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Putting Feet on Research: Applying Skill Pathway Analysis to Workforce Development

Top 20 Counties in Indiana: Magnets for Growth

Monthly Metrics: Indiana's Economic Indicators

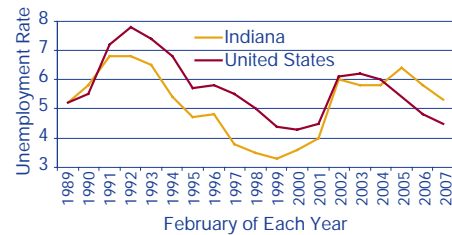
Regional Labor Force and Unemployment Rates

Louisville Metro Continues to Add Jobs

The Indianapolis-Anderson-Carmel CSA

February Unemployment Rates

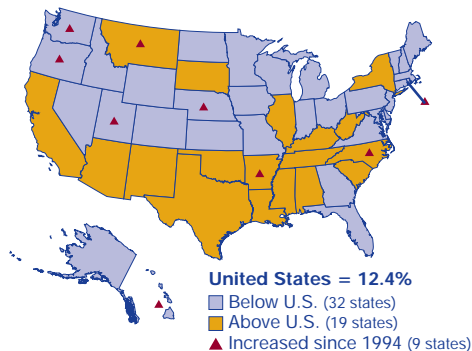
Indiana's February unemployment rate dropped 0.5 percentage points since the same time last year. However, Indiana's 2007 rate of 5.3 percent was still above the U.S. rate of 4.5 percent.



*not seasonally adjusted

Poverty in 2004

Of the 19 states above the U.S. poverty level in 2004, Mississippi had the highest rate of 17.7 percent (5.3 percentage points higher than the U.S. rate). Indiana ranked 33rd among the 50 states and the District of Columbia with a 10.2 percent poverty level.



Source: IBRC, using U.S. Census Bureau data

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You've invented the better mousetrap, discovered the cure for the common cold, or developed a different approach to analyzing occupations based on the importance of skills. Now what? One of the challenges researchers face after discovery or development is what to do with the new information or insight. How does it apply to real people?

A new model for career exploration developed by the Indiana Department of Workforce Development (DWD) groups occupations based on required skills and emphasizes the transferability of those skills across seemingly unrelated occupations.

This newly developed model depicts four skill pathways (see **Table 1**), which are profiled in the recently released "Moving Toward Tomorrow's Jobs: Indiana's New Skill Pathways and Guides."¹ The career guide can help counselors and job-seekers identify viable career paths and point them to the right education, training and/or work experience.²

Another practical application of this new model are reports that identify the skill sets of workers in transition based on their current occupations and then identify other occupations that value similar skills. This approach allows us to suggest other occupations that are growing in a region for which the

TABLE 1: THE FOUR SKILL PATHWAYS

Cluster	Working With
	People
	Things
	Systems
	Information and Concepts

Source: Research and Analysis Department, Indiana Department of Workforce and Development

workers may qualify without additional training or experience.

One Step Up

DWD regional market analysts produce a quarterly report of *Frequently Listed Jobs*. These reports highlight job openings and associated wages from all 11 Indiana economic growth regions. These job listings represent actual demand for occupations as requested by area employers using DWD's CS3 job matching tool. Historically, these reports have been dominated by entry-level positions with high turnover—occupations that employers regularly need to fill in large quantities.

