

State of the Workforce Report X: Region 5

Funding for this project was provided by:



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Alabama Department of
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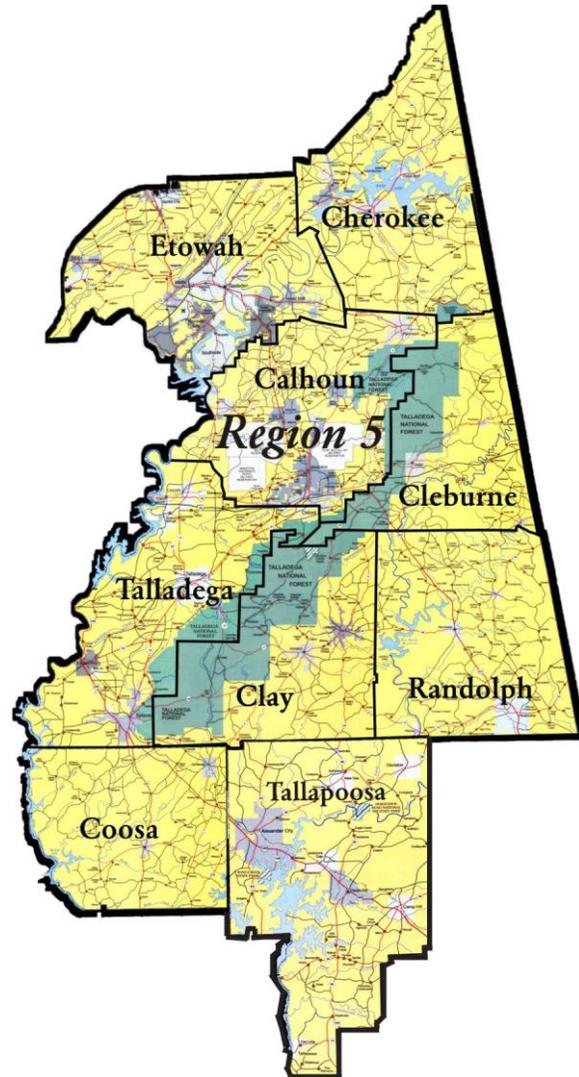
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The University of Alabama



April 2016

Center for Business and Economic Research
Culverhouse College of Commerce

University of Alabama Center for Economic Development

Institute for Social Science Research

THE UNIVERSITY OF ALABAMA

State of the Workforce Report X: Region 5



April 2016

by

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Acknowledgments

Completion of this project was due to the timely contributions of many people. We are very grateful to the Labor Market Information (LMI) Division of the Alabama Department of Labor (ADOL). In addition to financial support from ADOL, LMI provided significant staff time and this report would not have been possible without large amounts of data from LMI.

Many thanks also to our colleagues at the Center for Business and Economic Research, the Capstone Poll, the Institute for Social Science Research, and the University of Alabama Center for Economic Development for their help on various phases of this research project. Last, but not least, much gratitude is owed to the thousands of Alabamians who responded to the extensive survey on the state's workforce and related issues, as well as to the community and industry leaders whose work on these issues provides the critical data required in reports of this kind.

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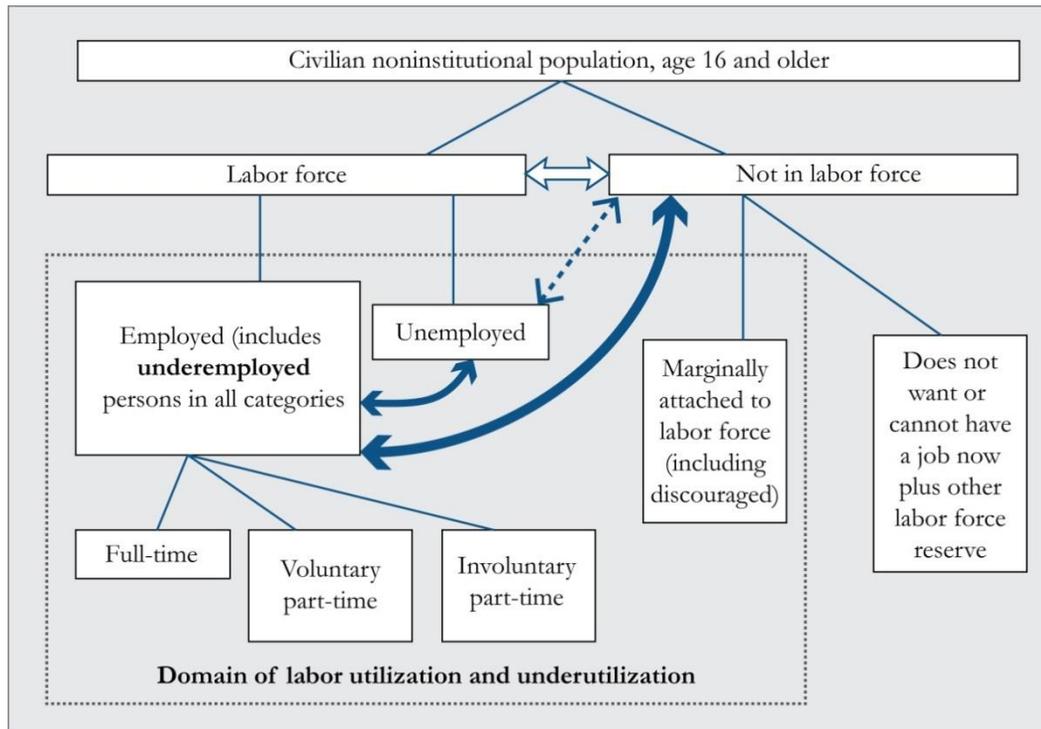
Summary

- This report analyzes workforce supply and demand issues using available metrics of workforce characteristics for Workforce Development Region 5 and presents some implications and recommendations.
- Region 5 had a 6.5 percent unemployment rate in March 2016, with 11,647 unemployed. With a 23.0 percent underemployment rate, the region has a 50,411-strong available labor pool that includes 38,764 underemployed workers who are looking for better jobs and are willing to commute farther for such jobs.
- The number of in- and out-commuters increased from 2005 to 2014 with net out-commuting rising from 19,133 to 24,192. Commute time and distance were up in 2015 from the previous year implying that congestion worsened. Congestion is likely to remain an issue in the future as the region recovers from the last recession. This could slow economic development. Continuous maintenance and development of the region's transportation infrastructure and systems is essential to guarantee a smooth flow of workers and goods.
- By sector the top five employers in the region are manufacturing, health care and social assistance, retail trade, educational services, and accommodation and food services. In the first quarter of 2015 these five sectors provided 90,917 jobs, 67.5 percent of the regional total. Three top employers—manufacturing, health care and social assistance, and educational services—paid more than the region's average monthly wage of \$2,787. Economic developers ought to diversify and strengthen the region's economy by retaining, expanding, and attracting more high-wage providing industries, and preparing workers for those industries.
- On average 6,178 jobs were created per quarter from second quarter 2001 to first quarter 2015; quarterly net job flows averaged 404. Job creation is the number of new jobs that are added in the region either by new businesses or through expansion of existing firms. Net job flows reflect the difference between current and previous employment at all businesses.
- The top five high-demand occupations are Team Assemblers; Registered Nurses; Heavy and Tractor-Trailer Truck Drivers; Licensed Practical and Licensed Vocational Nurses; and Home Health Aides.
- The top five fast-growing occupations are Diagnostic Medical Sonographers; Occupational Therapy Assistants; Medical Equipment Repairers; Personal Care Aides; and Home Health Aides.
- The top 50 high-earning occupations are mainly in management, health, engineering, and computer fields and have a minimum salary of \$67,656. Seven of the top 10 are health occupations.
- Of the top 40 high-demand, the top 20 fast-growing, and 50 high-earning occupations, only two—Nurse Practitioners and Physical Therapists—belong to all three categories. Sixteen

occupations are both high-demand and fast-growing and nine are both high-earning and high-demand.

