

Workforce Information Grant Annual Performance Report

Program Year 2008



INDIANA
WORKFORCE
DEVELOPMENT

*Submitted by:
Indiana Workforce Development
Research and Analysis*

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Introduction

The Indiana Department of Workforce Development (DWD) is pleased to submit the PY 2008 Workforce Information Grant Annual Report. This report addresses the core deliverables required by the Workforce Information Grant and provides a summary of the accomplishments, customer satisfaction, and recommendations for improvement or changes. Please contact the Research & Analysis Department for questions about this report.

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Highlights of the Year

The 2008 program year has been an exciting one for the Research & Analysis Department, despite challenging economic conditions for the nation and the state. The development and refinement of several tools has provided the opportunity to drill down and combine administrative records that the agency already collects to provide new insights and answers for a wide variety of questions that relate to the training needs and occupational transitions of the Hoosier workforce. Tools still under development hold the promise of additional capabilities that will emerge over the course of the 2009 program year. Continued use of these products has developed deeper competence among staff members, resulting in adaptations and enhancements of outputs and reports.

Reorganization of the Business & Workforce Studies Team

The Business and Workforce Studies Team produces long and short-term industry and occupational employment projections and provides analysis and context for the voluminous data produced through the various Bureau of Labor Statistics (BLS) and Employment and Training Administrations (ETA) programs. The team was reorganized during PY 2008 into three components: 1) Economic and Market Analysis (which includes the occupational projections staff); 2) Regional Workforce Studies (with team members stationed in local one-stop career centers); and Database Support (which includes programmer/analysts who produce reports from the department's data warehouse). The Business and Workforce Studies team is supported from a variety of funding sources including the Workforce Information Grant, a grant from the Lumina Foundation specifically underwriting development and maintenance of the Indiana Workforce Intelligence System (IWIS), plus other Workforce Investment Act and Wagner-Peyser funding sources.

Developing Indiana's Research Toolbox

The Business and Workforce Studies Team utilizes a variety of tools in order to analyze and report on economic and workforce issues. Below is a comprehensive listing of all the tools that analysts use to support the agency's mission and goals.

- **IMPLAN Economic Impact Modeling software from Minnesota IMPLAN Group (MIG)** – IMPLAN permits analysts to estimate the economic impact or “ripple effect” of known or possible business expansions or contractions based on extensive supply chain/business relationships.
- **Indiana Career Connect (ICC)** – Indiana's job-matching system, with expanded access, allows flexible and immediate analysis of the applicant pool available for business attraction/expansion efforts.
- **Indiana County Estimates (ICE)** – modeled after the Small Domain Estimator developed by the Illinois Department of Employment Security in cooperation with the National Opinion Research Center, Indiana's version of this system generates monthly estimates at the county level that are comparable in scope to the statewide and Metropolitan Statistical Area (MSA) estimates produced by the Current Employment Statistics program.
- **Indiana Workforce Development System (IWIS)** – IWIS is a data warehouse being developed as a research database in cooperation with the Indiana Business Research Center of Indiana University. The IWIS system permits robust, flexible and speedy mining of the administrative data collected by the Department of Workforce Development, such as employer, claimant and wage records. Through partnering and data-sharing agreements with the Indiana Commission on Higher Education and the Indiana Department of Education, IWIS is now able to serve as a bridge in connecting detailed training records for students at the state's public colleges and universities with subsequent employment and to examine outcomes for unemployed workers who pursue additional training. Adult Education and student data from Indiana's public high schools will provide additional breadth and depth to the training and employment connections. The system has explicit safeguards protecting individual records and focuses on aggregated data and trends of movement into, through, and out of the workforce and education systems. The first iteration of the IWIS user interface was deployed in PY 2008 and allows staff other than database analysts direct access to the power of this tool.
- **Strategic Advantage software from Economic Modeling Specialists, Inc. (EMSI)** – Strategic Advantage provides “one-stop” labor market information reports which summarize a wide variety of data for customizable geographies as well as standard aggregates such as MSAs or Economic Growth Regions (EGRs).

- **Transferrable Occupational Relationship Quotient (TORQ)** – initially acquired during the 2007 program year, this web-based software powerfully leverages the vast amount of detailed data on knowledge, skills and abilities (KSAs) required for successful performance at each of the occupations included in the O*NET database. TORQ analyzes the overlaps and gaps between the KSAs of two occupations and develops an indexed GrandTORQ, as well as component measures, representing the alignment of skill sets between the occupations. TORQ analysis can be used to suggest promotional opportunities or alternate career choices for current or dislocated workers, or expand to the potential labor pool for potential employers by identifying additional labor available with small to moderate training investments. As staff members have gained experience with the software, the team has been able to customize outputs into more user-friendly formats for use at Rapid Response events.

Special Studies/Projects

- **Claims/Claimant Analyses** – As Indiana’s unemployment insurance claimant population has grown, Research & Analysis has been called on repeatedly throughout the year to provide analysis and tracking of claims from specific industry sectors and subsectors, such as recreational vehicle manufacturers and auto parts and assembly.
- **Extended Unemployment Analysis** – With the introduction of additional types of unemployment benefits (e.g. Emergency Unemployment Compensation and State Extended Benefits) in response to the recession, tracking claimant population through the benefit system acquired additional layers of complexity. Through a detailed study of matched claimant records over time, information on the percentage of claimants who exhaust benefits within one benefit category and transition to other programs could now be determined.
- **Howard County Study** – This study analyzed the patterns of unemployment in terms of total weeks, periods of unemployment and average duration of unemployment claims over a three-year period for residents of a single county with a high concentration of transportation equipment manufacturing employment. The study also used claimant cadres from the same quarter across four years to examine claimant demographics such as age, gender and education attainment.
- **Major Moves Worker Residency Analysis** – This study, in cooperation with the Indiana Department of Transportation and the Department of Revenue undertook to analyze the residency patterns of the workforce involved in Indiana’s Major Moves infrastructure initiative.
- **National Emergency Grant Support (Recreation Vehicle and Auto Assembly/Auto Parts Industries)** – As concentrated industry sectors experienced severe disruptions during this recession, the Department of

Workforce Development generated two National Emergency Grants during the program year. The Business and Workforce Studies team supplied detailed information on claimant characteristics such as age and educational attainment, as well as identifying closely allied sectors through examination of claims and employment patterns.

- **Rapid Response Support – (American Trans Air, Chrysler, Firestone & Navistar)** – The Business and Workforce Studies team provided Rapid Response teams with tailored information on possible transition occupations (including analysis of gaps in knowledge, skills and abilities) for workers affected by major layoffs or closings during the year. The four companies above were among the largest and support was also provided to suppliers and others impacted by declining economic conditions.
- **WIA/ARRA Funded Training Analysis** – As part of a joint initiative between the State Student Assistance Commission of Indiana (SSACI) and the Department of Workforce Development, the Business and Workforce Studies team provided assistance in analyzing the 2009-2010 student applications for financial aid. The goal was to arrive at an approach to maximize the effectiveness of additional training funds available under the American Recovery and Reinvestment Act.

Supporting ETA's Goals

Workforce Information Grant funding was used to support ETA's goals in the following ways:

Goal 1: Develop workforce information and economic analyses to support regional economic development initiatives

Hoosiers by the Numbers, www.hoosierdata.in.gov was launched in May 2006 and contains labor market data, statistics and trends compiled by the Research & Analysis Department and the U.S. Department of Labor. This website is continually upgraded to add or expand content, improve navigation and provide for greater flexibility and user interactivity

In order to support ETA's *WIRED Initiative* and other regional efforts, DWD continues to focus on new data and products that provide greater detail at the county and regional levels. These enhancements include:

- Addition of County, Region and Metropolitan Statistical Areas population projections;
- Addition of Skills Projections (based on our occupational projections) developed by Indiana University, which identify those skills likely to be in high demand over the coming decade;
- Inclusion of Quarterly Census of Employment & Wages (QCEW) data for all states and counties;

- Enhancements to the custom region builder and expansion of the referenced data sets;
- Addition of economic outlooks and forecasts from the Indiana University Center for Econometric Research and the Indiana Business Review;
- Addition of labor force estimates for Economic Growth Regions (EGRs);
- Addition of quarterly QCEW employment total and average wages at the EGR level.

The Department has been tracking the number of “hits” that Hoosiers by the Numbers receives. From July 2008 to June 2009, this website has averaged 63,455 page views per month. Topics with the most page views include the Business Lookup Tool, County Highlights, Occupational Employment Statistics, QCEW wage data and Local Area Unemployment Statistics estimates.

The most popular downloads include InContext articles written by DWD and Indiana Business Research Center staff, Hoosier Hot Jobs, Labor Market Reviews (regional employment publications), Indiana Employment Review (statewide employment publication), Occupational Employment Statistics workbook/ spreadsheets (including all-industry tabs and breakouts by industry) and the Occupations & Starting Wages reports.

