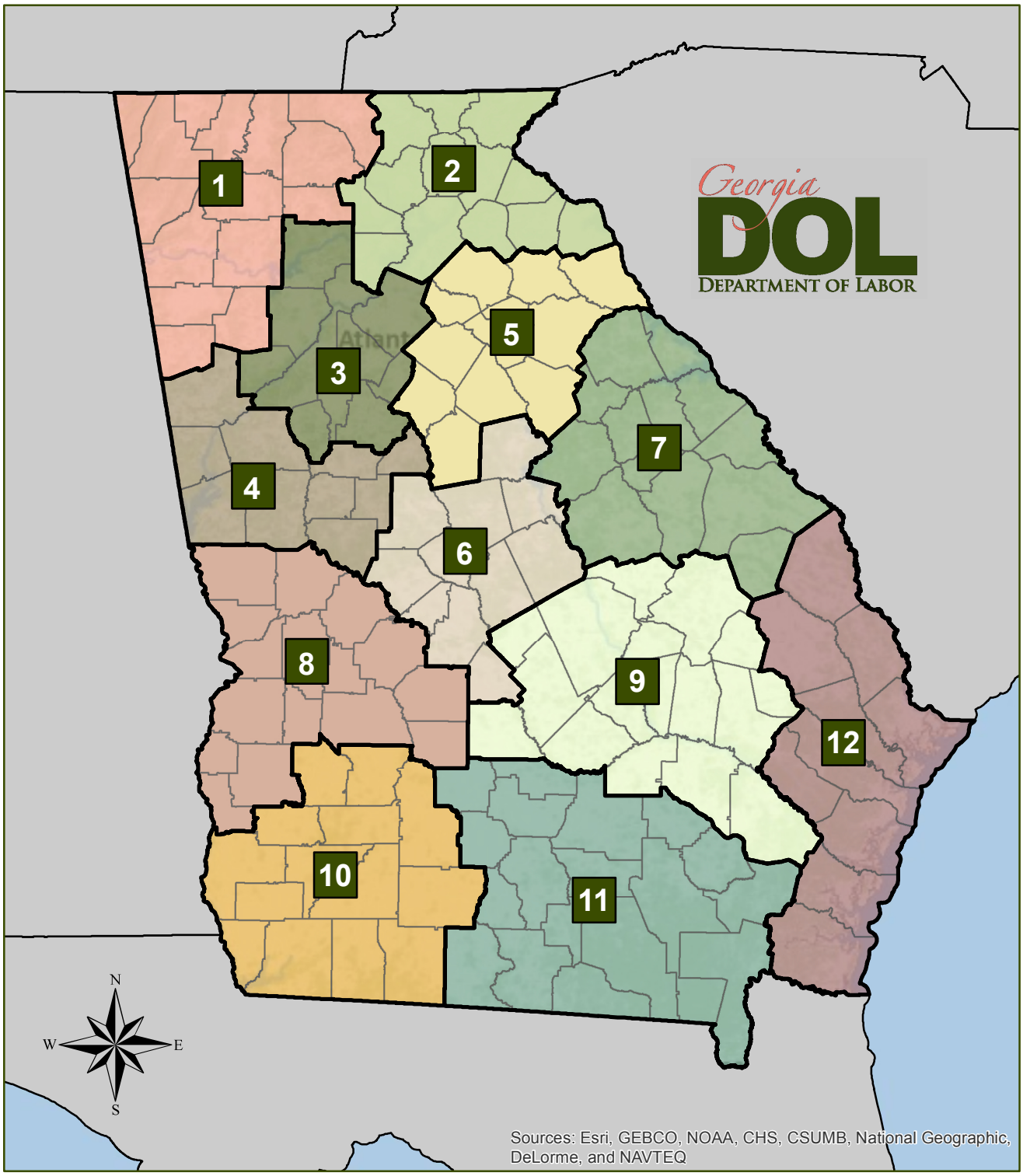
Service Delivery Regional (SDR) Comparison of Employment Among STEM Classified Occupations