- Of the region's 623 occupations, 68 are expected to decline over the 2012 to 2022 period. Twenty occupations are expected to sharply decline by at least nine percent, with each losing a minimum of 10 jobs. Education and training for these 20 occupations should slow accordingly.
- Skill and education requirements for jobs keep rising. Educational and training requirements of high-demand, fast-growing, and high-earning occupations demonstrate the importance of education in developing the region's workforce. In the future, more jobs will require postsecondary education and training at a minimum.
- The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs indicates a strong need for training in these skills. The scale of training needs to increase for basic and social skills; the pace of training should be raised for these and also for technical and complex problem solving skills. Ideally, all high school graduates should possess basic skills so that postsecondary and higher education can focus on other and more complex skills. Employers should be an integral part of planning for training as they can help identify future skill needs and any existing gaps.
- From a 2012 base, worker shortfalls of about 18,700 for 2022 and 36,600 for 2030 are expected. This demands a focus on worker skills and the expected shortfalls through 2030. Worker shortfalls for critical occupations will need to be addressed continuously. Strategies to address skill needs and worker shortfalls might include: (1) improvements in education and its funding; (2) continuation and enhancement of programs to assess, retrain, and place dislocated workers; (3) focus on hard-to-serve populations (e.g. out-of-school youth); (4) lowering the high school dropout rate; (5) use of economic opportunities to attract new residents; (6) encouragement of older worker participation in the labor force; and (7) facilitation of in-commuting.
- Improving education is important because (i) a highly educated and productive workforce is a critical economic development asset, (ii) productivity rises with education, (iii) educated people are more likely to work, and (iv) it yields high private and social rates of return on investment. Workforce development must view all of education and other programs (e.g. adult education, career technical training, worker retraining, career readiness, etc.) as one system. Funding to support workforce development may require tax reform at state and local levels and should provide for flexibility as workforce needs change over time and demand different priorities. Publicizing both private and public returns to education can encourage individuals to raise their own educational attainment levels, while also promoting public and legislative support for education.
- Higher incomes that come with improved educational attainment and work skills will help to increase personal income for the region as well as raise additional local (county and city) tax revenues. This is especially important for a region that has low population and labor force growth rates.
- Together, workforce development and economic development can build a strong, well-diversified Region 5 economy. Indeed, one cannot achieve success without the other.

Labor Utilization and Supply Flows



Source: Addy et al¹ and Canon et al²

The chart above presents labor utilization and supply flows that explain labor market dynamics in view of recent study findings. The civilian noninstitutional population age 16 and above is comprised of participants in the labor force and nonparticipants. The labor force is made of employed and unemployed persons; the unemployed do not have a job but are actively searching for work. Employed persons include fully employed and underemployed persons in all categories of work (full-time, voluntary part-time, and involuntary part-time). Nonparticipants in the labor force include retirees (voluntary and involuntary), people who do not want to or cannot work for various reasons (e.g., disability, caring for family members, in school or training, etc.), discouraged workers, and other labor force reserves. It has been suggested that a subgroup of nonparticipants referred to as the “waiting group” is more likely than the rest of the nonparticipants to take a job if wages and conditions are satisfactory, but does not actively search for work. New evidence has shown that between January 2003 and August 2013, the flow of nonparticipants into employment was 1.6 times that of unemployed persons transitioning into employment, which may be due to the presence of the waiting group^{1,2}. Nonparticipant flows to employment are larger in services, management, and professional occupations while unemployed flows to employment are higher in physically intensive occupations such as construction workers and miners. Industry effects should vary by the type and number of occupations they contain. This finding enhances the common understanding of labor market dynamics and influences workforce availability and skills gap analyses.

¹ Addy, S.N., Bonnal, M., and Lira, C. (2012). Towards a More Comprehensive Measure of Labor Underutilization: The Alabama Case, *Business Economics*, vol. 47(3).

² Canon, M.E., Kudlyak, M., and Reed, M. (2014). Not Everyone Who Joins the Ranks of the Employed was “Unemployed”, *The Regional Economist*, January.

Workforce Supply

Labor Force Activity

The labor force includes all persons in the civilian noninstitutional population who are age 16 and over and who have a job or are actively looking for one. Typically, those who have no job and are not looking for one are not included (e.g. students, retirees, discouraged workers, and the disabled). Table 5.1 shows labor force information for Region 5 and its nine counties for 2015 and March 2016. Alabama labor force information is available from the Labor Market Information (LMI) Division of the Alabama Department of Labor. LMI compiles data in cooperation with the U.S. Bureau of Labor Statistics.

Table 5.1 Region 5 Labor Force Information

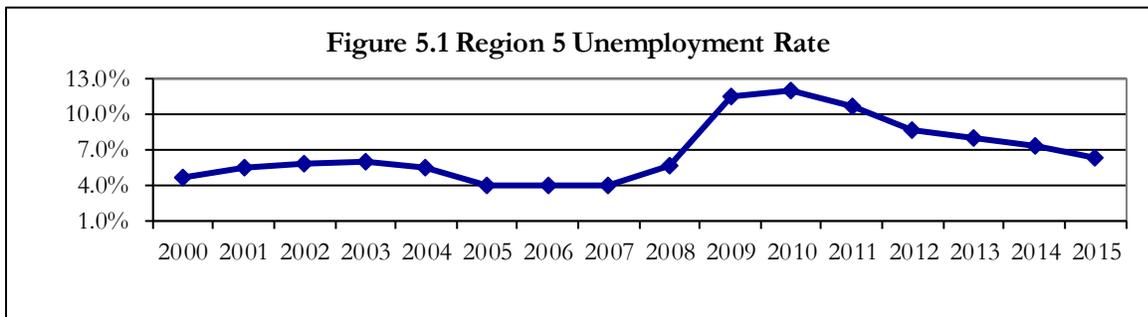
	2015 Annual Average			
	Labor Force	Employed	Unemployed	Rate (%)
Calhoun	46,051	42,837	3,214	7.0
Cherokee	11,197	10,588	609	5.4
Clay	5,526	5,186	340	6.2
Cleburne	5,665	5,324	341	6.0
Coosa	4,431	4,133	298	6.7
Etowah	43,203	40,559	2,644	6.1
Randolph	9,443	8,888	555	5.9
Talladega	35,169	32,859	2,310	6.6
Tallapoosa	18,717	17,570	1,147	6.1
Region 5	179,402	167,944	11,458	6.4
Alabama	2,146,157	2,015,189	130,968	6.1
United States	157,130,000	148,833,000	8,296,000	5.3
	March 2016			
	Labor Force	Employed	Unemployed	Rate (%)
Calhoun	46,228	42,990	3,238	7.0
Cherokee	11,141	10,547	594	5.3
Clay	5,586	5,230	356	6.4
Cleburne	5,715	5,355	360	6.3
Coosa	4,424	4,135	289	6.5
Etowah	43,692	40,968	2,724	6.2
Randolph	9,555	9,019	536	5.6
Talladega	35,563	33,146	2,417	6.8
Tallapoosa	18,503	17,370	1,133	6.1
Region 5	180,407	168,760	11,647	6.5
Alabama	2,156,616	2,023,744	132,872	6.2
United States	158,854,000	150,738,000	8,116,000	5.1

Source: Alabama Department of Labor and U.S. Bureau of Labor Statistics.

