL	R	Jupyterlab - R kernel	https://github.com/IRkernel/Irkernel
Julia	OOP	Julia	Jupyterlab - Julia kernel	https://github.com/JuliaLang/IJulia.jl
Scala	MPP[4]	Scala	Jupyterlab - Scala kernel	https://github.com/almond-sh/almond
Spark	MPP	Python	Jupyterlab	https://spark.apache.org/docs/latest/api/python/index.html
	MPP	R	Jupyterlab - R kernel	https://github.com/jupyter-incubator/sparkmagic
Octave	FPL	Octave	Jupyterlab - Octave kernel	https://github.com/Calysto/octave_kernel
C++	OOP	C	Jupyterlab - Xeus kernel	https://github.com/QuantStack/xeus
Leaflet	GIS[5]	Javascript	Jupyterlab – leaflet extension	https://github.com/jupyter-widgets/ipyleaflet
H2O Sparkling Water	ML[6]	Python	Jupyterlab	https://www.h2o.ai/products/h2o-sparkling-water/
PSPP	SaaS	N/A	PSPP Desktop	https://www.gnu.org/software/pspp/
Neo4J	GDMS[7]	R, Python	Neo4J Desktop	https://neo4j.com/

Leveraging a Partnership

The continued long-term partnership between DWD and the Indiana Business Research Center (IBRC) leverages the best people and resources of both state entities on behalf of Indiana residents and businesses. The development of software/applications for the digital sharing of data, the statistical modeling of large volumes of LMI data to produce new insights, and leveraging university tools to improve productivity in the analysis of LMI are all part of this partnership. DWD and IBRC continue to focus on offering more localized and regional workforce data to the benefit of local decision makers. Additionally, this partnership offers leadership and technical expertise towards the development and expansion of the workforce warehouse system and for improved performance evaluation of workforce training programs under WIOA. This work also involves producing dashboard analyses and continued evaluation and research on workforce training and unemployment trends. The partnership ensures the continual development and upkeep of Indiana's LMI website which includes many virtual tools with information for community leaders and individuals. The IBRC also assists by hosting, developing, and maintaining the Workforce Information Database (WID) as mandated by the Workforce Information Grant.

Workforce Economy Dashboard

The Workforce Economy Dashboard developed in 2016, and enhanced in 2023 with a more user-friendly layout and modern design, continues to serve the needs of consumers with direct access to information in an easily digestible format. The Dashboard displays the most recent state data from a high-level economic perspective.



Information in this dashboard includes:

- Total Nonfarm Jobs (Seasonally Adjusted);
- Private Sector Jobs (Seasonally Adjusted);
- Manufacturing Jobs (Seasonally Adjusted);
- Unemployment Rate (Seasonally Adjusted);
- Employment Monthly Change (Seasonally Adjusted);
- Labor Force Participation Rate (Seasonally Adjusted);
- Unemployment Insurance Initial Claims;
- Exports (millions of dollars);
- Residential Building Permits;
- Business Establishments (annual change);
- Business Establishments (annual percent change);
- Job Postings (Seasonally Adjusted); and
- New Job Postings (Seasonally Adjusted).

INfographics

The INfographics section on Hoosiers by the Numbers provides Tableau visualizations produced by the Department of Workforce Development's Research and Analysis division as well as IBRC analysts. Tableau allows for the illustration of data and enables the user to manipulate the data within the visualization for a more customizable experience. There are currently 16 robust visualizations with varied research topics available and the team continues to explore new and innovative topics that will be presented in the future.

DWD continued leading the production of per-request infographics for a range of partners in the education and workforce community. Tableau visualizations have been produced for universities, economic development, nonprofits, as well as legislative staff and other interested parties.