Date: December 20, 2012

Prepared by:
Georgia Department of Labor
Workforce Statistics & Economic Research
223 Courtland St NE
Suite 300
Atlanta, GA 30303
PH#(404)232-3875 FAX#(404)232-3888

Area Map
Service Delivery Regions (SDR)

Workforce Statistics & Economic Research



2012 Service Delivery Region (SDR)[1] Employment Comparison of STEM[1] Classified Occupations						
Area	Computer and Mathematical Occupations		Architecture and Engineering Occupations		Science Occupations	
	Active Applicants	Employed	Active Applicants	Employed	Active Applicants	Employed
SDR 1	298	1,500	356	1,300	115	460
SDR 2	285	930	256	1,530	82	550
SDR 3	4,670	6,110	2,128	28,750	974	7,870
SDR 4	199	570	208	1,040	69	70
SDR 5	224	1,970	201	1,750	133	1,350
SDR 6	175	2,000	202	3,520	60	410
SDR 7	350	1,610	188	1,370	74	740
SDR 8	151	1,660	108	720	71	180
SDR 9	128	300	96	390	31	90
SDR 10	89	640	116	800	65	270
SDR 11	105	360	130	410	73	220
SDR 12	288	1,570	287	2,230	143	840

NOTE: Active Applicant data reflect data from December 2012

NOTE: Data reflect individuals working in occupations that require an associate's degree or above OR individuals who are both seeking and qualified to work in occupations that require an associate's degree or above.

SDR - Service Delivery Region. Please see SDR map for SDR location and footnotes on Area Reports for a list of counties included in a specific SDR.[1]

STEM - Science, Technology, Engineering, and Math Occupations as classified by O*Net Online, a resource provided by U.S. Department of Labor

Source: Georgia Department of Labor, Workforce Statistics and Economic Research

Survey Methodology

Scope of Survey

Establishments in all size classes were selected for the survey and all firms having 250 or more employees were included. All major industry sectors were surveyed, including Agriculture, Forestry, Fishing, and Hunting; Mining; Utilities; Construction; Manufacturing; Wholesale and Retail Trade; Transportation and Warehousing; Information; Financial Activities; Professional and Business Services; Education and Health Services; Leisure and Hospitality; Other Services; and Local Government. State Government data are universe counts obtained from the Georgia State Merit System. Data for the Postal Service and Federal Government are universe counts obtained from the Office of Personnel Management.

Respondents were to include the number of full- and part-time workers and their wages. Wages included tips and commissions. The wages were to be reported by the intervals determined by the Office of Compensation and Working Conditions shown below:

Interval	Hourly Wages	Annual Wages
A	Under $9.25	Under $19,240
B	$9.25 to $11.49	$19,240 to $23,919
C	$11.50 to $14.49	$23,920 to $30,159
D	$14.50 to $18.24	$30,160 to $37,959
E	$18.25 to $22.74	$37,960 to $47,319
F	$22.75 to $28.74	$47,320 to $59,799
G	$28.75 to $35.99	$59,800 to $74,879
H	$36.00 to $45.24	$74,880 to $94,119
I	$45.25 to $56.99	$94,120 to $118,559
J	$57.00 to $71.49	$118,560 to $148,719
K	$71.50 to $89.99	$148,720 to $187,199
L	$90.00 and over	$187,200 and over

These wages, if not reported on an hourly or annual basis, were converted to hourly terms based on a 40-hour workweek. Premium pay for overtime, shift differentials, weekends, and holidays were excluded, as well as bonuses and fringe benefits.

Most of the wages in this publication are hourly rates. However, for those occupations where workers generally work less than the usual 2,080 hours per year, the wages shown are annual wages. These include teachers, pilots, flight attendants, and musical and entertainment occupations.