The recession that began in 2007 increased the number of unemployed and raised county unemployment rates. The on-going but slow economic recovery has lowered county unemployment from a range of 5.4 percent to 7.0 percent for 2015 (6.4 percent for the region) and between 5.3

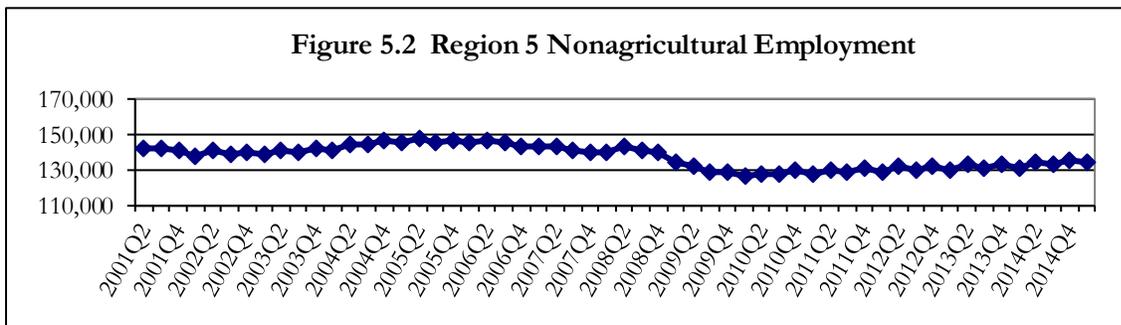
percent and 7.0 percent in March 2016 (6.5 percent for the region). By March 2016, Cherokee County had the lowest unemployment rate and Calhoun had the highest. Cherokee, Randolph, and Tallapoosa counties were the only counties with lower unemployment rates than the state’s 6.2 percent.

Annual unemployment rates for 2000 to 2015 are shown in Figure 5.1. The region’s unemployment rates were low before the 2001 and the most recent recession. The 2003 high of 6.0 percent was due to the effects of the 2001 recession, which adversely affected manufacturing, the region’s largest employer. Employment gains since 2003 brought unemployment to record lows in 2006 and 2007. However, the last recession resulted in major job losses which raised regional unemployment rate to a record high of 12.0 percent in 2010. The regional unemployment rate declined to 6.4 percent in 2015. Year-to-date monthly labor force data point to about the same regional unemployment for 2016 as seen in 2015 but is expected to be lower. Despite strong ongoing economic development efforts, the effect of the recession and structural changes are likely to keep unemployment high for a few more years.



Source: Alabama Department of Labor.

Nonagricultural employment of the region’s residents averaged 137,389 quarterly from the second quarter of 2001 to the first quarter of 2015 (Figure 5.2). After major losses, the number of jobs flattened out from the third quarter 2009 and showed a slight increase in the fourth quarter 2014.



Source: Alabama Department of Labor and U.S. Census Bureau.

Table 5.2 shows worker distribution by age in Region 5 for the first quarter of 2015. Older workers, age 55 and over, are 20.7 percent of the region’s nonagricultural employment, just slightly below the state’s 21.0 percent. The region has the same proportion of workers who are age 65 and over as the state—4.9 percent. To meet long term occupational projections for growth and replacement, labor force participation of younger residents must increase. Otherwise older workers may have to work longer.

Table 5.2 Workers by Age Group (First Quarter 2015)

Age Group	Nonagricultural Employment	
	Number	Percent
14-18	2,309	1.7
19-24	15,882	11.8
25-34	28,892	21.5
35-44	30,210	22.4
45-54	29,520	21.9
55-64	21,206	15.7
65+	6,657	4.9
55 and over total	27,863	20.7
Total all ages	134,676	100.0

Note: Rounding errors may be present. Nonagricultural employment is by place of work, not residence.

Source: U.S. Census Bureau, Local Employment Dynamics Program.

Commuting Patterns

In 2005 more residents commuted out of the region for work than nonresidents who commuted in (Table 5.3). Commuter outflow exceeded inflow by 19,133. By 2007, more people were commuting and the net commuter outflow rose to about 26,000. The recent economic development efforts in the region have slowed the increase of commuter outflow and increased commuter inflow. However, by 2014, net commuter outflow was 24,192. Calhoun, Talladega, and Etowah had the largest commuter in- and outflow in the region. Table 5.3 also shows the one-way average commute time and distance for workers in various years. Commute distance and time went up in 2015 from the previous year implying that congestion worsened in the region. The increasing in-commuting in the region is likely to make congestion worse in future. The region's transportation infrastructure and systems must therefore be properly maintained and developed to ensure that the flow of goods and movement of workers are not interrupted. Impeding the mobility of workers and goods can delay or slow economic development.

Population

The Region 5 population count of 436,254 for 2010 is 2.8 percent more than in 2000 (Table 5.4). This regional population growth rate is below the state's 7.5 percent. The population grew in seven counties but shrank in the remaining two. Population growth was fastest in Cherokee County; Clay and Coosa counties registered population declines. The 2015 population estimate shows a decline of 1.8 percent from 2010 for the region compared to a growth of 1.7 percent growth for the state. The population declined in all counties except in Cleburne County. Table 5.5 shows population counts, estimates, and projections by age group. The population aged 65 and over is expected to grow rapidly, with the first of baby boom generation having turned 65 in 2011. Unfortunately, the prime working age group (20-64) and youth (0-19) populations are expected to decline. This poses a challenge for workforce development through 2030. If employment growth outpaces labor force growth as is expected in the long term, communities that experience rapid job gains may need to consider investments in amenities and infrastructure to attract new residents.

Table 5.3 Commuting Patterns

Year	Region 5 Inflow		Region 5 Outflow			
	Number		Number			
2005	30,444		49,577			
2006	29,690		52,054			
2007	32,802		58,758			
2008	33,476		59,054			
2009	33,527		57,236			
2010	33,713		58,023			
2011	36,398		56,948			
2012	35,335		59,310			
2013	36,449		60,049			
2014	36,733		60,925			
Region 5 Counties	<u>Inflow, 2014</u>		<u>Outflow, 2014</u>			
	Number	Percent	Number	Percent		
Calhoun	17,971	28.7	17,481	20.1		
Cherokee	2,293	3.7	5,710	6.6		
Clay	1,534	2.4	3,439	4.0		
Cleburne	1,078	1.7	4,440	5.1		
Coosa	977	1.6	4,124	4.7		
Etowah	15,222	24.3	17,065	19.6		
Randolph	1,929	3.1	5,507	6.3		
Talladega	16,057	25.6	19,149	22.0		
Tallapoosa	5,608	8.9	9,946	11.5		
	Percent of workers					
Average commute time (one-way)	2010	2011	2012	2013	2014	2015
Less than 20 minutes	53.0	56.4	51.2	49.3	50.0	49.2
20 to 40 minutes	27.6	24.1	31.7	27.8	30.1	26.2
40 minutes to an hour	12.4	11.6	10.5	9.9	9.1	11.8
More than an hour	2.1	3.8	3.8	6.8	2.7	3.9
Average commute distance (one-way)	2010	2011	2012	2013	2014	2015
Less than 10 miles	40.4	44.6	41.3	40.7	38.9	40.6
10 to 25 miles	34.4	30.7	32.7	31.5	38.9	35.8
25 to 45 miles	18.0	15.2	18.2	15.4	13.1	12.4
More than 45 miles	6.0	8.3	6.5	9.4	6.7	9.9

Note: Rounding errors may be present.

Source: U.S. Census Bureau; Alabama Department of Labor; and Center for Business and Economic Research, The University of Alabama.