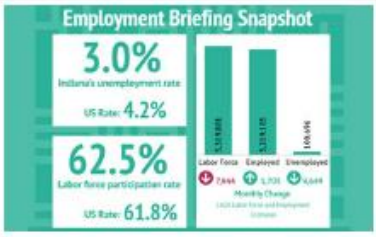
INfographics

Created by the Department of Workforce Development Research and Analysis division and the Indiana Business Research Center

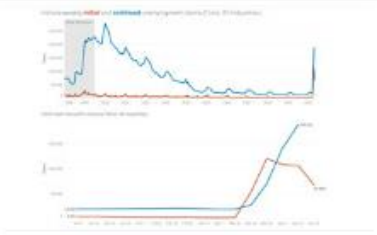
Jump to a topic

Employment and Unemployment

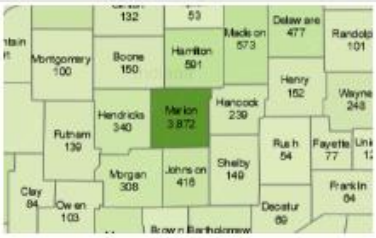
Worker availability in Indiana



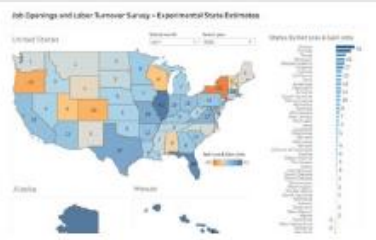
Indiana's monthly employment briefing snapshot



Indiana's weekly unemployment claims dashboard

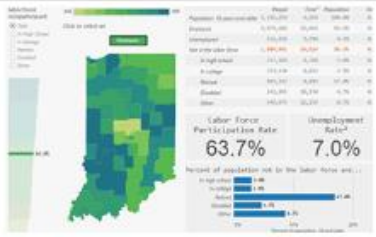


Weekly unemployment claimant counts



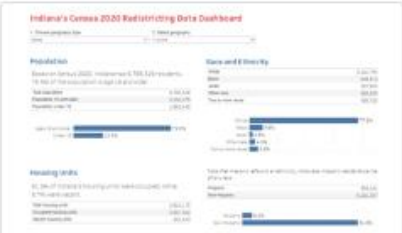
Job Openings and Labor Turnover Survey: Experimental state estimates

Determining employment status in Indiana



Indiana labor force nonparticipants

Demographics



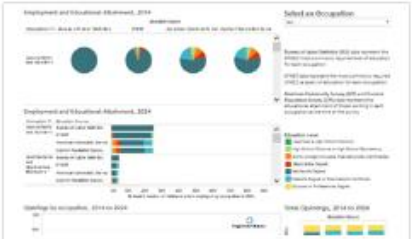
Indiana's Census 2020 redistricting data

Indiana commuting patterns

Education

IU workforce outcomes

Postsecondary education completions



How education levels for in-demand Indiana occupations differ by source

Occupations

OEWS employment and wages

Indiana occupational projections

Talent snapshot tool

INDemand ranking methodology

BLS Longitudinal Database (Indiana Detail)

Using quarterly files of longitudinally linked records for Indiana employers provided by the Bureau of Labor Statistics, employer records from 1990 through 2023 allow business entities to be tracked through the maze of account changes and partial transfers to identify actual business births and deaths, expansions, and contractions. Organic employment growth can be distinguished from growth by acquisition or merger, facilitating research on employment dynamics by size class and industry. The LDB files have been used for requests within and outside the agency and have informed several economic development projects handled by our research partner. Longitudinal files have been created using SAS. Primarily, the files are being used for research.