DWD's vision is to focus attention on occupations that will pay higher wages and help Hoosiers achieve a better quality of life. To meet employer demand and fill these occupations, we need to encourage education, raise Indiana workers up one level and continue to increase

Skill Sets with Associated Skills

- **People:** coordination, instructing, negotiation, persuasion, service orientation, social perceptiveness and time management
- **Things:** equipment maintenance, equipment selection, installation, operation and control, operation monitoring, repairing and troubleshooting
- **Systems:** judgment and decision making, management of financial resources, management of material resources, management of personnel resources, systems analysis and systems evaluation
- **Information:** complex problem solving, operations analysis, programming and technology design

their skills. New job listing reports will continue to include the entry-level positions frequently posted with the job-matching system for each area, but will now include examples of occupations that can take a worker “one step up” in wages with a small amount of additional education, training, skill development or work experience. To assist workers facing layoff situations, custom reports will be developed to highlight a possible career ladder for the dislocated worker. The declining occupation will be matched to occupations that are in demand regionally. A dislocated or underemployed electronic equipment assembler, for example, has developed skills such as equipment selection, troubleshooting and repairing. These are some of the same skills that are vital to a successful career as a plumber or pipefitter. With some on-the-job training or perhaps an apprenticeship, the worker may develop installation and complex problem solving skills to increase their salary by more than \$15,000 (based on state median wages).

These “one step up” occupations are chosen only when they have been defined as in demand for Indiana and/or the region in which the layoff is occurring. For an occupation to be considered in demand, it must be

projected to show employment growth at or above 10 percent over the next decade, and/or rank high in terms of total job openings (new job growth and replacements) over the next decade. Occupations were limited to those paying greater than \$22,038, a salary based on Indiana’s Self Sufficiency Standard.³

These occupational mappings are being provided to workers at Rapid Response events and job fairs organized by DWD and employers involved in pending layoffs. Rapid Response events are designed to provide early intervention and job services for dislocated workers through collaboration between the State, WorkOne centers, and local workforce boards.⁴ The first “one step up” report was recently distributed in conjunction with an upcoming layoff in the automotive sector. Based on an industry-specific staffing pattern, the occupations common to the industry facing the layoff were compared against the frequently listed job postings in that region. The next step involved a review of the skill sets of the auto manufacturing occupations followed by identification of higher wage jobs requiring a similar set of skills. The worker could potentially qualify for these jobs with a small

amount of additional training or experience. Obviously, there are many possible matches based on common skill sets plus additional training and/or experience. The “one step up” occupations shown in **Table 2** are designed to serve as examples to encourage a more thorough exploration of the possibilities inherent in the transferability of the worker’s existing skills and an assessment of those skills.

The response at these events has been overwhelmingly positive. The new career guide and “one step up” reports are in high demand throughout Indiana. DWD is getting requests from career centers, schools and for use at other dislocation events. Hundreds of guides and reports were distributed at the first informational event and job fair, and thousands more have been ordered for distribution throughout the spring. This information has been placed directly into the hands of workers facing dislocation. Each report is customized by DWD’s regional analysts with local information on jobs in demand, required skills and average wages for the featured jobs.

Next Steps

A quarterly “one step up” report will soon be available for each of Indiana’s economic growth regions. When appropriate, and as the information is available, DWD analysts will work with local WorkOne centers and Rapid Response teams to provide up-to-date and industry-specific information for workers.

The next stage in development of programs and tools around the skill pathway model will need to include performance measures and analysis of the possible economic impact. If we are able to move 20 dislocated workers up one level from the job listings shown

in the left column of **Table 2**, to the occupations on the right; the average wage of those workers will increase from \$31,500 to \$42,269. If the skill pathway tools encourage and allow for increased skill development throughout the state, we can hope that Indiana's per capita personal income will grow, bringing a higher quality of life to Indiana workers and closing the income gap between the state and national average. The skill pathway should also open doors for employers as the job applicant pool of skilled workers grows. Job seekers from many different

industries can begin to develop the basic skills that have been proven to be vital across a variety of occupations.

For more information, contact the DWD regional analyst in your area. Each regional analyst is listed on the Hoosiers by the Numbers website at www.hoosierdata.in.gov via the "contact us" link.

Notes

1. "Moving Toward Tomorrow's Jobs: Indiana's New Skill Pathways and Guides," *InContext* (February 2007): 4-5. Available online at www.incontext.indiana.edu/2007/february/2.html.