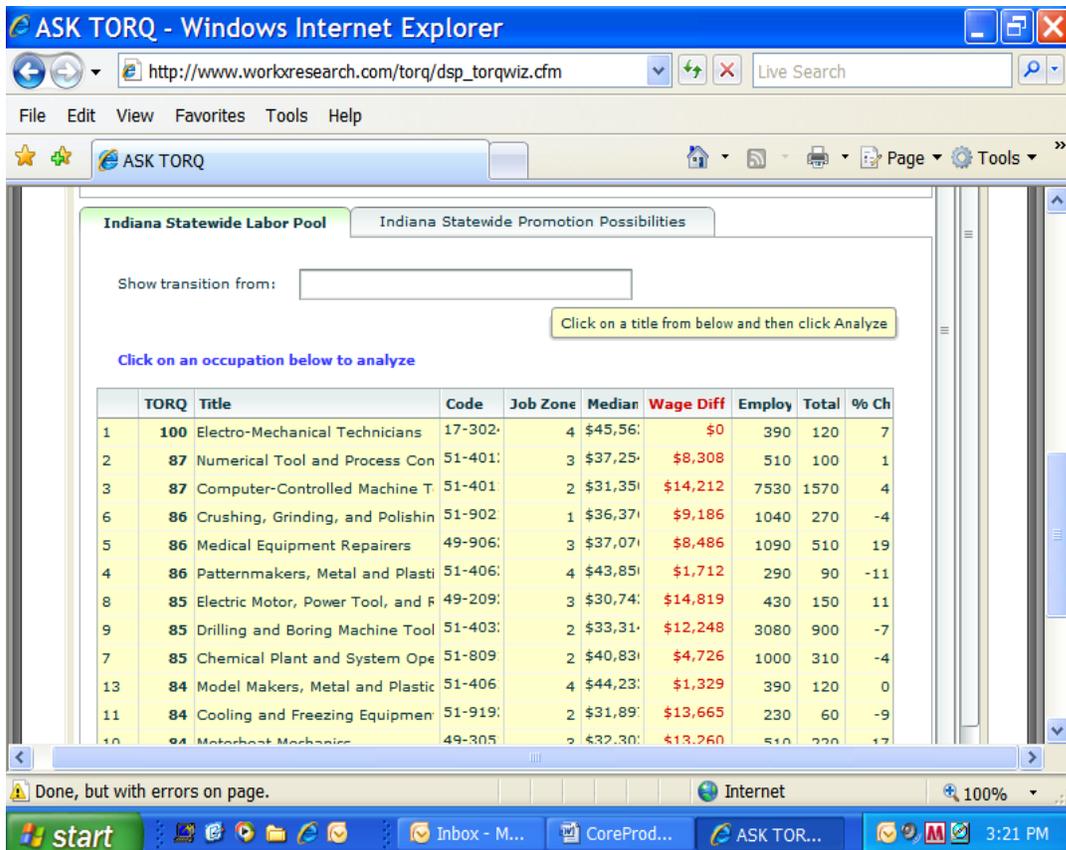
Enhanced Occupational Analysis using TORQ

Indiana began procurement during the 2007 program year of a new tool designed by Workforce Associates, Inc. (www.workforceassociates.com) which leverages the vast amount of occupational data contained on the O*NET website to analyze the transferability of knowledge, skills and abilities (KSAs) from one occupation to another. Dubbed the Transferable Occupation Relationship Quotient (TORQ), the software application provides a robust and detailed analysis of the KSAs of the target occupation and provides separate lists of candidates with similar KSA profiles earning less than the target application (labor pool) and those earning more than the target occupation (promotion possibilities).

Each matched occupation in either group is assigned a GrandTORQ score, which represents a composite of the transferability scores assigned separately for knowledge, skill and ability areas. Occupations with high GrandTORQ scores are excellent candidates for transfer with limited investments in training. The default is to weight each of the 3 sectors (KSA) equally, but the software provides the flexibility to alter these weights is appropriate for the specific occupations under consideration.

- Up-One-Level Reports -- Analysts use TORQ to assist in identifying occupations with significant overlaps that represent a step-up from the job openings frequently listed with our job-match service with up to 2 years of additional training and/or experience.

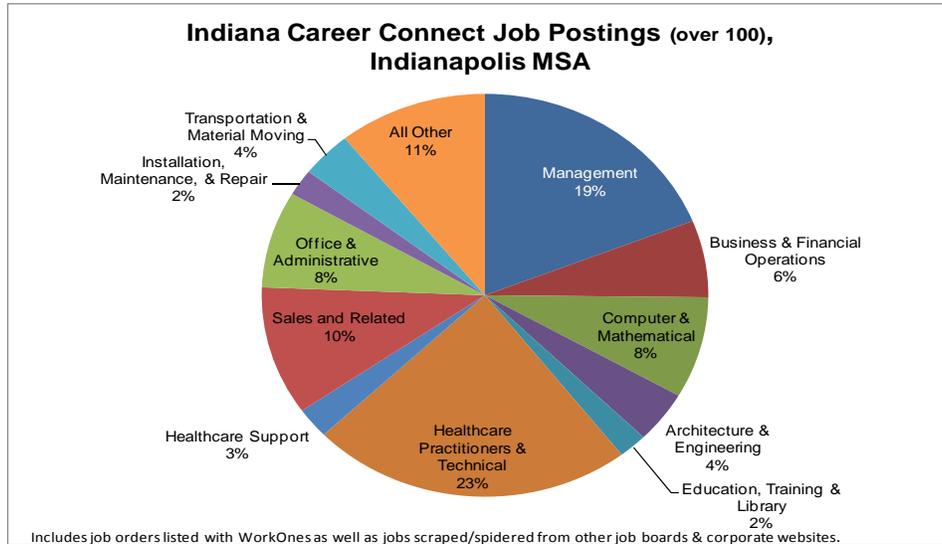
- Rapid Response -- Analysts assist Rapid Response efforts by more readily identifying alternate occupations requiring similar skillsets for employees affected by major layoffs or closings.
- Economic Development/Business Attraction -- Examination of labor pool candidates (earning less than the target occupation) can significantly “broaden” the available candidates for occupations of interest to prospective employers. The ability to include additional occupations with highly transferrable skill sets is of particular importance when target occupations include those with limited presence (e.g. electromechanical technicians) in the state. The screenshot below shows the TORQ analysis of highly-related occupations whose applicants could also be considered as possible candidates for electromechanical technician positions with limited additional training.



Labor Pool Analysis

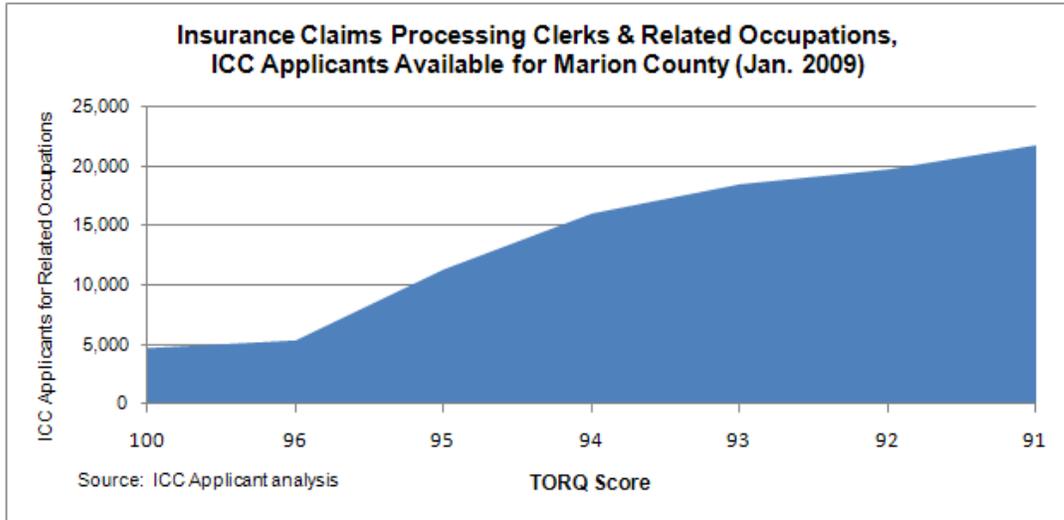
The Business and Workforce Studies team has obtained direct access to a frequently-refreshed copy to DWD’s Indiana Career Connect job-matching system, rather than relying on the reports and queries available through staff access to the on-line system. This direct access allows much greater flexibility in responding to detailed requests for information on the available labor pool in connection with employer attraction and

other economic development efforts. Such requests may include criteria such as required educational attainment levels or specific degrees or certificates, specified length of prior experience in the occupation, etc. in addition to geographic availability. We have also been working with a local economic development partnership to create a prototype report which can be run once or twice a month to capture a snapshot of the regional labor pool based on their occupational interests. Once completed, this report will serve as a model in the development of similar reports for other regions across the state.