Table 5.4 Region 5 Population

	1990 Census	2000 Census	2010 Census	2015 Estimate	Change 2000-2010	% change 2000-2010	Change 2010-2015	% change 2010-2015
Calhoun	116,034	112,249	118,572	115,620	6,323	5.6	-2,952	-2.5
Cherokee	19,543	23,988	25,989	25,859	2,001	8.3	-130	-0.5
Clay	13,252	14,254	13,932	13,555	-322	-2.3	-377	-2.7
Cleburne	12,730	14,123	14,972	15,018	849	6.0	46	0.3
Coosa	11,063	12,202	11,539	10,724	-663	-5.4	-815	-7.1
Etowah	99,840	103,459	104,430	103,057	971	0.9	-1,373	-1.3
Randolph	19,881	22,380	22,913	22,696	533	2.4	-217	-0.9
Talladega	74,107	80,321	82,291	80,862	1,970	2.5	-1,429	-1.7
Tallapoosa	38,826	41,475	41,616	40,844	141	0.3	-772	-1.9
Region 5	405,276	424,451	436,254	428,235	11,803	2.8	-8,019	-1.8
Alabama	4,040,587	4,447,100	4,779,736	4,858,979	332,636	7.5	79,243	1.7
United States	248,709,873	281,421,906	308,745,538	321,418,820	27,323,632	9.7	12,673,282	4.1

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.

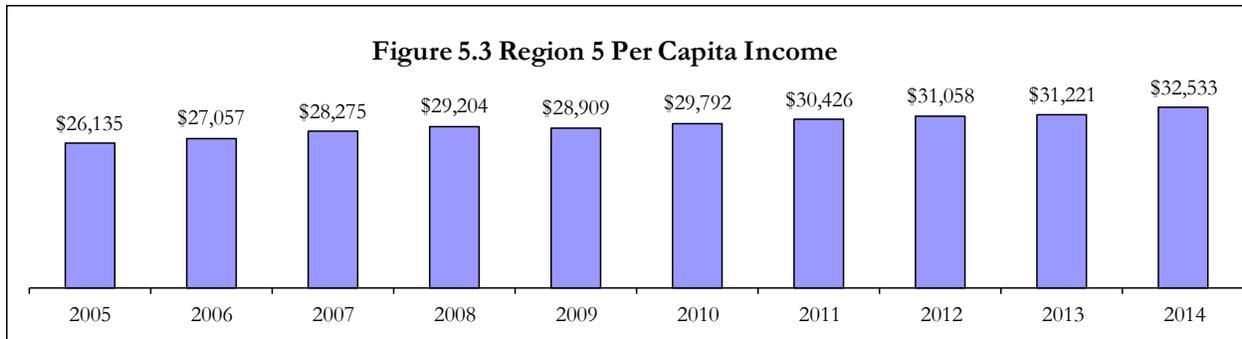
Table 5.5 Population by Age Group and Projections

Age Group	2000	2010	2012	2022	2030
0-19	113,661	112,183	108,074	106,165	102,624
20-24	26,386	26,721	28,440	28,944	28,126
25-29	27,135	25,244	24,366	25,983	26,143
30-34	28,064	25,180	25,297	24,640	26,673
35-39	30,533	28,005	25,542	24,982	26,302
40-44	32,170	28,743	28,485	25,663	24,374
45-49	30,594	31,063	29,327	27,329	26,071
50-54	29,028	32,710	31,570	28,799	26,009
55-59	23,313	30,409	31,286	30,081	28,503
60-64	20,173	28,395	29,055	31,409	28,658
65+	63,394	67,601	71,105	89,345	101,503
20-64 Total	247,396	256,470	253,368	247,830	240,859
Total Population	424,451	436,254	432,547	443,340	444,986
Change from 2012					
0-19				-1.8%	-5.0%
20-64				-2.2%	-4.9%
Total Population				2.5%	2.9%

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.

Per Capita Income

Per capita income (PCI) in Region 5 was at \$32,533 in 2014 (Figure 5.3), up 24.5 percent from 2005, but \$4,979 or 13.0 percent below the state average of \$37,512. Tallapoosa County had the highest PCI with \$35,369 followed by Etowah at \$33,374 and Calhoun with \$32,753. Coosa County had the lowest with \$27,057.



Source: U.S. Bureau of Economic Analysis and Center for Business and Economic Research, The University of Alabama.

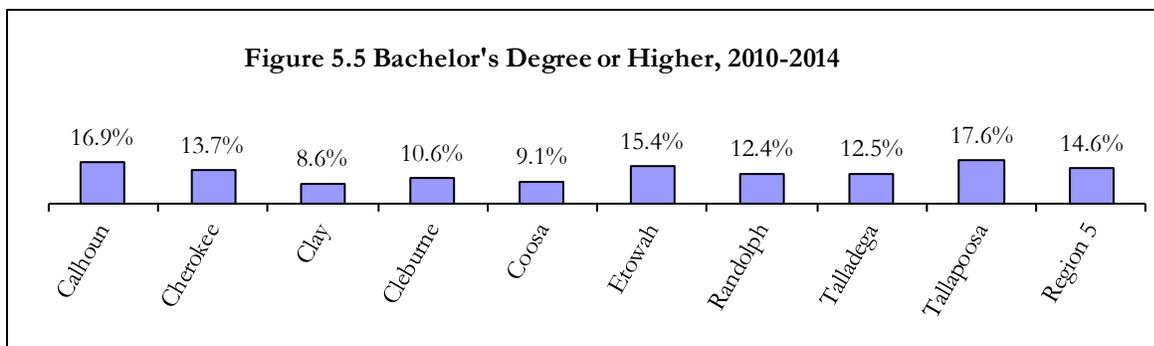
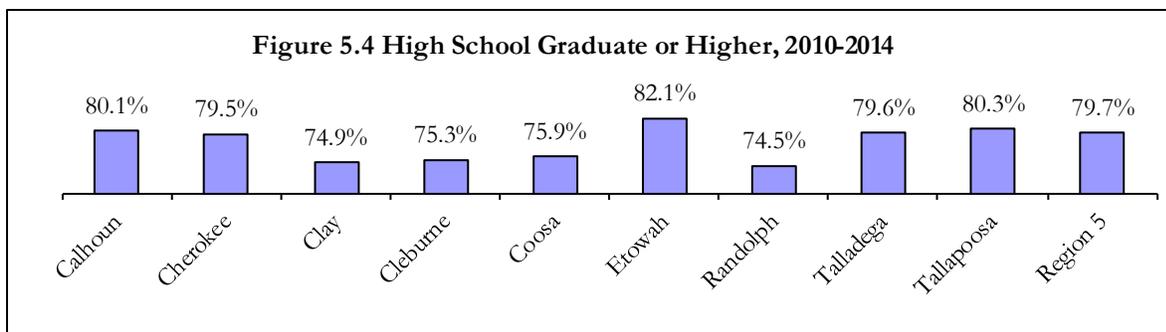
Educational Attainment

Educational attainment in 2010 to 2014 of Region 5 residents who were 25 years old and over is shown in Figures 5.4 and 5.5 and Table 5.6. About 80.0 percent of the population graduated from high school and 15.0 percent held a bachelor's or higher degree. Etowah County had the highest educational attainment for high school diploma or higher while Tallapoosa had the highest attainment for bachelor's degree or higher. Randolph, Clay, and Cleburne counties have the lowest proportion of high school graduates. Clay, Coosa, and Cleburne counties have the lowest educational attainment for bachelor's degrees or higher. Educational attainment is important as skills rise with education and high-wage jobs for the 21st century demand more skill sets.

