

inside

- Indiana Strategic Skills Initiative **1**
- A Closer Look at Indiana's College Counties **4**
- Population Growth Matters: Latest Stats for Indiana **7**
- Monthly Metrics: Indiana's Economic and Workforce Indicators **8**
- Economic Growth Region 1: Northwest Indiana **10**
- The Pet Industry: Another View of Economic Well-Being **12**
- Around and 'Round the Mulberry Bush: Intra-Region Employment Commuting in Economic Growth Region 1 **15**

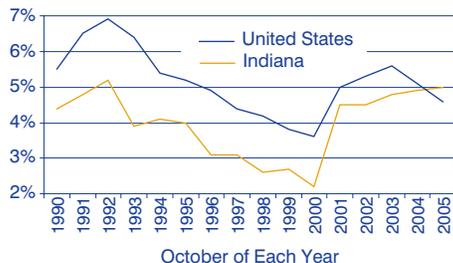
Economic Growth Regions

Each of the 11 Economic Growth Regions (EGRs) defined by the Indiana Department of Workforce Development will be featured in detail during the upcoming year. Region 1 is discussed on pages 10 and 15, and occupational data about the regions is discussed in the adjoining Indiana Strategic Skills Initiative article.



October Unemployment

Indiana's October unemployment rate surpassed the nation's for the first time in 15 years in 2005.



*Not seasonally adjusted

Indiana Strategic Skills Initiative

Built with the goal of creating new jobs and raising Hoosier income, the Strategic Skills Initiative (SSI) fights unemployment by going directly to its root causes. It is an initiative of the Indiana Department of Workforce Development, and one of its goals is to identify and alleviate shortages projected to exist in critical occupations and specific skill sets within high-wage Indiana industries. Here are some of the initial findings.

Occupational Shortages

Table 1 lists the high wage occupations that were identified by each of the economic growth regions (EGRs) as having a critical shortage of qualified workers in the next 24 months. Occupations are listed by the number of regions reporting a shortage for the occupation and the total reported shortage by 2007. High-wage

occupations are defined as those that have an average wage exceeding the statewide median wage of \$27,204 for all occupations in the current Occupational Employment Statistics (OES) survey.

Occupations in the health care services sector were reported as having the largest shortage, including registered nurses (RNs), licensed practical nurses (LPNs) and respiratory therapists. RNs ranked the highest in terms of both the number of regions reporting shortages and the total number of job vacancies expected in the next 24 months. Seven of the nine regions reporting data reported shortages for RNs for a total of 1,644 job vacancies. The only regions not reporting an RN shortage were Region 4 and Region 7. Four regions (2, 7, 8 and 10) reported a shortage for respiratory therapists for 76 job vacancies.

TABLE 1: HIGH-WAGE OCCUPATIONS WITH CRITICAL SHORTAGES IN GIVEN OCCUPATION

| Occupational Title | Total Regions with Shortage | Total 2007 Shortage | Average Annual Wage |
|---|-----------------------------|---------------------|---------------------|
| Registered Nurses | 7 | 1,644 | \$46,903 |
| Computer-Controlled Machine Tool Operators (Metal and Plastic) | 5 | 328 | \$31,828 |
| First-Line Supervisors/Managers of Production and Operating Workers | 5 | 280 | \$47,428 |
| Welders, Cutters, Solderers and Brazers | 4 | 525 | \$32,065 |
| Machinists (Metal and Plastic) | 4 | 443 | \$35,883 |
| Respiratory Therapist | 4 | 76 | \$41,505 |
| Licensed Practical Nurses | 4 | 43 | \$33,800 |
| Truck Drivers, Heavy and Tractor-Trailer | 3 | 294 | \$36,153 |
| Maintenance and Repair Workers: General | 3 | 250 | \$32,819 |
| Industrial Maintenance Technicians | 3 | 224 | \$43,820 |
| Maintenance Workers: Machinery | 3 | 193 | \$37,405 |
| Inspectors, Testers, Sorters, Samplers and Weighers | 3 | 129 | \$32,312 |
| First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators | 2 | 280 | \$47,792 |
| Pharmacists | 2 | 122 | \$80,664 |
| First-Line Supervisors/Managers of Mechanics, Installers and Repairers | 2 | 76 | \$49,820 |
| Radiological Technicians | 2 | 26 | \$41,149 |