Business attraction projects during the 2008 program year have been less frequent, but even more important in light of the increased unemployment experienced during this recession. One such project involved analysis of the available labor pool (both incumbent workers and job-match system applicants) for a variety of occupations that would be employed by a prospective employer providing “insurance and back-office administrative support services”.

Using industry staffing patterns from the Occupational Employment Statistics program, we identified likely occupations and then employed the Transferrable Occupational Relationship Quotient (TORQ) to establish additional occupations with highly-related knowledge, skills and abilities. The graph below shows the cumulative effect of adding the additional occupations when considering only job-match system applicants from the Indiana Career Connect system with decreasing TORQ scores on the X-axis. A similar report analysis was completed for the incumbent workforce using the same occupational targets with the region’s Occupational Employment Statistics (OES) estimates.



Indiana County Estimates

Indiana County Estimates (ICE), building on the work on the Illinois Department of Employment Security and National Opinion Research Center’s Small Domain Estimator was developed in cooperation with the Indiana Business Research Center of Indiana University. The system will generate monthly estimates at the county level comparable to the total non-farm employment from the Current Employment Statistics program. These estimates will provide an additional monthly indicator of employment trends at the county level and, once super-sector level estimates are finalized, will provide additional insights into the drivers of these trends.

County-level estimate development has been a priority due to the desire to incorporate these estimates into the Local Area Unemployment Statistics (LAUS) modeling process for “small counties”, replacing the current methodology. Supersector-level estimates are still being reviewed and that processing tweaked, but the intention is to introduce those industry estimates by the beginning of 2011. Despite the pull of conflicting priorities, work has moved forward this year and various technical issues have been resolved.

County-level monthly estimates for all months of 2008 are in the final stages of review, along with development of an SPSS batch job to be run by DWD staff which will perform the monthly regression analysis required to produce the sample links. Our expectation is that we can begin publication of the total employment estimates in early 2010. Review of the most recent estimates for all months 2008 revealed that 73% of county-level estimates were within 5% of the total county employment (adjusted for scope differences) from the Quarterly Census of Employment & Wages, while 92.8% of the estimates were within 10% of that employment total.

ICE Milestones:

- Completed estimates for final quarter of 2008 for comparison to QCEW employment – September 2009
- Generation and review of 1st Quarter 2009 Estimates – October 2009
- Testing of SPSS monthly regression analysis – November 2009
- Begin publication of county-level estimates – March 2010

Goal 2: Participate in economic and workforce activities that are designed to identify regional assets, exploit strengths and opportunities and address weaknesses**Statewide and Regional Long-Term Projections**

Indiana has expanded its Long Term Projections to include annual updates, providing more immediacy and the opportunity to introduce updated source data. After the deliverable year, the lead projections analyst added in the 2007 employment data and used 9-year models to re-evaluate the 2016 projections for the state. After making adjustments to the state projections, each of Indiana's 11 Economic Growth Regions were adjusted using shift-share models and updated State 2016 projection. Those updates were reviewed by regional analysts and adjusted accordingly.

Indiana has found that annual projections can be created for both the state and regions by using an expanded team of analysts working on state and regional projections (thus avoiding the synchronization problem inherent in off-year sub-state estimates). Upon completion of preliminary statewide projections, spreadsheets containing complete historical data and results from built-in shift-share models, constant-share models and regional rate models are delivered to the regional analysts. The regional analysts select the model that they believe best reflects what will happen in the 10 year period in a given industry within their Economic Growth Regions, make notes and comments on their reasons for selecting the model then send their results to the lead projections analyst.

Once all regional projections have been delivered to the lead analyst, both the State and Regional industry projections are adjusted and finalized. The lead analyst then produces the occupational projections using Micro-matrix – which contains State and regional staffing patterns from OES, adjusted for known changes (such as a new industry arriving in a region) and Indiana-specific self-employed staffing using Census and American Community Survey data to adjust the micro-matrix provided national ratios.

Indiana is currently in the process of expanding its long-term projections to include County projections for each of Indiana's 92 Counties. This is being accomplished by applying county occupational staffing levels from the OES staffing patterns to the Economic Growth Region occupational projections. The target date for producing these county projections is September 30, 2009. These projections, including

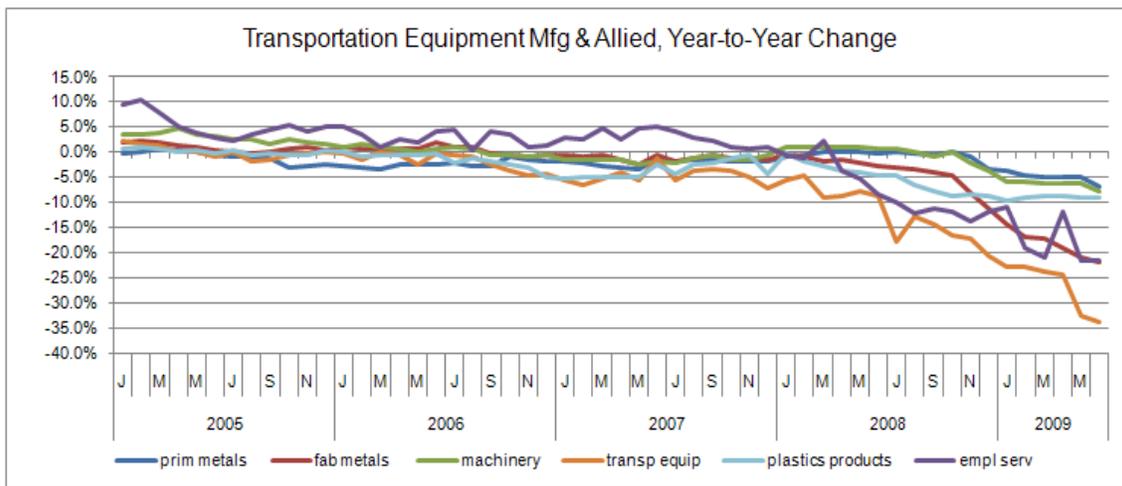
industry breakouts by occupation (i.e. staffing patterns) were added to the Hoosiers by the Numbers website (www.hoosierdata.in.gov) for use by our customers.

Skills Projections

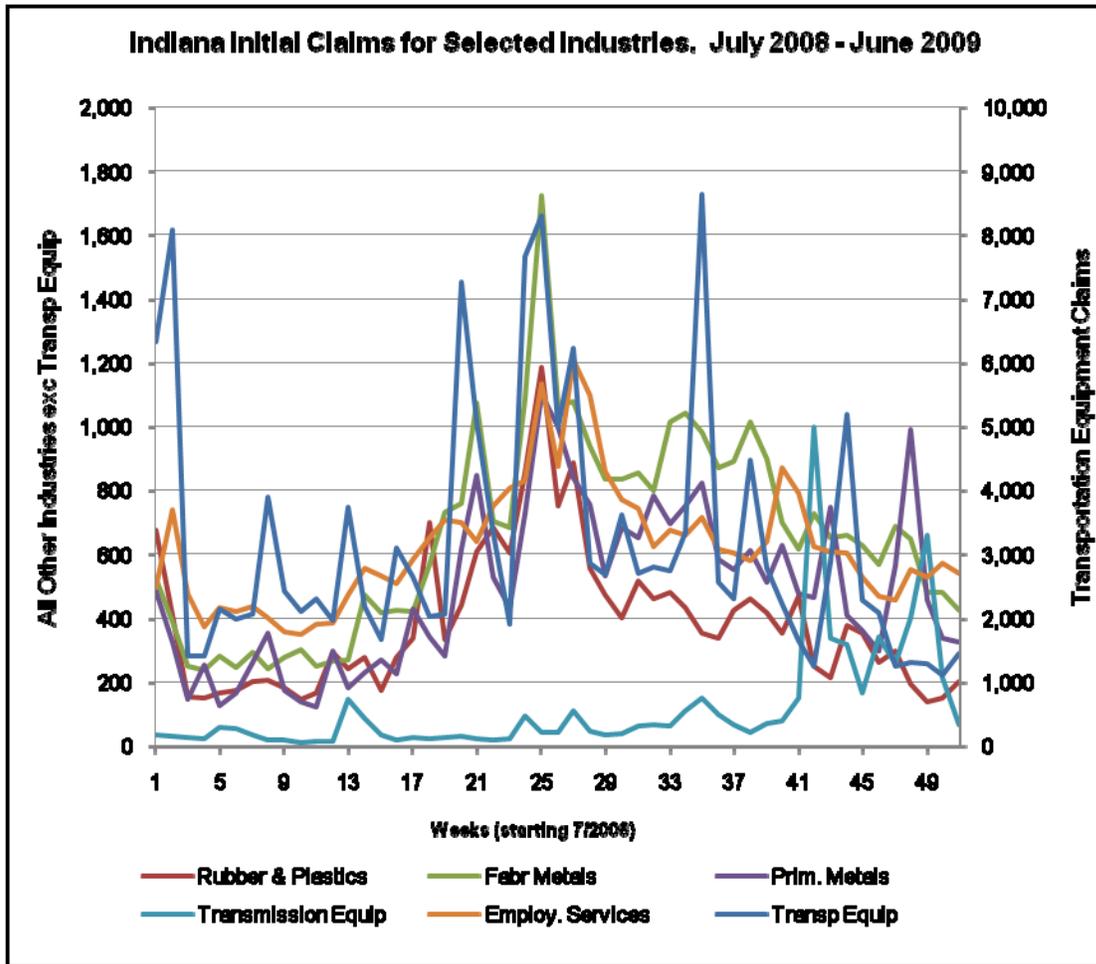
2004-2014 Statewide Industry and Occupational Projections were used as the foundation for creating Indiana’s first statewide skills projections. DWD contracted with the Indiana Business Research Center to create these skills projections as a tool for identifying potential shortages in the future. These projections will be revised for the state and expanded to the regional level using 2006-2016 Economic Growth Region industry and occupational projections. Analysis of these skills projections will allow Indiana to target key skills in educational program planning.