The Workforce Warehouse (Research and Analysis Data Warehouse)

The Research and Analysis Data Warehouse (RADW; formerly known as the Indiana Workforce Intelligence System - IWIS) was developed as the state's longitudinal data system in 2007 as a joint project of the Department of Workforce Development (DWD), Indiana Business Research Center of Indiana University (IBRC), Indiana Commission on Higher Education (CHE) and the Indiana Department of Education (IDOE). Except for Career and Technical Education data, the database currently does not have other IDOE data, but the system has continued to serve both as DWD's data warehouse as a means of connecting higher education and workforce records for ROI reporting and to deepen understanding of the education-to-workforce continuum. In 2014 the decision was made to request proposals to conduct an analysis of the current system and its capabilities to design a production-level system to augment or replace it as the state's student (P-20W) longitudinal database. IWIS was renamed the Indiana Network of Knowledge (INK) by legislative action and a broader governance committee (including the Commissioners of DWD, CHE, and DOE) headed by the Governor was established. As of July 1, 2017, INK underwent yet another change and was renamed the Education and Workforce Data (EWD) warehouse now housed under the Management and Performance Hub (MPH) reporting to the governor's office. However, to sustain continuity of available data, DWD continues to maintain its workforce warehouse (RADW) of existing data series and seeks to expand and enhance it with data series useful for labor market and training research, in collaboration with, and potentially outside the scope of MPH.

During the 2023 program year, the Indiana Department of Workforce Development continued the enhancements of the workforce data in the RADW longitudinal warehouse. Indiana started collecting occupation data from employers in Q1 2019 and that data is now available in RADW, along with full/part time designation. We continue to see the increase in the numbers of employees with a SOC code each quarter. Improvements are continually being made in the data quality of the occupational fields. A study with the Bureau of Labor Statistics was conducted to analyze the data quality of the occupational data received in the wage records.

Many data requests continue to be fulfilled through the Research and Analysis Warehouse, using data

from BLS programs, unemployment claims, Indiana Career Connect, and the case management systems, as well as reports combining wage data and higher education data. The data stored in RADW has been used in different studies ranging from post-graduation employment and wage outcomes, effects and impacts of the COVID-19 pandemic, economic and health status of the population, etc. Several outreach programs have been developed in conjunction with the governor's office and MPH as well as our Region 12 service provider. These programs reach out to the unemployed who have filed for unemployment benefits to offer further services upon qualification. Additionally, we have provided data to various higher education institutions and for a data hack with Purdue University.
In the past, we have provided data to inform improving of veteran services, apprenticeship programs at a community college, and KPIs for the governor's office. Staff is in constant communication with MPH, who displays the final KPIs created by DWD and is available for data alterations and verification as required. Additionally, the RADW staff has continued to develop skills in data visualization tools such as Tableau and open-source coding languages (Python and R). Dashboards are in progress to provide further information to stakeholders as available. The RADW continues to operate in a secure environment called the "protected zone", a semi-virtual machine environment with SQL Server installed.

We are in the process of procuring two new datasets into the RADW system. The first is a flag that can be attached to wage records to indicate if an employee is a veteran. This will be very important for research regarding the veteran population as well as potential outreach and services to this group. The second dataset is from the Department of Revenue, obtaining wage and other information on sole proprietors who do not report to DWD, wage information on retirees, and business closures. This set will allow us to answer research questions on populations not included in the statewide wage records. Questions related to demand alignment and current pipeline of workers has been explored with data provided from RADW and in partnership with EWD. Work with partner agencies as well as outside research entities continues to persist and is widely well received by members of the business and academic community. We continue to explore obtaining access to data from states outside of Indiana through the Coleridge Initiative, a not-for-profit organization, originally established at New York University. This initiative is working with our counterparts to ensure that data are more effectively used for public decision-making. This goal is created in order to create value for the taxpayer from the careful use of data, by building new technologies to enable secure access to and sharing of confidential microdata, and by training agency staff to acquire modern data skills (https://www.coleridgeinitiative.org/).