Table 5.6 Educational Attainment of Population 25 Years and Over, 2010-2014

	Calhoun	Cherokee	Clay	Cleburne	Coosa	Etowah	Randolph	Talladega	Tallapoosa	Region 5
Total	78,667	18,806	9,620	10,308	8,218	71,636	15,525	55,951	28,921	297,652
No schooling completed	1,174	281	129	119	83	1,052	532	789	331	4,490
Nursery to 4th grade	379	55	15	53	102	282	169	454	125	1,634
5th and 6th grade	909	481	281	271	150	998	347	644	374	4,455
7th and 8th grade	2,781	716	560	357	249	1,969	823	2,261	802	10,518
9th grade	2,004	515	350	435	395	1,649	547	1,834	785	8,514
10th grade	3,300	795	473	669	389	3,176	733	2,226	1,149	12,910
11th grade	3,370	605	400	416	557	2,429	588	2,014	1,427	11,806
12th grade, no diploma	1,757	408	210	223	56	1,282	226	1,166	703	6,031
High school graduate/equivalent	25,495	6,747	3,487	3,982	3,249	23,147	5,920	21,130	10,269	103,426
Some college, less than 1 year	5,542	1,301	550	875	458	4,937	803	3,662	1,886	20,014
Some college, 1+ years, no degree	12,860	3,066	1,627	1,332	1,262	13,555	1,886	8,433	3,781	47,802
Associate degree	5,797	1,253	713	487	523	6,114	1,024	4,371	2,198	22,480
Bachelor's degree	8,434	1,514	521	589	434	6,969	1,175	4,349	3,354	27,339
Master's degree	3,664	746	238	320	257	3,004	686	1,957	1,300	12,172
Professional school degree	642	225	34	142	28	762	42	445	290	2,610
Doctorate degree	559	98	32	38	26	311	24	216	147	1,451

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.



Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.

Underemployment and Available Labor

Labor force data are often limited to information on the employed and the unemployed that is available from government sources. However, this information is not complete from the perspective of employers. New or expanding employers are also interested in underemployment because current workers are potential employees. In fact, experience requirements in job ads are evidence that many prospective employers look beyond the unemployed for workers.

Workers in occupations that underutilize their experience, training, and skills are underemployed. These workers might look for other work because their current wages are below what they believe they can earn or because they wish to not be underemployed. Underemployment occurs for various reasons including (i) productivity growth, (ii) spousal employment and income, and (iii) family constraints or personal preferences. Underemployment is unique to areas because of the various contributing factors combined with each area's economic, social, and geographic characteristics.

The existence of underemployment identifies economic potential that is not being realized. It is extremely difficult to measure this economic potential because of uncertainties regarding additional income that the underemployed can bring to an area. It is clear, however, that underemployment provides opportunities for selective job creation and economic growth. A business that needs skills prevalent among the underemployed could locate in places that have such workers regardless of those areas' unemployment rates. A low unemployment rate, which may falsely suggest limited labor availability, is therefore not a hindrance to the business.

The underemployed present a significant pool of labor because they tend to respond to job opportunities that they believe are better for reasons that include (i) higher income, (ii) more benefits, (iii) superior terms and conditions of employment, and (iv) a better match with skills, training, and experience. The underemployed also create opportunities for entry level workers as they leave lower-paying jobs for better-paying ones. Even if their previously-held positions are lost or not filled (perhaps due to low unemployment or adverse economic conditions), there is economic growth in gaining higher-paying jobs. Such income growth boosts consumption, savings, and tax collections. Quantifying the size of the underemployed is a necessary first step in considering this group for economic development, workforce training, planning, and other purposes. It is important to note that the underemployed can take on more responsibilities and earn more income, but they cannot be counted on to address possible future worker shortages as they are already employed.

Region 5 had an underemployment rate of 23.0 percent in 2015. Applying this rate to March 2016 labor force data means that 38,764 employed residents were underemployed (Table 5.7). Adding the unemployed gives a total available labor pool of 50,411 for the region. This is 4.3 times the number of unemployed and is a more realistic measure of the available labor pool in the region. Prospective employers must be able to offer the underemployed higher wages, better benefits or terms of employment, or some other incentives to induce them to change jobs. Underemployment rates ranged from 17.4 percent for Coosa County to 27.9 percent for Etowah. Calhoun County had the largest available labor pool and Coosa had the smallest. The underemployed are willing to commute longer and farther for a better job. For the one-way commute, 44.2 percent are prepared to travel for 20 or more minutes longer while 31.4 percent will go 20 or more extra miles.

Table 5.7 Underemployed and Available Labor by County

	Region 5	Calhoun	Cherokee	Clay	Cleburne
Labor Force	180,407	46,228	11,141	5,586	5,715
Employed	168,760	42,990	10,547	5,230	5,355
Underemployment rate	23.0%	27.3%	20.4%	19.1%	22.0%
Underemployed workers	38,764	11,723	2,153	996	1,175
Unemployed	11,647	3,238	594	356	360
Available labor pool	50,411	14,961	2,747	1,352	1,535
	Coosa	Etowah	Randolph	Talladega	Tallapoosa
Labor Force	4,424	43,692	9,555	35,563	18,503
Employed	4,135	40,968	9,019	33,146	17,370
Underemployment rate	17.4%	27.9%	20.5%	25.5%	23.9%
Underemployed workers	719	11,418	1,844	8,462	4,153
Unemployed	289	2,724	536	2,417	1,133
Available labor pool	1,008	14,142	2,380	10,879	5,286

Note: Rounding errors may be present. Based on March 2016 labor force data and 2015 underemployment rates.

Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Labor.

Underemployment rates for counties, Workforce Development Regions (WDRs), and the state were determined from an extensive survey on the state's workforce. A total of 759 complete responses were obtained from Region 5. About 56.8 percent (431 respondents) were employed, of whom 99 respondents stated that they were underemployed. A lack of job opportunities in their area, low wages at available jobs, living too far from jobs, other family or personal obligations, owning a house

in the area, child care responsibilities, and taking care of someone other than a child are the primary reasons given for being underemployed. Ongoing economic development efforts can help in this regard. Nonworkers cite retirement and disability as the main reasons for their status as well as a lack of job opportunities in their area, social security limitations, and low wages at available jobs as additional major reasons. Such workers may become part of the labor force if their problems can be addressed. Indeed a recent study found that the flow of labor force nonparticipants to employment status was 60 percent more than that of unemployed workers who gain employment.³ This implies that the region's available labor pool could be larger than estimated in this report.

A comparison of underemployed workers to the overall workforce in Region 5 shows that:

- Fewer work full-time and more of the part-timers prefer full-time work.
- More hold multiple jobs.
- They have shorter commute times and distances.
- More work in computer and mathematical; community and social services; arts, design, and entertainment; healthcare support; building and ground cleaning and maintenance; sales; and production occupations.
- They earn less and have shorter job tenure.
- More are in retail trade; information; real estate and rental; administrative and support and waste management and remediation services; health care and social assistance; accommodation and food services; and other services industries.
- Fewer believe their jobs fit well with their education and training, skills, and experience.
- More believe they are qualified for a better job.
- More would leave their current jobs for higher income.
- More are willing to commute longer distances for a better job.
- Fewer are satisfied with their current jobs.
- More sought better jobs in the preceding quarter.
- More are willing to train for a better job except if they have to pay all of the training cost.
- They are older and more have higher educational attainment.
- Fewer are married and more are female.
- Fewer are Hispanic and more are African-American or other nonwhite ethnic groups.