Claims Analysis

The Indiana Workforce Intelligence System (IWIS) has been of tremendous value during the program year in providing quick answers to questions regarding the growing claimant population. Because of extensive layoffs during the early part of 2009 in the transportation equipment manufacturing sector, we have been able to use the claimant population as a very reliable proxy for the labor force in that industry in evaluating educational level, age distribution and geographic dispersion of workers. Tracking of the industry-related claims based on separating employer identification has allowed us to monitor the direct industry claims. Further analysis has also allowed us to identify other segments affected by the disruptions in the transportation equipment sector, such as plastics products, fabricated metal products and employment services through inspection of the similar co-incident claims trends.



Note that initial claims from transmission equipment manufacturers in the graph below initially showed very limited correlation with those from transportation equipment manufacturers. However, in the last quarter of the 2nd quarter of 2009, initial claims trends were much more similar as the chart on the following page illustrates.



Reports which summarize a region’s or county’s unemployment claimant pool in terms of its industry composition, age, gender, educational level, 2-digit occupational code and number of weeks paid may be run on request through the interface and made available to regional operators and other stakeholders for planning purposes. A modified version of the report may be generated for claimants from a selected industry.

Indiana NAICS 326 - Rubber/Plastics Manufacturing by Occupational Group Based on Self-Reported SOC Code			
Occupational Group Description	SOC Code	Claimants	% of Total
Management Occupations	110	501	4.5%
Business and Financial Operations Occupations	130	192	1.7%
Computer and Mathematical Occupations	150	39	0.3%
Architecture and Engineering Occupations	170	245	2.2%
Life, Physical, and Social Science Occupations	190	25	0.2%
Community and Social Services Occupations	210	8	0.1%
Legal Occupations	230	7	0.1%
Education, Training, and Library Occupations	250	32	0.3%
Arts, Design, Entertainment, Sports, and Media Occupations	270	97	0.9%
Healthcare Practitioners and Technical Occupations	290	46	0.4%
Healthcare Support Occupations	310	77	0.7%
Protective Service Occupations	330	34	0.3%
Food Preparation and Serving Related Occupations	350	68	0.6%
Building and Grounds Cleaning and Maintenance Occupations	370	112	1.0%
Personal Care and Service Occupations	390	25	0.2%
Sales and Related Occupations	410	131	1.2%
Office and Administrative Support Occupations	430	820	7.3%
Farming, Fishing, and Forestry Occupations	450	26	0.2%
Construction and Extraction Occupations	470	341	3.0%
Installation, Maintenance, and Repair Occupations	490	751	6.7%
Production Occupations	510	5250	46.9%
Transportation and Material Moving Occupations	530	2356	21.1%
Military Specific Occupations	550	2	0.0%
Not available	0	0	0.0%
Total		11,185	

Claimant Analysis Scope = Unique Claimants Who Meet the Following Criteria:
 filed a continued claim for compensable weeks ending in 2009 (regardless of payment status)
 filed an initial claim in 2009 (regardless of claim status)
 listed as "separating employer" a firm coded for Industry 326 (Rubber/Plastics Manufacturing)

Grand total **excludes** claimants from other states, primarily Michigan and Ohio

Grand total includes claimants with separating employers in the target industries regardless of employer location within Indiana

Howard County Study

Another retrospective IWIS study involved an analysis of claims activity in a single county with a high concentration of transportation equipment manufacturing. (see:

<http://www.hoosierdata.in.gov/docs/egr4/howardcounty.pdf> for a copy of the full report).

The study attempted to:

- identify initial claimants for regular unemployment insurance benefits beginning with July 2005 who were residents of Howard County
- track total number of weeks claimed, number of separate "spells" of unemployment and the length of each unemployment spell during the claimant's 12-month benefit year; and

- examine (via wage records) whether the claimant returned to the separating employer.

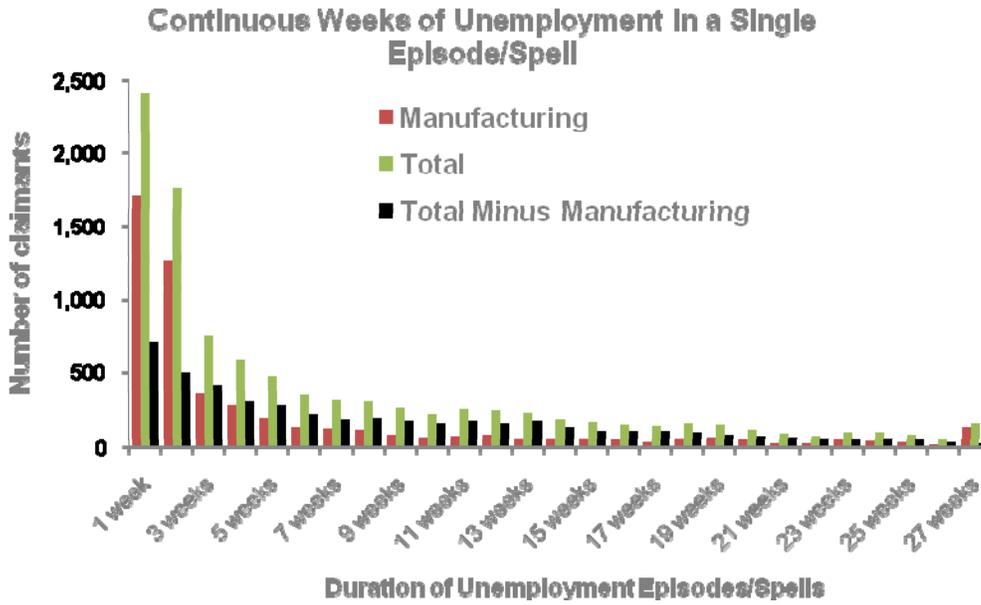
This selection process was repeated for Howard County residents who filed initial claims through July 2007 (to allow for a 12-month following period). The reports created for this study will be re-run for each of Indiana’s counties using the most current data series available and posted to the Hoosiers by the Numbers website during the fall of 2009 to provide insight into each county’s specific pattern related to their industry mix.

Analysis of the claims activity for Howard County generally confirmed expectations that the unemployment patterns of most claimants were closely tied to traditional plant shutdowns within the transportation equipment manufacturing sector, with some increase in frequency of layoffs during the final year of the study. Basic demographics of the claimant pool were also summarized. The table below summarizes the number of spells of unemployment (separated by more than one week) that claimants experienced over a three-year period. Note that the manufacturing sector claimants heavily dominate the other industries for claimants with more than one spell of unemployment during the study period (see table below).