Workforce Information Core Product Deliverables – Accomplishments

1. Continue to Populate the Workforce Information Database (WID) with state and local data

The Indiana Department of Workforce Development continued to maintain and expand the Workforce Information Database (WID) with state and local data that covers at least the most recent ten-year period, as well as include any federally applicable changes mandated. The Workforce Information Database serves as a primary source for Indiana's LMI website (www.hoosierdata.in.gov) and is supplemented by the STATS Indiana databases, which have been built and maintained by our university partner, IBRC, for more than 30 years. Today, both

the WID and STATS databases power Hoosiers by the Numbers and STATS Indiana through our partnership with the IBRC. The data includes estimates and projections for the state, counties, metropolitan statistical areas, economic growth regions, as well as small area data for census tracts, zip codes, and radii. The STATS databases also include data for other states and counties, which powers our tools for those needing bordering county/state data.

In the Program Year 2023, the website platforms supported by R&A tallied nearly half a million unique users. Looking at the numbers daily, this would approximate to over 1,300 unique users every day. More than 1.4 million pages of content were viewed during that period.

The primary website for Labor Market Information is Hoosiers by the Numbers website, which provides multiple types of data outputs, including dashboards, profiles, radius tools, Tableau visualizations, and more. We also maintain IN Reality, a customized tool used by high schools throughout the state to help students make the link between the cost of their lifestyle after school and the occupations that could support it by taking them through cost of living scenarios.

STATS Indiana, a sister-site to Hoosiers by the Numbers, provides a broader socio-economic catalog of data, while InContext, the joint publication of R&A and IBRC, focuses on the Indiana workforce and economy and is published on the web every other month. The following are snapshots from Google Analytics-4 (the latest version of GA which has introduced some new methods of calculating site usage), the tool used for tracking our sites:

PY 2023	HBTN	INContext	INreality	STATS Indiana	Combined platform
Sessions	170,541	140,750	16,015	247,183	**574,489**
Unique Users	101,629	118,249	10,334	231,826	**462,038**
Page Views	576,387	128,850	298,374	378,483	**1,382,094**
Pages per Session	6.19	2	17	2.8	**27.99**
Avg Session Duration	2:27	2:00	10:00	1:37	**3.9**
New visitors	**100,128**	**117,276**	**13,349**	**177,068**	**407,821**
Event Count	1,950,852	559,826	NA	1,427,227	3,937,905

With its more specific, workforce focus, Hoosiers by the Numbers has a lower number of sessions than STATS Indiana but a higher average of pages viewed by a user per session (3 pages vs. 2 pages). INreality has the lowest number of sessions, but in keeping with its purpose, the longest average session duration of 10 minutes. The Business Lookup Tool, County Highlights, HBTN homepage, and occupation coding tool were again among the most popular destinations for the site this year. In comparison to the PY 2021, the number of sessions and unique users did decline, while the pageviews decreased slightly (by less than 10,000). A new metric introduced with the latest (4th generation) Google Analytics, is event count. This measure gives a clearer indication of how many user-interactions within each site occur – and can in part inform us as to the dynamic nature of Hoosiers by the Numbers (with 1.9 million interactions) versus the more static STATS Indiana (1.4 million).

Using desktop computers is still the most common to access the websites, followed by mobile which showed an increase compared to the previous program year. Notably, the Chrome browser continues to be the most popular, followed by Safari and Edge, with Firefox in fourth place.

Website Access	Number of Sessions
Desktop	233,000
Mobile	159,000
Tablet	5,200

Examples of new publications include the following released in PY 2022:

Trends in the elder care workforce

Indiana industry: Rebound or permanent shifts?
Young Hoosiers amplify Indiana's key demographic shifts
Labor force changes in Indiana's metro areas
Economic projections for Indiana's metro areas in 2022

We adopted responsive design for the site, and it has continued to be successful. The core of the website is UX (user experience) based design geared to people looking for their county or region or a specific piece of data on a workforce related topic. The site is powered by more than 38 billion records in the joint databases of the IBRC and DWD and is meant to serve as a leading informational site for business developers, researchers, and the public alike. In PY23 and PY 24 we are continuing to modify the user interface and will be introducing a new output style across all of the LMI indicators.