2. For more information on the new guide check out the Hoosiers by the Numbers website at: www.in.gov/dwd/careerguides/index.html
3. A weighted population was used to create a state average, using data from "Refining Measures of Economic Stability: The 2005 Self-Sufficiency Standard for Indiana," *Indiana Business Review* (Spring 2006): 5-9.
4. The Workforce Investment Act (WIA) designates funds specifically for dislocated workers, and Rapid Response funding is used to provide emergency on-site core services and pre-layoff services as soon as possible. These events typically occur as soon as a Worker Adjustment and Retraining Notification (WARN) notice is issued announcing a mass dislocation or plant closure.

—Allison Leeuw and Vicki Seegert, *Research and Analysis, Advanced Economic and Market Analysis, Indiana Department of Workforce Development*

TABLE 2: FREQUENT JOB OPENINGS AND POSSIBLE CAREER PATHS IN THE THINGS AND PEOPLE PATHWAYS

Annual Median Wages	Occupation Title	Possible Career Path—One Step Up	Annual Median Wages	Education*
THINGS				
		Industrial Engineers	\$61,530	BA
\$54,992	Millwrights	Aircraft Mechanics and Service Technicians	\$51,569	PC
\$37,863	Industrial Machinery Mechanics	Plumbers, Pipefitters, and Steamfitters	\$50,947	LT
\$26,052	Electrical and Electronic Equipment Assemblers	First-Line Supervisors/Managers of Mechanics, Installers	\$49,763	WE
\$39,125	Maintenance Workers, Machinery	Structural Iron and Steel Workers	\$48,434	LT
\$41,975	First-Line Supervisors/Managers of Production and Operation Workers	Brickmasons and Blockmasons	\$48,122	LT
\$28,773	Carpenters	Electrical and Electronic Engineering Technicians	\$47,942	AD
\$46,884	Electricians	First-Line Supervisors/Managers of Transportation	\$46,014	WE
\$36,934	Mobile Heavy Equipment Mechanics, Except Engines	Engine and Other Machine Assemblers	\$45,679	ST
\$34,899	Machinists	Operating Engineers and Other Construction Equipment Operators	\$40,363	MT
\$36,406	Truck Drivers, Heavy and Tractor-Trailer	Heating, Air Conditioning, and Refrigeration Mechanics	\$35,547	LT
\$25,099	Outdoor Power Equipment and Other Engine Mechanics	Bus and Truck Mechanics and Diesel Engine Specialists	\$35,523	PC
\$32,345	Automotive Service Technicians and Mechanics	Machinists	\$34,899	LT
\$24,383	Team Assemblers	Machinists	\$34,899	LT
\$32,178	Multiple Machine Tool Setters, Operators, and Tenders	Recreational Vehicle Service Technicians	\$31,601	LT
\$25,045	Industrial Truck and Tractor Operators	Computer-Controlled Machine Tool Operators	\$31,523	LT
\$24,591	Inspectors, Testers, Sorters, Samplers, and Weighers	Structural Metal Fabricators and Fitters	\$30,450	MT
\$24,549	Production Workers, All Other			
PEOPLE				
		Transportation Inspectors	\$49,576	WE
\$24,712	Truck Drivers, Light or Delivery Services	Registered Nurses	\$49,067	AD
\$29,884	Licensed Practical and Licensed Vocational Nurses	Police and Sheriff's Patrol Officers	\$40,917	LT
\$23,943	Correctional Officers and Jailers	Advertising Sales Agents	\$40,156	MT
\$21,130	First-Line Supervisors/Managers of Retail Sales Workers	Shipping, Receiving, and Traffic Clerks	\$25,406	ST
\$19,695	Stock Clerks and Order Fillers			

*Bachelor's Degree (BA); Associate's Degree (AD); Postsecondary Certificate (PC); Work experience (WE); Long-term on-the-job training (LT); Moderate-term on-the-job training (MT); Short-term on-the-job training (ST)
Source: Research and Analysis Department, Indiana Department of Workforce and Development