Note: Data for Regions 9 and 11 are not available.
Source: Indiana Department of Workforce Development

TABLE 2: CRITICAL TRAINING AND SKILLS REQUIRED TO PERFORM OCCUPATIONAL FUNCTIONS*

| Occupation | Education/Training Required | O*NET Skills | | | | |
|---|---|-----------------------|-----------------------|-----------------------|---------------------|-------------------|
| | | Skill 1 | Skill 2 | Skill 3 | Skill 4 | Skill 5 |
| Registered Nurses | Associate's degree | Active Listening | Reading Comprehension | Critical Thinking | Instructing | Speaking |
| Computer-Controlled Machine Tool Operators, Metal and Plastic | Long-term on-the-job training | Operation and Control | Operation Monitoring | X | X | X |
| First-Line Supervisors/Managers of Production and Operating Workers | Work experience in a related occupation | Coordination | Critical Thinking | Reading Comprehension | Speaking | Time Management |
| Welders, Cutters, Solderers and Brazers | Post-secondary vocational training | Operation and Control | Equipment Selection | X | X | X |
| Machinists (Metal and Plastic) | Long-term on-the-job training | Operation and Control | Operation Monitoring | Mathematics | Equipment Selection | Troubleshooting |
| Respiratory Therapist | Associate's degree | Active Listening | Instructing | Reading Comprehension | Critical Thinking | Monitoring |
| Licensed Practical Nurses | Post-secondary vocational training | Active Listening | Reading Comprehension | Time Management | Writing | Critical Thinking |
| Truck Drivers, Heavy and Tractor-Trailer | Moderate-term on-the-job training | Operation and Control | X | X | X | X |

*Skills were determined to be critical to an occupation if they met a standardized score of 69 or above on O*Net's Importance Scale. An 'X' indicates that no skill met the minimum score criterion. Note: Top occupations are those that were ranked in top five either by number of regions reporting shortage or by shortage total for 2007. Source: U.S. Department of Labor

Manufacturing was a close contender with health care services, as the EGRs reported a total shortage of 1,576 for that industry sector. Five regions (2, 3, 4, 5 and 6) reported metal and plastic computer-controlled machine tool operators as having a shortage with a total of 328 job vacancies. Welders, cutters, solderers and brazers possessed the biggest shortage (525 vacancies), while metal and plastics machinists had the second highest at 443.

Of all the occupational shortages reported, pharmacists have the highest annual wage of \$80,664. First-line supervisors/managers of mechanics, installers and repairers have the second highest annual wage of \$49,820.

New and Emerging Occupations

New and emerging occupations are defined here in two ways. The first is simply a new occupation—one that cannot be adequately described within the existing Standard Occupational Classification (SOC) system. This typically occurs when the tasks and skills required of an occupation do not fit neatly into an existing classification because of fundamental changes in the way things are done in an industry. Industries experiencing technological transformation may warrant new titles

and work activities. Secondly, existing occupations may emerge into industries that have developed new technologies and processes requiring already existing occupations within the SOC system, but are new to the changed industry.

The following occupations appear to be emerging into industries where they have not appeared before and were reported as a shortage occupation in at least one EGR. These were found in at least five industries in the latest OES survey for Indiana.¹ None had been reported as existing within those industries in previous surveys. Five industry sectors were predominant in producing these emerging occupations. Those five are manufacturing, retail trade, wholesale trade, information and finance and insurance. Manufacturing is the number one sector for these emerging occupations by far. All listed occupations, except dispatchers, were newly found in at least one manufacturing industry.

Emerging Occupations:

- Compliance officers (except agriculture, construction, health and safety, and transportation)
- Compensation, benefits and job analysis specialists
- Management analysts
- Computer support specialists
- Computer systems analysts

- Sales representatives, wholesale and manufacturing (except technical and scientific products)
- Dispatchers (except police, fire and ambulance)
- Bus and truck mechanics and diesel engine specialists
- Fabric menders (except garment)
- Cutting, punching and press machine setters, operators and tenders (metal and plastic)
- Packaging and filling machine operators and tenders
- Cleaners of vehicles and equipment

Bridging Occupations to Skills in Demand

Region 6 identified emerging occupations within an emerging industry—Agribusiness (farming as a large-scale business operation combining the production, processing and distribution of agricultural products and the manufacture of farm machinery, equipment and supplies). By seeking and receiving feedback from local industry experts on technological advancements in biofuels and value-added research, Region 6 was able to identify life scientists and business operations specialists as emerging occupational groups that are expected to grow. Skills that will need to be cultivated in order to fill expected

A \$23 million initiative of the Indiana Department of Workforce Development, SSI focuses on two primary goals:

1. Identify and alleviate shortages projected to exist in critical occupations and specific skill sets within high-wage Indiana industries.
2. Instill a lasting, demand-driven approach to workforce development at the regional and local levels.