The wage survey data presented in this guide have a second quarter of 2011 reference period and are based on information from the fourth quarter 2008, the second and fourth quarter 2009, the second and fourth quarter 2010, and the second quarter 2011 semi-annual Occupational Employment Statistics (OES) and Wage surveys. The three years of survey responses for employment and wage data have been combined to produce this year's results.

Statistical Methods

The 2008, 2009, and 2010 OES Wage Survey data were aged using the National Employment Cost Index (NECI) for each major occupational division. This procedure allowed the data to be compared to second quarter 2011 data. These data were then combined to create an expanded base from which to calculate wage estimates. A weight equal to the reciprocal of the establishment's probability of selection (e.g. design weight) was used on the combined survey data. This combined base of wages was then aged to the first quarter of 2012 by the NECI to reflect the quarterly wage changes from the first quarter of 2012 to the second quarter of 2011, effectively bringing these wage estimates up to the first quarter of 2012.

In the event of surveys that were not returned or unusable responses, OES utilized the "hot deck" nearest neighbor procedure to adjust for each occurrence. The procedure used information from a donor unit possessing similar characteristics (same industry, class, and geographic region). The donor's data—total employment and reported total occupational employment—were then copied into the non-respondent's record.

Another method employed by OES to adjust for incomplete responses (e.g. establishment sent employment data but did not furnish wage information) was the "mean of cell" procedure. This procedure determined the distribution of reported occupational wage data across wage intervals in the current area/industry/size class of the partially responsive unit. If there was sufficient data, this wage distribution was used to distribute the partial respondent's reported employment across the wage intervals. If the data were insufficient, the size class, areas, and industries were increased until a distribution could be determined and utilized.

Reported and adjusted wage data were used to calculate the wage information provided in this publication for establishments in industries that were predominant employers for an occupation.

Data Limitations

A wide variation between the weighted average and the median may indicate that extreme high or low wage data may have affected the weighted average. In such instances, it may be advisable to use the median or the middle range rather than the average.

Wages for small employers may differ from those for larger employers. No distinction has been made for union and non-union employees. Finally, the minimum publication criteria which have been met by the given wage figures do not necessarily imply statistical accuracy.

Definitions

SOC/O*NET Code: the official occupational code used by the U.S. Department of Labor's Bureau of Labor Statistics and all federal agencies for job classification

Education Level: the official education level code used by the Bureau of Labor Statistics to reflect the typical education for entry into an occupation

Work Experience: indicates if work experience in a related occupation is commonly considered necessary by employers for entry into the occupation.

On-the-job Training: indicates the typical on-the-job training needed to attain competency in the occupation.

Entry Wage: the mean (average) of the first third of the wage distribution.

Average Wage: calculated using a “winsorized” mean procedure; open-ended upper interval set at its lower bound ($90.00) and mean value for other intervals set by the federal Office of Compensation and Working Conditions; mean interval value then multiplied by all employees in interval producing weighted wage value; sum of the weighted wages for all intervals divided by the total employees in occupation results in weighted average wage.

Median Wage: middle value of the distribution of wage rates arranged in ascending order; 50% of the workers earned more and 50% of the workers earned less than this value; interval containing the target wage found through cumulative frequency count of employment across wage intervals.

Middle Wage Range: includes half the values in the distribution of wage data collected; 25% of the workers earned less than the low end of the range and 25% earned more than the high end; linear interpolation of target wage interval used to find wage at the low end and the high end.

Education and Training Classification System

The Bureau of Labor Statistics (BLS) education and training classification new system consist of individual assignments to each occupation. The categories are 1) typical education needed for entry, 2) commonly required work experience in a related occupation, and 3) typical on-the-job training needed to obtain competency in the occupation. The objective of the system is to present a more complete picture of the education and training needed for entry into a given occupation and to become competent at performing the occupation. BLS assigns the following categories to each occupation:

Entry level education—represents the typical education level needed to enter an occupation. There are eight possible assignments for this category.