Table 5.8 shows the detailed survey results on job satisfaction and willingness to train. Responses for overall job satisfaction as well as various aspects of the job were obtained. In general most of the region's workers (75.9 percent) are satisfied or completely satisfied with their jobs. Workers are most satisfied with the work they do and least satisfied with the earnings they receive. Fewer underemployed workers are satisfied with their jobs (55.6 percent). The underemployed are also much more dissatisfied with their earnings and are most satisfied with their work shift.

Workers are generally willing to train for a new or better job, with the underemployed being much more willing (65.1 percent vs. 53.6 percent). However, the willingness to train is strongly influenced by who pays for the cost of training. Workers typically do not wish to pay for the training and so their willingness is highest when the cost is fully borne by government and lowest when the trainee

³ Canon, M.E., Kudlyak, M., and Reed, M. (2014). Not Everyone Who Joins the Ranks of the Employed was "Unemployed", *The Regional Economist*, January.

must pay the full costs. The underemployed are more willing to train for the new or better job except if they have to pay the full cost of training. The results strongly show that workers expect the government to bear at least a part of the training cost. This expectation may result from worker awareness of government workforce programs that provide such assistance.

Table 5.8 Job Satisfaction and Willingness to Train (Percent)

		Job Satisfaction				
		Completely Dissatisfied	Dissatisfied	Neutral	Satisfied	Completely Satisfied
Employed						
Overall		4.4	16.9	24.4	51.5	4.4
	Earnings	13.5	21.6	21.1	33.9	13.5
	Retention	3.3	12.3	17.6	62.4	3.3
	Work	1.6	8.1	24.1	64.7	1.6
	Hours	3.5	13.7	20.0	58.7	3.5
	Shift	2.6	8.1	18.3	68.2	2.6
	Conditions	4.9	13.9	21.4	55.7	4.9
	Commuting Distance	3.3	10.7	14.4	65.7	3.3
Underemployed						
Overall		7.1	11.1	26.3	19.2	36.4
	Earnings	22.2	20.2	24.2	15.2	18.2
	Retention	9.1	8.1	18.2	18.2	45.5
	Work	3.0	3.0	13.1	28.3	52.5
	Hours	8.1	5.1	11.1	24.2	51.5
	Shift	2.0	4.0	7.1	21.2	65.7
	Conditions	8.1	9.1	17.2	19.2	45.5
	Commuting Distance	6.1	8.1	12.1	12.1	61.6
Willingness to Train						
		Completely Unwilling	Unwilling	Neutral	Willing	Completely Willing
Employed						
For a new or better job		25.2	6.6	13.8	12.6	41.0
	If paid by trainee	44.4	20.8	22.4	5.2	6.4
	If paid by trainee and government	13.6	13.6	32.0	21.6	18.4
	If paid by government	6.8	2.8	9.6	14.4	66.0
Underemployed						
For a new or better job		16.3	4.7	14.0	16.3	48.8
	If paid by trainee	43.1	20.8	25.0	5.6	5.6
	If paid by trainee and government	9.7	9.7	27.8	23.6	26.4
	If paid by government	2.8	2.8	11.1	13.9	69.4

Note: Rounding errors may be present.

Source: Center for Business and Economic Research, The University of Alabama.

Workforce Demand

Industry Mix

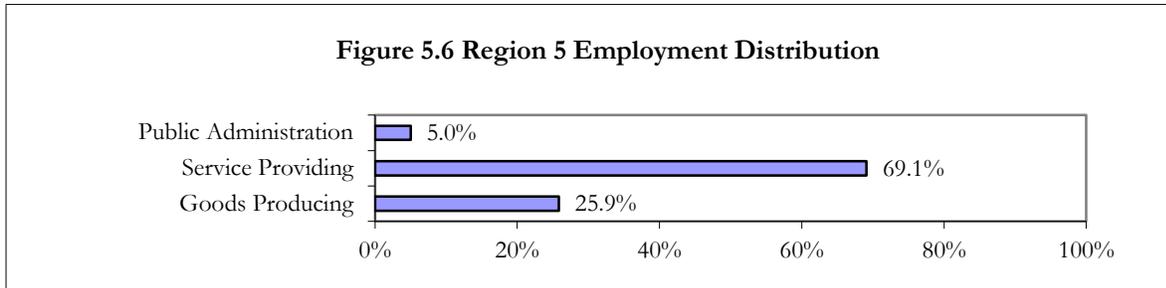
The manufacturing sector was the leading employer in Region 5 with 29,598 jobs in the first quarter of 2015 (Table 5.9). Rounding out the top five industries by employment are health care and social assistance, retail trade, educational services, and accommodation and food services. These five industries provided 90,917 jobs, 67.5 percent of the region’s total. The average monthly wage across all industries in the region was \$2,787; three of the leading employers—manufacturing, educational services, and health care and social assistance—paid more than this average. The highest average monthly wages were for mining at \$7,084, utilities at \$5,723, information at \$3,841, and manufacturing with \$3,839. Accommodation and food services paid the least at \$1,156. New hire monthly earnings averaged \$1,774, about 63.7 percent of the region’s average monthly wage. Mining had the highest average monthly new hire wages with \$4,729 followed by professional, scientific, and technical services with \$2,856, and wholesale trade with \$2,702. Accommodation and food services paid newly hired workers the least, \$930.

Table 5.9 Industry Mix (First Quarter 2015)

Industry by 2-digit NAICS Code	Total Employment	Share	Rank	Average Monthly Wage	Average Monthly New Hire Earnings
11 Agriculture, Forestry, Fishing and Hunting	763	0.57%	19	\$2,577	\$2,221
21 Mining	486	0.36%	20	\$7,084	\$4,729
22 Utilities	1,160	0.86%	15	\$5,723	\$2,674
23 Construction	3,988	2.96%	8	\$2,924	\$2,454
31-33 Manufacturing	29,598	21.98%	1	\$3,839	\$2,562
42 Wholesale Trade	3,432	2.55%	10	\$3,806	\$2,702
44-45 Retail Trade	16,262	12.07%	3	\$1,977	\$1,253
48-49 Transportation and Warehousing	3,670	2.73%	9	\$2,961	\$2,274
51 Information	1,364	1.01%	14	\$3,841	\$1,927
52 Finance and Insurance	2,999	2.23%	11	\$3,656	\$2,341
53 Real Estate and Rental and Leasing	1,088	0.81%	16	\$2,874	\$2,082
54 Professional, Scientific, and Technical Services	2,539	1.89%	13	\$3,168	\$2,856
55 Management of Companies and Enterprises	917	0.68%	17	\$1,712	\$1,293
56 Administrative and Support and Waste Management and Remediation Services	11,026	8.19%	6	\$1,565	\$1,509
61 Educational Services	12,680	9.42%	4	\$2,938	\$1,458
62 Health Care and Social Assistance	21,047	15.63%	2	\$2,855	\$2,033
71 Arts, Entertainment, and Recreation	849	0.63%	18	\$1,762	\$1,067
72 Accommodation and Food Services	11,330	8.41%	5	\$1,156	\$930
81 Other Services (Except Public Administration)	2,708	2.01%	12	\$2,474	\$1,872
92 Public Administration	6,771	5.03%	7	\$2,654	\$1,741
ALL INDUSTRIES	134,677	100.00%		\$2,787	\$1,774

Source: Alabama Department of Labor and U.S. Census Bureau.