Indiana has 11 economic growth regions (EGRs) responsible for three phases of SSI:

1. Identifying occupation and skill shortages.
2. Determining the root causes of the shortages.
3. Developing solutions that are directly tied to the root causes.

For more information on SSI, go to: www.in.gov/dwd/employers/ssi.html.

shortages can be identified by looking at the Department of Labor's O*NET classification of skills by occupation. The five most common critical skills for life scientists are science, reading comprehension, critical thinking, active learning and writing. For business operations specialists, critical skills include speaking, reading comprehension, active listening, critical thinking and writing. A complete listing of O*NET skills and corresponding definitions is available at <http://online.onetcenter.org/skills>.

Top Five Skills for Indiana's Top Occupations

Education and training required for Indiana's top occupations include a mix of on-the-job training and post-secondary education. Top occupations in the health care services sector require at least an associate's degree while most occupations in manufacturing require moderate to long-term on-the-job training. Critical

TABLE 3: DESCRIPTION OF SKILLS IN HIGHEST DEMAND

| Basic Skills | To facilitate learning or the more rapid acquisition of knowledge. |
|----------------------------|---|
| Active Listening | Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times. |
| Critical Thinking | Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems. |
| Mathematics | Using mathematics to solve problems. |
| Monitoring | Monitoring/assessing performance of yourself, other individuals or organizations to make improvements or take corrective action. |
| Reading Comprehension | Understanding written sentences and paragraphs in work-related documents. |
| Speaking | Talking to others to convey information effectively. |
| Writing | Communicating effectively in writing as appropriate for the needs of the audience. |
| Resource Management Skills | To allocate resources efficiently. |
| Time Management | Managing one's own time and the time of others. |
| Social Skills | To work with people to achieve goals. |
| Coordination | Adjusting actions in relation to others' actions. |
| Instructing | Teaching others how to do something. |
| Technical Skills | To design, set-up, operate and correct malfunctions involving the application of machines or technical systems. |
| Equipment Selection | Determining the kinds of tools and equipment needed to do the job. |
| Operation and Control | Controlling operations of equipment or systems. |
| Operation Monitoring | Watching gauges, dials or other indicators to make sure a machine is working. |
| Troubleshooting | Determining causes of operating errors and deciding what to do about it. |

Note: For a complete listing of O*NET Skills, go to <http://online.onetcenter.org/skills>
Source: U.S. Department of Labor

skills required for health care services occupations include active listening, reading comprehension, critical thinking, instructing, speaking, writing, time management and monitoring (see **Table 2**).

In contrast, critical skills for manufacturing include operation and control, equipment selection, mathematics, troubleshooting, and operation monitoring. First-line supervisors/managers of production and operating workers was closely aligned with skills required of occupations in health care services to include coordination, critical thinking, reading comprehension, speaking and time management. **Table 3** describes these high-demand skills.

Addressing Skill Gaps

As Indiana's economic growth regions proceed with determining root causes and solutions during subsequent phases of SSI, emphasis should be made on 1) the relationship between emerging high

demand/high wage occupations and the skills associated with those occupations, 2) developing career pathways, and 3) bridging the gap between supply and demand of qualified workers.

Addressing the root causes for skill shortages and developing sound solutions will be contingent on the ability of the regions to foster coalitions between industry partners, education institutions and organizations that provide supportive services to job seekers who wish to develop those skills in need. The accuracy of identifying root causes and the quality of the solutions to address these skills gaps are critical to Indiana's economic health and competitive business survival.

Notes

1. The OES survey date referenced for Indiana emerging occupations is May 2004.

—Hope Clark, Director, Research and Analysis, and Jon Wright, Advanced Economic and Market Analysis, Indiana Department of Workforce Development