1. Doctoral or professional degree
2. Master's degree
3. Bachelor's degree
4. Associate's degree
5. Postsecondary non-degree award
6. Some college, no degree
7. High school diploma or equivalent
8. Less than high school

Work experience in a related occupation—indicates if work experience in a related occupation is commonly considered necessary by employers for entry into the occupation, or is a commonly accepted substitute for formal types of training. Assignments for this category will be more than 5 years, 1-5 years, less than 1 year, or none.

Typical on-the-job training—indicates the typical on-the-job training needed to attain competency in the occupation. Assignments for this category include internship/residency; apprenticeship; long-term, moderate-term, or short-term on-the-job training; or none.

System Codes

Workforce Statistics & Economic Research Division used the following system codes to represent the new education and training assignments. States and other users should plan accordingly.

Education Category

Education Code	Education Title
1	Doctoral or professional degree
2	Master's degree
3	Bachelor's degree
4	Associate's degree
5	Postsecondary non-degree award
6	Some college, no degree
7	High school diploma or equivalent
8	Less than high school

Work Experience in a Related Occupation Category

Work Exp. Code	Work Experience Title
1	More than 5 years
2	1 to 5 years
3	Less than 1 year
4	None

On-the-Job Training Category

Training Code	Training Title
1	Internship/residency
2	Apprenticeship
3	Long-term on-the-job training
4	Moderate-term on-the-job training
5	Short-term on-the-job training
6	None

Business Services
Georgia Department of Labor

The Georgia Department of Labor provides a broad array of services to the business community. Additionally, staff participate with the Department of Economic Development and others in the economic development realm to promote Georgia as the best place to locate a new or expanding business. Some of these services include the following:

A. Recruitment and Staffing

- Accepting job opening information and screening job seekers to refer the most qualified candidates
- Searching local, state and national applicant databases to meet employers' needs
- Assisting to write job descriptions and specifications
- Conducting career expos throughout the state; some are community-based and include several employers while others are employer-specific, as needed, to meet recruitment needs
- Establishing a dedicated recruitment location or web presence for companies with large staffing needs
- Providing resources, forums and on-site assistance for agricultural employers

B. On-Site Business Centers

Career centers provide space for employers to conduct interviews and have dedicated resources (e.g., computers, fax machines, valuable written materials) for employers in the community.

C. Labor Market Information

A broad array of community, regional, state and national data of value to businesses, such as:

- Comparative wage information
- Economic profiles of Georgia's regions
- Labor supply and demand by industry and occupation
- Commuting patterns

D. Assistance with Tax Credits

Georgia DOL staff receive and certify employer requests for the Work Opportunities Tax Credit, as well as assisting companies with information on other tax incentives. For example, when a company hires a veteran, the tax credit ranges from $2,400 to $9,600, depending on the employee's circumstances.

E. Assistance with Employment-Related Laws

- Information on employment tax and assistance with filing reports and taxes
- Assistance with Child Labor laws
- Assistance with obtaining and displaying federally-required labor posters

F. Rapid Response

Georgia DOL has a nationally-acclaimed model to help businesses and their workers during employee downsizing activities. This may include establishment of a transition center, at which employees losing their jobs may receive help with résumé development, job search techniques, interviewing tips and community resources. Staff are also trained to help file Trade Act petitions and assist with layoff aversion strategies.

G. Regional Coordinators and Employer Committees

The Regional Coordinators serve as community brokers to connect economic development and workforce resources throughout the state. They work closely with employers and business organizations, as well as with state and community partners, to promote Georgia and its human capital.

Employer Committees are groups of businesses that work with specific career centers to support the workforce needs of employers in their communities.

H. Extensive Website Resources

Valuable online information includes employment tax tips, tax incentive programs, labor market information and links to other state, federal and private sector workforce resources.