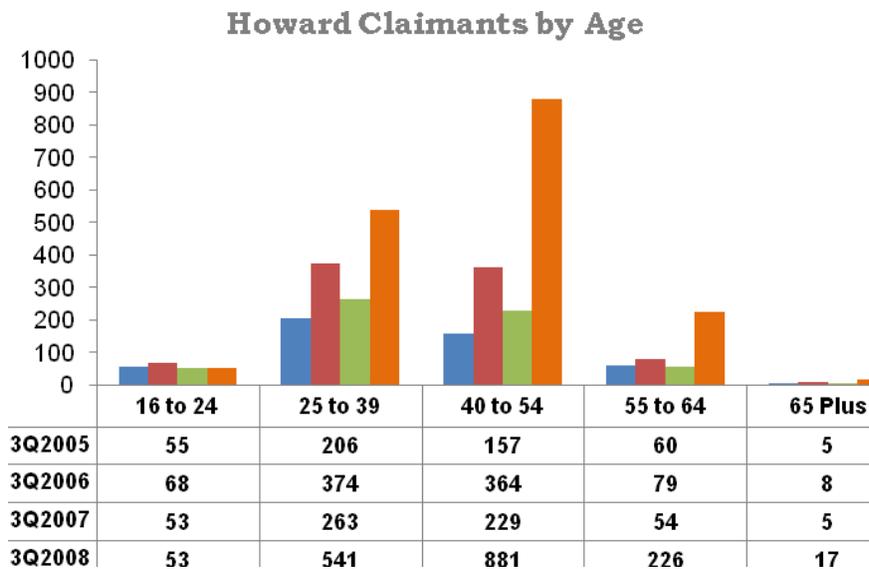
Episodes/Spells of Unemployment Over a Three-Year Period

	All-Industry Total	Construction	Manufacturing	Trade, Transportation & Utilities	Professional & Business Services	Education & Health Services	Leisure & Hospitality
One	2,167	198	707	368	298	137	211
	38.8%	9.1%	32.6%	17.0%	13.8%	6.3%	9.7%
Two	1,074	145	394	138	150	54	80
	19.2%	13.5%	36.7%	12.8%	14.0%	5.0%	7.4%
Three	711	119	362	57	75	22	35
	12.7%	16.7%	50.9%	8.0%	10.5%	3.1%	4.9%
Four	480	74	300	30	40	4	11
	8.6%	15.4%	62.5%	6.3%	8.3%	0.8%	2.3%
Five	253	42	150	21	18	3	5
	4.5%	16.6%	59.3%	8.3%	7.1%	1.2%	2.0%
Six	207	30	156	7	5	1	3
	3.7%	14.5%	75.4%	3.4%	2.4%	0.5%	1.4%
Seven	147	19	111	5	4	2	0
	2.6%	12.9%	75.5%	3.4%	2.7%	1.4%	0.0%
Eight	116	5	98	5	4	0	1
	2.1%	4.3%	84.5%	4.3%	3.4%	0.0%	0.9%
Nine	146	10	132	0	2	0	1
	2.6%	6.8%	90.4%	0.0%	1.4%	0.0%	0.7%
Ten	142	5	131	1	4	0	0
	2.5%	3.5%	92.3%	0.7%	2.8%	0.0%	0.0%
More than 10	137	13	119	1	1	0	2
	2.5%	9.5%	86.9%	0.7%	0.7%	0.0%	1.5%
Total	5,580	660	2,660	633	601	223	349

Claimants from the manufacturing sector, however, typically had claims lasting only 1-2 weeks, consistent with annual holiday shutdowns in December and re-tooling shutdowns in July.



Considering only Howard County residents who filed initial claims for unemployment during the third quarter of each year, and adding that data for the 3rd quarter of 2008 allowed us to capture a series of snapshots of the demographics of the claimant population. The breakout by age cadre shows a sharp increase (285%) in the number of claimants in the 40-54 age groups for 3rd Quarter 2008, although claimants in the 25-39 age groups also doubled in 2008.



Goal 3: Help economic development project teams address gaps identified in their assessments and participate as catalysts in the development of implementation strategies

Creating projections of employment by occupation and industry helps economic developers and planners understand future demand. Examination of the existing or incumbent workforce by occupation will provide insights into the implicit skill sets of today's workers. Tools such as TORQ can help to bridge the gaps between the two by providing detailed analysis of the differences in knowledge, skills and abilities that must be resolved to allow workers to move from lower-demand occupations to higher ones. Having access to both projections and current occupational employment statistics at the regional -- and even county level -- enables this analysis using tools now available to Research and Analysis. In addition, incorporation of enrollment and completion records from the Indiana Commission on Higher Education will facilitate analysis of the educational "pipeline" going forward.

OES County Level Estimates and TORQ

Indiana has produced and will continue to produce annual OES estimates at the County level for all possible Industry levels available within the Estimates Delivery System (EDS), and make those estimates available in an easy-to-use format for expanded availability in Rapid Response and Economic Development projects. These data are used in the TORQ system, used by economic analysts to determine the best opportunities available for workers whose current jobs are jeopardized and in finding the needed labor force for attracting new business to Indiana. County OES estimates have been provided to Workforce Associates, the developers of TORQ, and to the Indiana Business Research Center (IBRC) in order to create county level skills projections. These estimates are also used within Research & Analysis to further research O*NET Knowledge, Skills and Abilities scores to assess transferability of skills from one occupation to another and to determine the time needed (and consequently, investment dollars needed) to assure a highly trained, high skill workforce for the jobs of the future.

TORQ and O*NET Research

Indiana has been the leader in the use and development of Workforce Associate's TORQ system. TORQ uses ONET knowledge, skills and abilities (KSAs) to assess the ease of transfer from one occupation to another. Also included are vital data on current and projected staffing and occupational wages. Indiana has used TORQ both in Rapid Response events and in new business attraction projects. The Business and Workforce Studies team has also conducted independent O*NET research on KSAs to determine training time required to elevate those KSAs to a higher level so that a worker can make a career step-up to a high wage, high demand occupation. This work will continue in the current program year, and will be used in special projects -- particularly Indiana's Green Jobs research initiative.

Statewide and Regional High Wage, High Demand Occupations

Originally created in the 2005-2006 Program Year, Indiana's listing of High Wage, High Demand (HWHD) occupations has emerged as a common reference of projected demand within the agency in the awarding of various types of training grants, in helping job seekers develop training plans and career ladders and in examining skills-based career clusters. Similar to the Hoosier Hot 50 Jobs, all occupations were evaluated to determine whether an occupation was a HWHD occupation. Less restrictive than the Hoosier Hot 50, and without rank order – these occupations used the same Hoosier Hot 50 factors to assess whether a job was a “high demand, high wage” occupation. As in the Hoosier Hot 50, each job on these lists have an OES median wage greater than the Statewide or Regional median wage for all jobs combined, and are projected to produce a large number of job openings. The HWHD lists are used by state and regional planners, economic developers and educational institutions to plan for appropriate curricula to assure that Indiana has educational components in place to educate the workforce for the well paying jobs of the future.

Strengthening Regional Analyst Engagement

During the PY08 program year, Regional Analysts have become more active participants in the network of regional workforce development stakeholders. Analysts have provided informational presentations to Regional Operators' staff on available labor market information, have assisted with attraction projects and rapid response events, attended Regional Workforce Board meetings and developed customized reports as requested. In addition, these analysts have leveraged their local knowledge of business developments and economic conditions in their respective regions to improve regional industry and occupational projections.

Regional Analysts played a key role in researching the available labor pool for specific targeted occupations in connection with a number of major business attraction projects during the year. Requests come directly for local economic developers to regional analysts as well as through the Governor's office, the DWD Commissioner and Indiana's Economic Development Corporation. Analysts received training during the program year on a variety of tools at their disposal including an enhanced version of TORQ, a demonstration of the IWIS interface, training on use of a template to import region-specific data while maintaining a consistent format for the monthly Labor Market Reviews, as well as instruction on creation of request-driven TORQ occupational analyses using a consistent process and format.

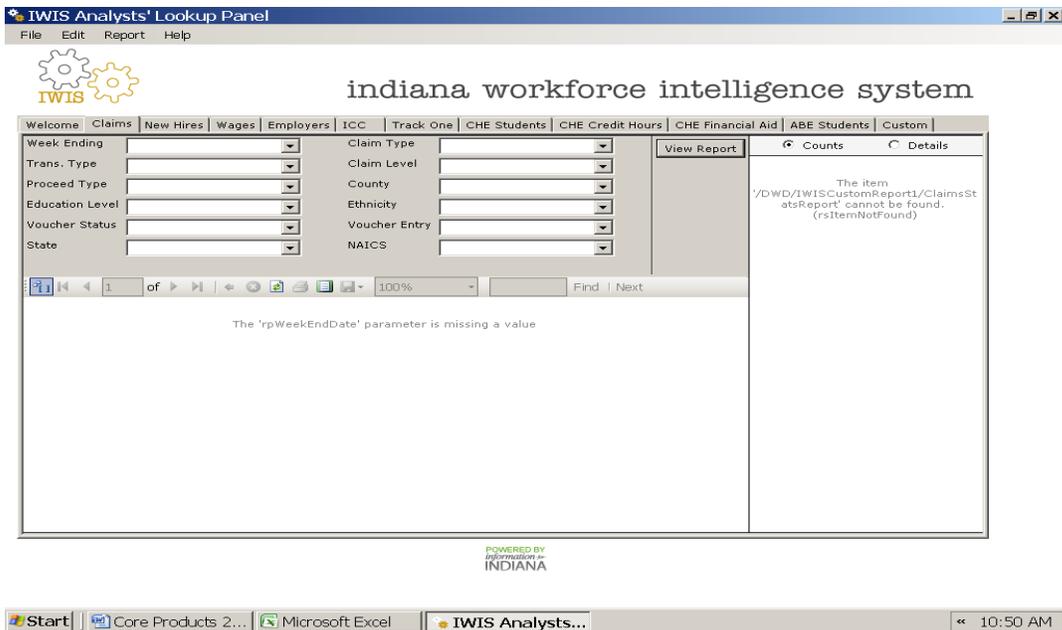
Goal 4: Help develop integrated economic development strategies unifying workforce and economic development systems and connecting to other public and private entities

Indiana Workforce Intelligence System

The Indiana Workforce Intelligence System (IWIS) has provided the most significant expansion in our ability to mine and analyze the Department of Workforce Development's various data sources during the 2008 program year. Through IWIS, DWD's administrative data on Indiana's workforce (including wage records, unemployment claims, job-match system and employer data) may be connected with records related to training at Indiana's institutions of higher education provided by the Indiana Commission on Higher Education. Indiana's Department of Education has joined the data-sharing agreement this year, bringing information on Adult Education participants and eventually for public high school students as well.