While the Business Lookup tool is still a big draw, the classic data for Current Employment Statistics and the Local Area Unemployment ranked third in use this year, along with the new(ish) web pages for each of the Regional Analysts.

2. Maintenance of Databases and Outputs

- During this grant period, required data loaded to the Workforce Information Database was generated and reviewed, weekly, quarterly, or annually – depending on the data series – by in-house information technology support staff. IBRC staff reviewed and loaded additional data series from BLS for all states, such as monthly estimates from Current Employment Statistics and Local Area Unemployment Statistics.
- IBRC, in collaboration with DWD, maintains a legislative region tool to allow legislators to view their legislative regions.
- Two separate systems are maintained – TEST and PUBLIC as part of the best practice of having staging, loading and production servers. The test version is our fail-safe to ensure the data released are accurate as well as released at the correct time. CES and LAUS data are embargoed until the DWD Press Secretary issues the monthly press and data release

at a specified time. The embargoed data is part of a secure, special access node that only key LMI staff utilize as they prepare to update the DWD commissioner prior to public release.

3. Produce and disseminate industry and occupational employment projections

The Indiana Department of Workforce Development generated and delivered to ETA the documents on Statewide and Regional Short-Term Industry Projections (2022-2024), as well as Statewide and Regional Long-Term Industry Projections (2021-2031).

We have conducted and published relevant economic analyses, special workforce information, and/or economic studies of benefit to the governor and state and local Workforce Development Boards (WDBs).

Indiana's Annual Economic Analysis Report for previous program year has been written to serve as an important source of economic information for the governor, the Governor's Workforce Cabinet (GWC), local WDBs, colleges, economic development organizations, and other workforce development interest groups. The report includes the following:

Section A: Economic Analysis

A1: Annual Employment and Wages (2022)

2022 Annual Industry Overview

Annual Employment and Wages
Industries showing the highest employment increases from 2018 to 2022 Industries showing decline from 2018 to 2022.

Wages (2022)

Average annual wage growth across Indiana statewide
Average annual wage growth by Industry

A2: Analysis - INDemand Jobs

Methodology
Five Flame INDemand Jobs
Let's Chat about A.I.

Section B: Workforce Analysis

B1: Labor Force

Estimates Unemployment Rates

B2: Workforce and Industry Composition

Age Distribution of the Workforce

Indiana Total Population by Race

B3: Education

B4: Housing

Homeownership Rates Housing
Permits

A copy of the report will be submitted and posted on the *Hoosiers by the Numbers* website not later than October 2023.

Special Studies/Projects

1. Post Products, information, and reports on the Internet

DWD continued to maintain and enhance its labor market information website, *Hoosiers by the Numbers*. Electronically available labor market data and publications presented in various formats (i.e., Excel, PDF, Tableau, etc.) facilitate export of the information from the website for customers' use. IBRC hosts, maintains, and enhances the website by populating some of the non-core datasets and providing links to other data series of interest maintained on their STATS Indiana website. In addition, data from *Hoosiers by the Numbers* is pushed by IBRC to a variety of local websites. Highlights mentioned throughout this annual report are summarized below:

2. Website Enhancements/Activities

Maintain the databases that drive *Hoosiers by the Numbers*, which involves multiple staff at both agencies. This work entails daily updates, transformations, research into series changes/format changes, revisions, and weekly review of all links and outputs to ensure availability.

Hoosiers by the Numbers website updates with IBRC and DWD. We have also begun updating the site to make it easier to navigate, better organized, and more visually appealing. The IBRC began by engaging stakeholders through focus groups and interviews to gather feedback about the current website to identify and prioritize the updates. The first updates included adding Regional Analyst pages which provide a tailored overview of each of the EGRs in the state. The intention was to highlight the analyst in each EGR to offer a local contact/face for more LMI information and regional data—including the region's demographics, economy, major industries, occupations and employers, and links to regional resources. The next round of updates was focused on improving the home page to highlight the most popular tools and data, including County Highlights, the Workforce Economy Dashboard, the Occucoder, INfographics, and the Business Lookup Tool. The home page now has a cleaner appearance, newly designed icons, and is more tailored to users' needs.