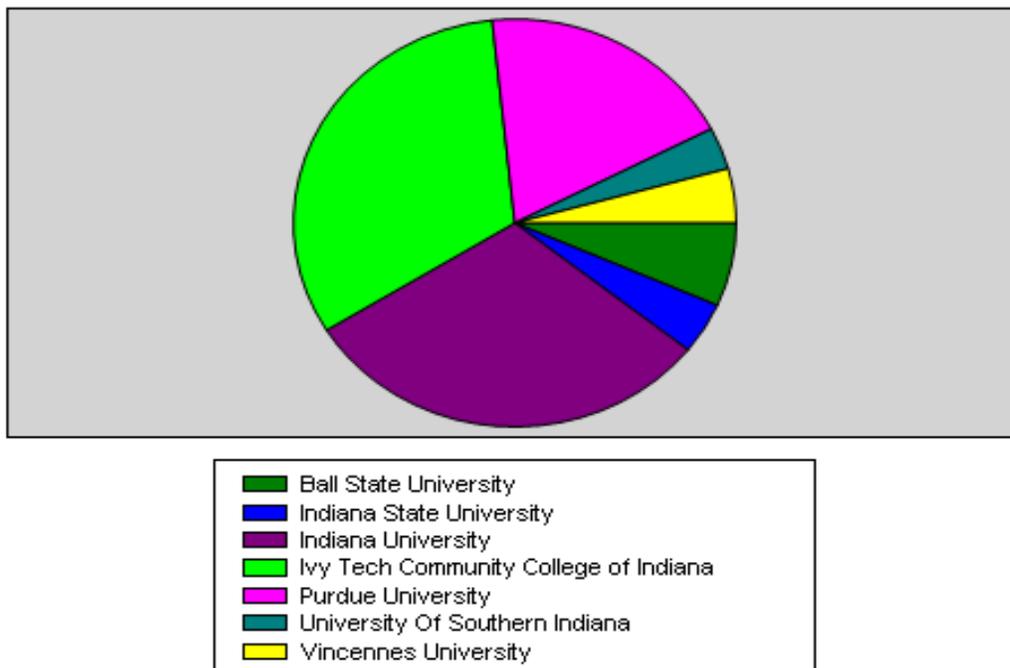
A database analyst is dedicated to IWIS so that queries and reports can be created as needed. As a result of a collaborative effort with the Indiana Business Research Center (part of the Kelley School of Business of Indiana University), IWIS now features a user interface to the SQL Server data warehouse. This interface allows selected staff the ability to create customizable queries of an individual data series using dropdown menus, plus the ability to enter new parameters for previously developed cross-tabulations to filter on key dimensions such as time, educational level, industry, etc. Individual confidentiality is vigorously protected and aggregate data are screened for minimum cell size for any external reporting.

The screenshot below displays the IWIS interface filtering options available for unemployment insurance claims, allowing authorized users direct access to dissect and review claims data without the need to create a new query from "scratch" for each request. Users have the option of retrieving either counts or record-level data for inspection or further manipulation. Users have access to their own agency's record-level data, but only to aggregate data for the other partners. A variation of the interface providing access to the custom reports only (i.e. aggregate data, including cross-tabulations) will be made available to our Regional Analysts and selected managers at each of the partner agencies during the 2009-10 program year.



The screenshot which follows depicts output from a customizable report summarizing enrollments by institution for Indiana’s State Schools for the 2007-08 school year.

Institutions by Enrollee Count (For Selected Years)



Additional use of available filters allows the user to drill down and inspect enrollments by institution for a specific degree areas (e.g. chemistry).

Higher Education Enrollment Counts by Institution and Degree*

Source: CHE

		2007-2008
Ball State University	All Degrees	23,986
	B.A./B.S. in Chemistry	132
Indiana State University	All Degrees	14,756
	B.A./B.S. in Chemistry	71
Indiana University	All Degrees	110,420
	B.A. in Chemistry	14
	B.A./B.S. in Chemistry	494
	B.A./B.S./B.S.Ch. in Chemistry (PU)	284
Ivy Tech Community College of Indiana	All Degrees	116,515
Purdue University	All Degrees	68,849
	B.A./B.S. in Chemistry, General	3
	B.S./B.S.Ch. in Chemistry	223
	B.S./B.S.Ch. in General Chemistry	51
	B.S./B.S.Chem. in Chemistry (PU)	75
University Of Southern Indiana	All Degrees	12,035
	B.A./B.S. in General Chemistry	64
Vincennes University	All Degrees	15,589

*The "All Degrees" count is a unique count of enrollees at each college/university. Some students may be enrolled at more than degree program in a school year. In these cases, the student will be counted once for each degree program.

Following completers from Indiana’s public colleges and universities, IWIS can establish which specific industries have employed them. However, in dealing with detailed industry breakouts, confidentiality thresholds frequently come into play. Aggregating graduate data across years and reporting at less detailed industry levels provide valuable insights concerning the match between educational degree area and subsequent employment by considering larger populations.

Strategic Partnerships and Leveraging with IWIS

The agency’s development of IWIS has again demonstrated the value of our strategic partnership with the Indiana Business Research Center (IBRC) of Indiana University, which has been instrumental in assisting us in obtaining grants to support this project first from the Joyce Foundation and more recently from the Lumina Foundation. Grants from the Lilly Foundation to IBRC for the Information for Indiana initiative have also supported IBRC participation in the development of this key resource. The Joyce and Lumina Foundation funds have underwritten the cost of the dedicated analyst within the Business and Workforce Studies group and provided some funding for project management costs, while Core Product funds provided seed money and have played a supportive role in defraying hardware and IT storage costs. IBRC’s talented database staff members have been the driving force for the technical development of this unique resource, in addition to adapting the Illinois Small Domain Estimator for Indiana’s use in creating monthly county-level estimates.

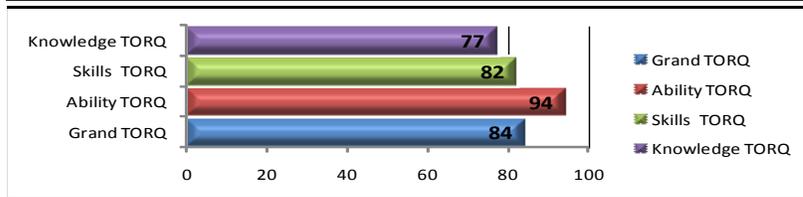
The 2007-08 program year has seen significant maturation of the Indiana Workforce Intelligence System. A new partner agency, the Indiana Department of Education, has joined the project, and linkages with the Bureau of Motor Vehicles and the Department of Revenue are being explored. Two validation teams, one consisting of database analysts and the second made up of data analysts, are reviewing methods of external validation of the various data sources as well as internal checks using record

counts, standard reports produced by other systems, etc. In addition, a policy & planning team has been formed with managers/directors from each of the participating entities to establish goals and priorities for future development. Each member of the policy and planning team has been asked to develop specifications for a new IWIS report that would assist them in meeting a business need. Recognizing the progress and potential of IWIS, the Lumina Foundation awarded a 3-year grant beginning in January 2009 with specific deliverables relating to education/training and employment linkages.

Goal 5: Integrate workforce information and economic data into user-friendly and accessible tools, information and products for use by workforce professionals in providing career guidance for students, adults and workers of all ages to use in making career decisions

Research & Analysis has created templates to present findings from the TORQ system in easily understood displays tailored separately for Rapid Response and for new business attractions. One of the main challenges with the very detailed analysis reports generated from TORQ has been to create summary data that captures the salient information without overwhelming the recipient. The graphic which follows is a customized summary of one occupational transition analysis from TORQ that was prepared for a Rapid Response event.

TORQ ANALYSIS - Machine Setters/Operators/Tenders		
Transfer	Title	O*NET Code
Transfer FROM:	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	51-4072
Transfer TO:	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	51-4081
Labor Market Area:	EGR5-Indianapolis	



Gaps To Narrow if Possible			Upgrade These Skills			Knowledge to Add		
Ability	Gap	Impt	Skill	Gap	Impt	Knowledge	Gap	Impt
Written Comprehension	15	67	Equipment Maintenance	23	77	Mechanical	25	75
Control Precision	5	77	Repairing	19	78			
Problem Sensitivity	6	60	Troubleshooting	16	75			
Information Ordering	4	72	Critical Thinking	12	73			
			Quality Control Analysis	9	84			
			Installation	11	61			
			Operation Monitoring	7	75			

Ability Level Comparison -Abilities with importance scores over 60 (Top 3)			
Description	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders	Multiple Machine Tool Setters, Operators, and Tenders	Importance
Control Precision	45	50	77
Information Ordering	40	44	72
Manual Dexterity	47	47	70

Skill Level Comparison -Skills with importance scores over 60 (Top 3)			
Description	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders	Multiple Machine Tool Setters, Operators, and Tenders	Importance
Quality Control Analysis	55	64	84
Operation and Control	54	59	82
Repairing	38	57	78

Knowledge Level Comparison - Knowledge with importance scores over 60 (Top 3)			
Description	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders	Multiple Machine Tool Setters, Operators, and Tenders	Importance
Mechanical	41	66	75

Statewide and Regional Hoosier Hot 50 Jobs

Indiana released its 2009 Hoosier Hot 50 Jobs in November of 2008. In addition to a statewide list, Hoosier Hot 50 Jobs listings were produced for each of Indiana’s 11 Economic Growth Regions. The Hoosier Hot 50 Jobs is a qualitative list of high-wage jobs that are projected to grow in both the long-term and in the short term – and to produce a large number of job openings due to growth and replacement needs. Changes to the methodology from prior editions included the addition of Short-Term projections data to the evaluation of the occupations in order to assure that even during a downturn in the economy that job opportunities would exist now as well into the future for the listed jobs.

Factors used to evaluate each job were 2006-2016 growth, percent change and total openings, the same for the 2008-2010 time period and the current OES median wage

for each occupation. Other factors used were rankings of all factors within an occupation's "career pathway" (in 2007, Indiana established 4 career pathways based on O*NET skills and the ease of transfer of those skills from one occupation to another) and an occupation's existence in multiple industries.

Updated posters and tri-fold publications of the statewide list, including tie-in skills information to the Indiana Career Guide will be available both on the Hoosiers by the Numbers website and in employment offices and career centers.

The updated 2006-2016 statewide Hoosier Hot 50 Jobs will be available at <http://www.in.gov/dwd/hoosierhotjobs/index.html> in addition to a tri-fold brochure with the same information in a more portable form

The new listings for each of the Indiana's 11 Economic Growth Regions are available at <http://www.hoosierdata.in.gov/docs/hh50/hh50regions.pdf>

Improved Data Presentations

Indiana has made great strides in presenting data in easy-to-use and easy-to-create formats. Templates have been created for presentation of OES data for multiple types of users including in-house and other researchers, job-seekers, career exploration users, economic developers and educational institutions. These templates automatically format EDS outputs, screen and suppress for confidentiality according to user restrictions and display value-added data according to the type of user.

Regional Analysts as well as administrative Economic Analysts can use these templates to tailor reports for their data-seekers as well as provide standard reports to be viewed on Indiana's Hoosiers by the Numbers web site. Templates, some with menu systems, have also been created for TORQ outputs, projections and related occupational and industry information, demographic displays and custom reports from an array of BLS, Census, Conference Board and other sources.

Specialized electronic presentations are produced which includes a point-and-click menu system that allows users to quickly locate their data of interest.


 INDIANA
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 DEVELOPMENT

Marion County 'Top Jobs' Project

Contents (click selection to go to sheet)

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[Marion County Top Jobs Ranks](#)
[Fastest Growth \(%\)](#)
[Greatest Growth](#)
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[Highest Wage](#)
[Ranks worksheet](#)

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 Fax 317.233.0317



Menu / Technical Notes / Marion County Top Jobs Ranks / **Fastest Growth (%)** / Grid

Workforce Information Grant Deliverables

1. Continue to populate the Workforce Information Database with state and local data

Indiana Department of Workforce Development continued to populate the Workforce Information Database with state and local data that cover the most recent five-year period, and with some datasets, beyond a five-year period. The Workforce Information Database data is used as the source for Indiana's web site, *Hoosiers by the Numbers*.

The state data covers counties, metropolitan statistical areas, economic growth regions, balance of states, and statewide. All core products have been populated as required. Additional tables outside the "core tables" have been integrated, are populated on a regular basis and included on the website. All crosswalk, lookup, and data tables are maintained and updated on a monthly, quarterly, and annual basis. Version 2.4 of the WID database is fully implemented.

2. Produce and disseminate Industry and Occupational Employment Projections

During PY 2007-08, the Indiana Department of Workforce Development generated and delivered to ETA in June 2008 Statewide Long-Term Industry and Occupational

Employment Projections for the 2006-2016 reference period. Additionally, Long-Term Industry and Occupational Employment projections were produced for Indiana's 11 Economic Growth Regions for the 2006-2016 reference period. Both series were updated during the 2008 program year.

Both short-term and long-term employment projections by industry and occupation will be available through the agency's website in September and long-term projections were provided to www.projectionscentral.com.

3. Publish an annual economic analysis report for the governor and the SWIB

Indiana's Annual Economic Analysis Report for PY 2008 was published to serve as an important source of economic information for the governor, the SWIB, LWIBs, colleges, economic development organizations, and other workforce development interest groups. This information is vital in informing workforce development policies and investment determinations. The report included the following topic headings: employment and income, education, workforce transition, occupations, workforce and industry composition, and housing. Analysis of these topics involved national, statewide, regional, and county level comparisons.

The content of this report was developed from the collaboration of several different individuals and groups. Within the Indiana Department of Workforce Development, the two Research and Analysis groups that had the most direct involvement in this report were those of Economic and Market Analysis (EMA) and Workforce Transition Studies (WTS). Members of these groups provided assistance in compiling pertinent data, providing ArcMaps of the data, and helping to edit the data for any possible errors.

External data sources utilized included: the U.S. Bureau of Economic Analysis (BEA), the Indiana Business Research Center (IBRC), the U.S. Bureau of Census, and the Indiana Department of Education (IDOE). In putting this analysis together, focus was put on data visuals and on the packaging of the report. The Indiana Business Research Center provided an additional ArcMap to accompany the others along with the internal creation of several charts and graphs. Once all of the information was gathered and completed, the Indiana Department of Workforce Development's marketing department formatted the report into a consistent and professional package.

4. Post products, information, and reports on the Internet.

The Indiana Department of Workforce Development continues to maintain its labor market information website, *Hoosiers by the Numbers*, located at <http://www.hoosierdata.in.gov>. This site is designed around the needs of our four major customer groups: economic developers, educators, employers, and Job

Seekers. Datasets and publications are updated on a regular basis per release schedule.

Customer feedback has indicated that clients preferred electronic or Internet availability of LMI products. All of our publications and data are made available in a wide variety of formats. Users are now able to download data into their format of choice.

The projected outcome for this aspect of the annual plan is to continue to maintain and enhance *Hoosiers by the Numbers*. Each year, system upgrades and enhancements are required. It is vital to the State Workforce Investment Board that an electronic means of disseminating data continues to be available.

5. Partner and consult on a continuing basis with workforce investment boards and key talent development partners and stakeholders.

Regional Analyst Development and Partnership Building

Regional analysts pro-actively cooperate with regional workforce investment boards, regional operators, and service providers, consulting and partnering with them in building and implementing effective workforce development strategies. In addition to regular Research and Analysis publications and core LMI data, the analysts provide and interpret labor market data for the boards taken from information sources such as Occupational Employment Statistics (OES), Quarterly Census of Employment and Wages (QCEW), Local Area Unemployment Statistics (LAUS), Local Employment Dynamics (LED), the TORQ system, and others. Indiana Career Connect, Indiana's job matching system, has now been on-line for just over one year. It provides applicant and job opening information for core products and customized requests. In addition, supplemental data from sources such as the decennial census, American Community Survey, the latest Economic Census, and other demographic data sources are available from the regional analysts on request.

Standard labor market information can be given a regional focus by the area analysts and tailored to the needs of local workforce-related activities. A major advantage offered by the regional analysts to the workforce boards and local operators is that region-specific time series data can be created and updated by the analysts and made available to local stakeholders. The regional analysts promote their services to the regional boards, operators, and service providers by participating in their meetings and maintaining contacts within each organization.