3. Partner and consult on a continuing basis with workforce development boards and key economic development partners and stakeholders.

Regional Analysts worked closely within their assigned Economic Growth Regions pro-actively

providing current labor market information and educational LMI presentations. The analysts routinely attended regional Workforce Development Board (WDB) meetings and serve as consultants for various community committees. We currently have over 23,000 local stakeholders that receive regional LMI reports monthly, quarterly, and annually.

Outreach Activities by Regional Analysts during Program Year 2023

	Annual Total	Monthly Average
Customized LMI Requests	1,647	137
Quick Email/Phone Responses	610	51
Workforce Development Board Meetings	49	4
Presentations	70	6
Other (Meetings, conferences, webinars, job fairs, educational events, etc.)	165	14
Total	***2,541***	***212***

Central office team members continued to work closely with the Indiana Economic Development Corporation (IEDC), providing materials geared towards business attraction efforts, analyses of the economic impact of specific industries, identification of expending industry subsectors to serve as a focus for future attraction efforts, etc. DWD has supplied data visualization and in-person support to IEDC on new business attraction projects. Additionally, R&A staff utilized proprietary software to generate industry and workforce reports to meet customer demands.

IBRC staff provide weekly extracts from the IBIS World database to the Indiana Small Business Development Center, a federal-state cooperative with the Small Business Administration and the State of Indiana. These market-specific reports are used to assist entrepreneurs throughout Indiana.

IBRC staff provide quarterly and annual exports data to IEDC and other State and trade groups to enhance their understanding of the impacts of both exporting on jobs as well as foreign direct investment. IBRC is also working with DWD, the GWC, and IEDC to develop a model to forecast job growth from business attraction and expansion projects. These forecasts are intended to help the State better understand and plan for the impacts of private capital investment on regional labor markets.

Lightcast (merger of Economic Modeling Specialists International (EMSI) / Strategic Advantage API and Burning Glass API)– A labor market information software application with data and analysis components that provide in-depth, local employment data and analysis to R&A staff to be shared with stakeholders needing to make clear, data-driven decisions. Regional analysts use

this tool to make customized reports that profile a given region's employment, unemployment, industry mix, projected growth and demographics. The API is used to automate updates within Tableau visualizations within Indiana Career Ready. The tool also provides job-posting statistics as well as record-level occupation and industry classification data from the postings. Information from this source provides monthly insights into the current job-posting activity by occupation and industry for the DWD Commissioner and Lead Team. Data is also used as an input to the INDemand Ranking methodology. Various teams in R&A use this data to develop reports to highlight the top jobs and skills in demand for local areas based on the employer data from this site. INDemand ranking methodology is published within the Hoosiers by the Numbers website and it is used in Quarterly Labor Market Reviews. In addition, Research and Analysis analysts use Lightcast to power data visualization tools within both Indiana Career Ready and standalone visualizations.

Other Customer Consultations

DWD uses several SharePoint sites to coordinate information dissemination and increase collaboration while reducing effort redundancy. These sites were developed to facilitate distribution of frequently requested data, such as an applicant count by occupation from the Indiana Career Connect (the agency's job-matching system) applicant pool, wage demand by occupation and county, and occupational employment estimates (incumbent employment) by county. In addition, R&A established and continues to use a SharePoint for the Regional Analysts to facilitate the collaborative exchange of information concerning their work in their assigned regions and for discussion to further progress and development data and procedures. This is all to ensure client satisfaction and effective data management and distribution. To interface with the customers, R&A also uses Tableau to visualize large quantities of data, as well as GovDelivery as a report distribution system.