In addition to collaborating with workforce boards and their various entities the regional analysts promote and provide other key stakeholders and economic development partners with regional information resources developed and maintained by the analysts and the state's Research and Analysis section. A comprehensive state labor market data website, *Hoosiers by the Numbers*, has been developed to provide a

wide variety of demographic, employment, and economic information 24/7. Regional analysts, in addition to maintaining and providing locally tailored data sets and publications, also train and familiarize these consumers of our data on the use of the state's website. Ongoing relationships are maintained and expanded via email and analyst attendance at regional economic and employment related meetings and activities.

Another advantage of the regional presence of the analysts is their availability as a local source of occupational and industry data for users not associated with the region's workforce and economic organizations such as students, educators, counselors, job seekers, human resource managers, market researchers, company relocation scouts, and other interested individuals. Customized reports can usually tailor the information to fit a wide variety of users needs. For service requests beyond the scope of regional analysts, the analysts make every attempt to direct individuals seeking such services to the proper sources or providers.

Regional/Customized Publications and Reports

Regional Market Analysts continue to produce the Core LMI products of monthly newsletter, quarterly reports of *Occupations and Starting Wages and Up-One-Level*. These publications are posted on the agency's LMI web site, Hoosiers by the Numbers.

6. Conduct special studies and economic analyses.

DWD has conducted a number of studies at the request of the Commissioner, the Governor's office and/or the Indiana Economic Development Corporation over the program year to assist in employer attraction efforts as well as Rapid Response events as the economic downturn escalated. Several of these were detailed in the initial section of this annual report. In addition, detailed analysis of claims activity, especially related to the transportation equipment manufacturing sector, has been an urgent and recurring request.

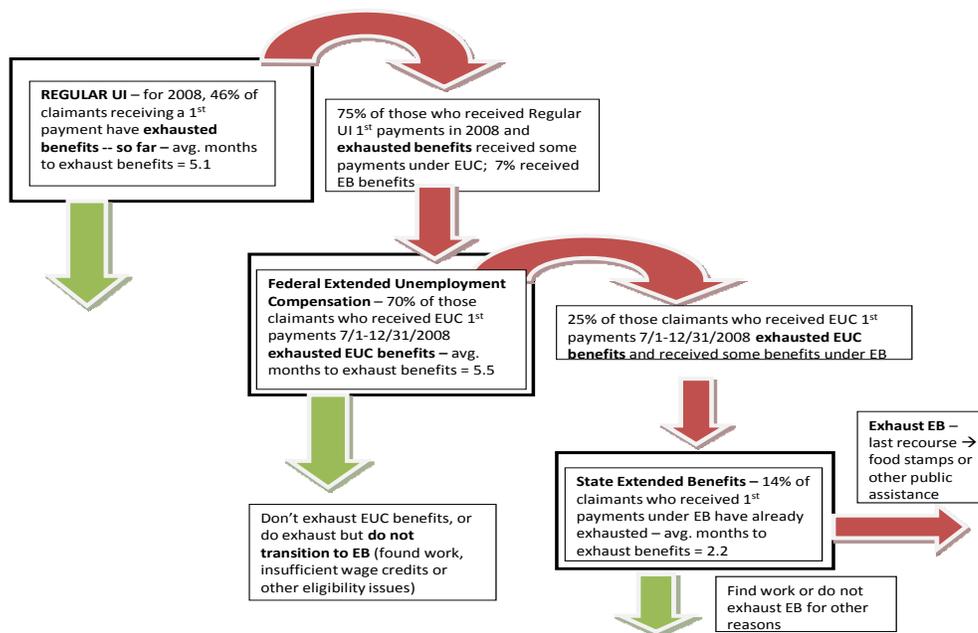
Extended Unemployment Study

In response to a request to project the potential for increased demand for other forms of public assistance, such as food stamps, claimant data within IWIS was linked chronologically to examine:

- the typical duration (i.e. weeks paid) for "regular" unemployment claims (UI) and the number and percentage of claimants who receive "final payments" (i.e. exhaust benefits).
- the average duration for claimants who received Emergency Unemployment Compensation (EUC) and the number and percentage of claimants who exhaust benefits from that program.

- the average duration for claimants who received State Extended Benefits (EB) and the number and percentage of claimants who receive exhaust those benefits.

In presenting the relationships between these programs, we created the graphic below, which attempts to summarize the experience of claimants who received a regular UI first payment anytime during 2008. Claimants who exhaust regular unemployment insurance benefits (UI) and meet various other criteria related to the timing of their separation, the length of their employment and their wages during employment may become eligible for additional weeks of benefit payments under the Emergency Unemployment Compensation program. Claimants who exhaust those benefits and meet the criteria for the State Extended Benefits program (triggered by Indiana’s rate of unemployment) may receive further weeks of benefits. Individuals still unable to obtain unemployment at the end of that period (which may total up to 79 weeks), may need to apply for other forms of public assistance such as food stamps.



One of the goals of this analysis is to develop a model is to allow projection of when and how many claimants will exhaust all benefits and potentially request other forms of public assistance to help prepare agencies such as Indiana’s Family Social Service Agency for potential increases in their caseloads.

WIA/ARRA Funded Training Analysis

The Business and Workforce Studies team was called on to perform an analysis of tuition needs for students who had applied for the 2009-2010 school year in connection with a new training assistance initiative through a partnership between the

Department of Workforce Development and the State Student Assistance Commission of Indiana (SSACI). The Commission provided student applicant information (under a memorandum of understanding) including the school identifier, the amount of state assistance already tentatively approved, whether the student was considered Pell-Grant-eligible and if worker dislocation or low household income were factors.

Using an average Pell Grant award for the 2008-09 school year as a proxy for a 2009-2010 Pell Grant award and 2008-09 tuition levels supplied by SSACI, students were aggregated based on the difference between the school tuition and the projected aid, taking into account low-income and dislocated worker information as well. The results of this analysis was used in determining the most efficacious use of the new funding available under the American Recovery & Reinvestment Act for training assistance; after the first month, 855 awards had been made.

Major Moves Residency Analysis

Using a file supplied by the Indiana Department of Transportation of employers who had received contracts through Indiana's Major Moves initiative, the team was able to extract wage records for these specific firms for quarters beginning January 2006 through June 2008. With the cooperation of the Indiana Department of Revenue, these wage items were matched against residency information to determine worker dispersion by county and region as well as the overall percentage of Hoosier workers employed by the firms involved during the timeframe.

Customer Satisfaction Surveys

For the period July 1 2008 through June 30 2009, Research & Analysis received 171 customer satisfaction survey responses through our Tellus website (www.hoosierdata.in.gov/Tellus) as a result of publications and data requests delivered through email. Of these responses, the most frequent user descriptions were:

- Employer – 54 (32%)
- Economic Developer – 32 (19%)
- Service Provider – 31(18%)
- Educator – 21 (12%)
- Government – 16 (9%)
- Information Seeker – 15 (9%)
- Regional Operator – 2 (1%)

Was the publication you received timely and accurate?

125 responses to the questions: 98% positive

Did we offer information and services to meet your needs?

156 respondents to the question: 95% positive

Was the information or service helpful or informative?

156 respondents to the question: 98% positive

Did we fulfill your data or service request in a timely manner or as promised?

150 respondents to the question: 97% positive

The Tellus website also allows us to capture kudos from users who are particularly pleased with some aspect of their service and complaints and suggestions from those who are not, which we can quickly move to correct. Several actual comments received this year follow.

- We very much appreciate this information and thank you for sharing your statistics.
- Great job! Please continue to provide these valuable public services.
- We appreciate receiving the information from the DWD. - It is, indeed, very useful.
- Personally, I have had consistently good experiences with the people and services at WorkOne.

We also receive kudos directly from customers. Some users find it easier to email back to us rather than go to the web and make comments. Some of those responses include the following:

- Wow! I really like the content and format of this new (newsletter) report.
- Thank you very much for the information.
- Thanks for always providing valuable information! I do appreciate it and the services you provide! Keep up the great work!
- This is great information.
- Thank you for the report, I always learn something new when I read them, and keep them handy as a resource.
- I like the new graph.
- A big THANKS for providing the Starting Wage Report by county. It will help us in improving our Business Services and sharing information with partners, staff and Board members.
- THANK YOU! Once again you saved the day with your accurate information provided quickly!
- Thanks. I had a use for these figures today.
- I don't know if I've ever thanked you for these, but I really appreciate the information in these emails.

Recommendations for Improvements or Changes in Grant Deliverables

The Research and Analysis department recommends that the requirement for an Annual Economic Analysis Report be replaced with the on-going provision of customized, real-time reports for the Governor's Office and Workforce Investment

Boards that reflect their specific needs at various points in time during the program year. Since customers prefer electronic access to data and reports, the Research and Analysis department is placing more emphasis on developing user interfaces that allow customers to quickly access customized reports, in a format of their choice (i.e., Excel, Word, PDF, etc.) along with “real-time” data. The current format for the Annual Economic Analysis report provides a historical perspective on the state’s economy and workforce and is not as useful as providing customized reports tailored to specific strategies, policy questions, and initiatives.