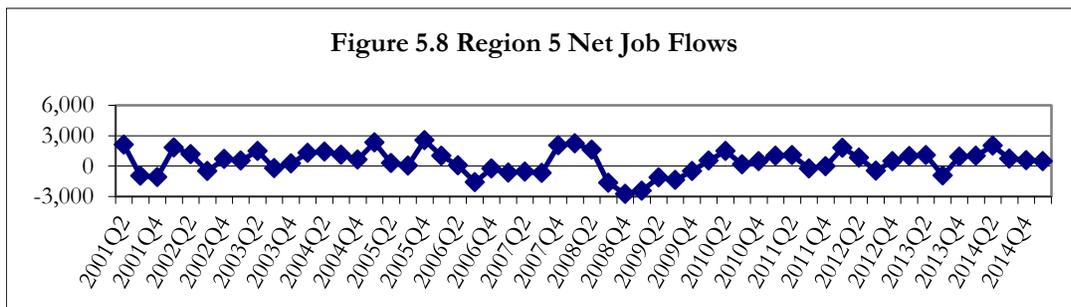
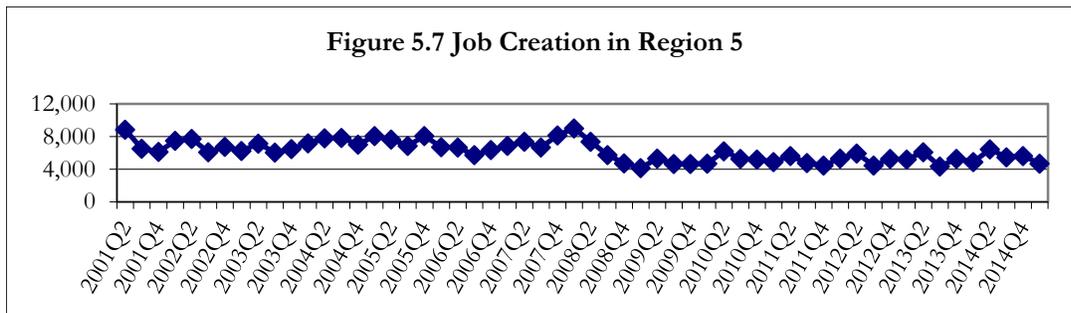
By broad industry classification, service providing industries generated 69.1 percent of jobs in first quarter 2015 (Figure 5.6). Goods producing industries were next with 25.9 percent and public administration accounted for 5.0 percent. The distribution is for all nonagricultural jobs in the region, but there is significant variation by county.



Source: Alabama Department of Labor and U.S. Census Bureau.

Job Creation and Net Job Flows

On average, 6,178 jobs were created per quarter from second quarter 2001 to first quarter 2015 (Figure 5.7); quarterly net job flows averaged 404 (Figure 5.8). After a steady drop due to the last economic recession, job creation flattened since the second quarter of 2009 and has yet to show any significant improvement. Both job creation and net flows rose in the second quarter of 2014. Quarterly net job flows fluctuate considerably and have ranged from a loss of 2,758 to a gain of 2,541. Job creation refers to the number of new jobs that are created either by new area businesses or through the expansion of existing firms. Net job flows reflect the difference between current and previous employment at all businesses.



Source: Alabama Department of Labor and U.S. Census Bureau.

High-Demand, Fast-Growing, High-Earning, and Sharp-Declining Occupations

Workforce Development Region 5 has 623 single occupations. Table 5.10 shows the 40 occupations that are expected to be in high-demand, ranked by projected average annual job openings over the 2012 to 2022 period. Many of these occupations are common to one of the largest employment sectors identified earlier (Table 5.9): health care and social assistance. Thus, this sector will continue to be important employers in the region.

The top five high-demand occupations are Team Assemblers; Registered Nurses; Heavy and Tractor—Trailer Truck Drivers; Licensed Practical and Licensed Vocational Nurses; and Home Health Aides. Sixteen of the high-demand occupations are also fast-growing. This means that these 16 occupations have a minimum annual growth rate of 1.84 percent, much faster than the regional and state occupational growth rates of 0.74 percent and 0.99 percent, respectively.

The 20 fastest growing occupations ranked by projected growth of employment are listed in Table 5.11. More than half of these occupations are related to health care and social assistance. The top five fast-growing occupations are Diagnostic Medical Sonographers; Occupational Therapy Assistants; Medical Equipment Repairers; Personal Care Aides; and Home Health Aides.

Table 5.12 shows the 50 selected highest earning occupations in the region. These occupations are mainly in management, health, engineering, and computer fields and have a minimum monthly salary of \$67,656. Seven of the top 10 listed are health occupations and three are in management. Any discussion of earnings must consider that wages vary with experience. Occupations with the highest entry wages may not necessarily have the highest average or experienced wages.

The selected high-earning occupations are generally not fast-growing or in high-demand. Only two occupations—Physical Therapists and Nurse Practitioners—are in all three categories. Nine occupations are both high-earning and in high-demand (Table 5.10).

Of the region's 623 occupations, 68 are expected to decline over the 2012 to 2022 period. Employment in the 20 sharpest-declining occupations will fall by at least nine percent, with each losing a minimum of 10 jobs over the period (Table 5.13). No efforts should be made to sustain these occupations because they are declining as a result of structural changes in the economy of the region.

Table 5.10 Selected High-Demand Occupations (Base Year 2012 and Projected Year 2022)

Occupation	Average Annual Job Openings		
	Total	Due to Growth	Due to Separations
Team Assemblers	195	85	105
Registered Nurses	120	60	60
Heavy and Tractor-Trailer Truck Drivers	70	30	35
Licensed Practical and Licensed Vocational Nurses	65	30	35
Home Health Aides*	55	35	15
Personal Care Aides*	55	50	5
General and Operations Managers	50	20	35
Industrial Machinery Mechanics	45	20	25
Emergency Medical Technicians and Paramedics	25	10	15
Industrial Engineers	20	5	15
Carpenters	20	10	5
Medical Secretaries*	15	10	5
First-Line Supervisors of Construction Trades and Extraction Workers	15	10	5
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	15	5	10
Electrical Power-Line Installers and Repairers	15	5	10
Computer-Controlled Machine Tool Operators, Metal and Plastic*	15	10	5
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders*	15	5	5
Construction Managers	10	5	5
Medical and Health Services Managers	10	5	5
Management Analysts	10	5	5
Training and Development Specialists	10	5	5
Healthcare Social Workers	10	5	5
Pharmacists	10	5	10
Medical and Clinical Laboratory Technicians	10	5	5
Dental Hygienists	10	5	5
Physical Therapist Assistants*	10	5	5
Funeral Service Managers*	5	0	0
Social and Community Service Managers	5	0	5
Logisticians	5	5	0
Market Research Analysts and Marketing Specialists*	5	5	0
Nursing Instructors and Teachers, Postsecondary*	5	5	0
Interpreters and Translators*	5	0	0
Occupational Therapists	5	5	0
Physical Therapists*	5	5	5
Speech-Language Pathologists	5	0	0
Nurse Practitioners*	5	5	0
Diagnostic Medical Sonographers*	5	0	0
Occupational Therapy Assistants*	5	5	0
Medical Equipment Repairers*	5	0	0
Crane and Tower Operators*	5	0	5

Note: Occupations are growth- and wages-weighted and data are rounded to the nearest 5. Occupations in bold are also high-earning.

* - Qualify as both high-demand and fast-growing occupations.

Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

Table 5.11 Selected Fast-Growing Occupations (Base Year 2012 and Projected Year 2022)

Occupation	Employment		Percent Change	Annual Growth (Percent)	Average Annual Job Openings
	2012	2022			
Diagnostic Medical Sonographers*	40	60	37	4.14	5
Occupational Therapy Assistants*	80	120	42	4.14	5
Medical Equipment Repairers*	60	90	37	4.14	5
Personal Care Aides*	990	1,470	49	4.03	55
Home Health Aides*	910	1,280	40	3.47	55
Helpers--Electricians	50	70	32	3.42	5
Physical Therapist Assistants*	200	270	34	3.05	10
Nursing Instructors and Teachers, Postsecondary*	90	120	32	2.92	5
Interpreters and Translators*	60	80	27	2.92	5
Forest and Conservation Workers	NA	NA	28	2.92	5
Computer-Controlled Machine Tool Operators, Metal and Plastic*	260	340	30	2.72	15
Medical Secretaries*	380	490	29	2.57	15
Physical Therapists*	140	180	30	2.54	5
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders*	250	320	28	2.50	15
Veterinary Technologists and Technicians	80	100	29	2.26	5
Refuse and Recyclable Material Collectors	240	300	28	2.26	10
Nurse Practitioners*	130	160	26	2.10	5
Funeral Service Managers*	90	110	26	2.03	5
Market Research Analysts and Marketing Specialists*	90	110	33	2.03	5
Crane and Tower Operators*	100	120	23	1.84	5

Note: Employment data are rounded to the nearest 10 and job openings are rounded to the nearest 5. Occupations in bold are also high-earning.

NA - Not available. * - Qualify as both high-demand and fast-growing occupations.

Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

Table 5.12 Selected High-Earning Occupations (Base Year 2012 and Projected Year 2022)

Occupation	Employment		Annual Growth (Percent)	Average Annual Job Openings	Mean Annual Salary (\$)
	2012	2022			
Surgeons	NA	NA	0.00	0	244,596
Physicians and Surgeons, All Other	310	360	1.51	15	223,423
Dentists, General	90	100	1.06	0	220,689
Family and General Practitioners	70	70	0.00	0	189,498
Pediatricians, General	NA	NA	0.00	0	174,875
Chief Executives	120	120	0.00	5	153,519
Nurse Anesthetists	20	20	0.00	0	137,278
Pharmacists*	330	380	1.42	10	132,046
Architectural and Engineering Managers	80	90	1.18	0	116,836
General and Operations Managers*	1,740	1,930	1.04	50	104,353
Nurse Practitioners*	130	160	2.10	5	103,777
Financial Managers	250	270	0.77	5	102,869
Computer and Information Systems Managers	40	50	2.26	0	101,519
Lawyers	310	330	0.63	5	100,992
Physical Therapists*	140	180	2.54	5	100,292
Sales Managers	90	90	0.00	0	99,795
Public Relations and Fundraising Managers	10	10	0.00	0	98,825
Software Developers, Systems Software	NA	NA	2.26	0	95,019
Physician Assistants	20	30	4.14	0	94,054
Education Administrators, All Other	NA	NA	0.00	0	93,939
Construction Managers*	290	330	1.30	10	90,215
Computer Programmers	130	130	0.00	5	89,298
Management Analysts*	250	280	1.14	10	88,332
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	60	60	0.00	0	85,958
Education Administrators, Postsecondary	130	150	1.44	5	85,661
Software Developers, Applications	20	30	4.14	0	85,315
Industrial Production Managers	230	240	0.43	5	83,136
Human Resources Managers	50	60	1.84	0	82,879
Environmental Engineers	40	40	0.00	0	82,379
Medical and Health Services Managers*	250	290	1.50	10	80,572
Electrical Engineers	80	80	0.00	0	80,289
Occupational Therapists*	100	120	1.84	5	78,890
Purchasing Managers	40	50	2.26	0	78,591
Transportation, Storage, and Distribution Managers	70	80	1.34	5	77,872
Veterinarians	70	80	1.34	5	76,675
Education Administrators, Elementary and Secondary School	400	420	0.49	10	76,193
Business Teachers, Postsecondary	60	60	0.00	0	75,198
Electronics Engineers, Except Computer	40	40	0.00	0	75,189
First-Line Supervisors of Non-Retail Sales Workers	320	310	-0.32	5	74,498
Managers, All Other	370	410	1.03	10	74,279
Computer Occupations, All Other	70	60	-1.53	0	73,089
Mechanical Engineers	150	160	0.65	5	72,808
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	20	20	0.00	0	71,977
Chiropractors	60	60	0.00	0	71,678
Administrative Services Managers	40	50	2.26	0	69,167
Computer Systems Analysts	70	80	1.34	0	69,066
Industrial Engineers*	510	570	1.12	20	68,428
Social Scientists and Related Workers, All Other	NA	NA	0.00	0	68,347
Claims Adjusters, Examiners, and Investigators	90	80	-1.17	0	68,023
Communications Teachers, Postsecondary	20	20	0.00	0	67,656

Note: Employment data are rounded to the nearest 10; openings to the nearest 5. The salary data provided are based on the May 2014 release of the Occupational Employment Statistics (OES) combined employment and wage file. Estimates for specific occupations may include imputed data. Occupations in bold are also fast-growing. NA – Not available.

* - Qualify as both high-earning and high-demand occupations.

Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Labor.

Table 5.13 Selected Sharp-Declining Occupations (Base Year 2012 and Projected Year 2022)

Occupation	Employment		Net Change	Percent Change
	2012	2022		
Farmers, Ranchers, and Other Agricultural Managers	2,590	2,210	-380	-15
Sewing Machine Operators	730	440	-290	-39
Postal Service Mail Carriers	470	320	-150	-30
Pressers, Textile, Garment, and Related Materials	NA	NA	-90	-35
Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders	240	180	-60	-24
Textile Knitting and Weaving Machine Setters, Operators, and Tenders	170	120	-50	-26
Textile Bleaching and Dyeing Machine Operators and Tenders	160	120	-40	-26
Postal Service Clerks	100	60	-40	-34
Electrical and Electronics Repairers, Commercial and Industrial Equipment	220	190	-30	-13
Data Entry Keyers	150	120	-30	-21
Switchboard Operators, Including Answering Service	120	100	-20	-15
Meter Readers, Utilities	80	60	-20	-17
Postmasters and Mail Superintendents	50	30	-20	-27
Textile Cutting Machine Setters, Operators, and Tenders	50	30	-20	-38
Procurement Clerks	140	130	-10	-11
Floral Designers	90	80	-10	-9
Telephone Operators	90	80	-10	-14
Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers	70	60	-10	-14
Office Machine Operators, Except Computer	70	60	-10	-15
Tailors, Dressmakers, and Custom Sewers	70	60	-10	-16

Note: Employment data are rounded to the nearest 10. NA - Not available.

* - Not available due to disclosure restrictions.

Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

Skills and Skills Gap Analyses

Jobs require skill sets and it is necessary that jobholders have the relevant skills. Table 5.14 shows skill types and definitions as provided by O*NET Online, which offers skill sets for all occupations ranked by the degree of importance. High-earning occupations typically require skills that are obtained in the pursuit of the high educational attainment levels that such jobs require. Lower earning occupations require more basic skill sets. Some occupations have no minimum skill set requirements (e.g. dishwashers and maids).

Table 5.15 shows the percentage of selected occupations in the region that list a particular skill as primary. We define primary skills as the 10 most important skills in the required skill set for an occupation. It is important to note that a particular skill may be more important and more extensively used in one occupation than another. Table 5.15 does not address such cross-occupational skill importance comparisons. In general, basic skills are most frequently listed as primary, which means that they are important for practically all jobs.

Table 5.14 Skill Types and Definitions

<p>Basic Skills: Developed capacities that facilitate learning or the more rapid acquisition of knowledge.</p> <p>Active Learning — Understanding the implications of new information for both current and future problem-solving and decision-making.</p> <p>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.</p> <p>Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.</p> <p>Learning Strategies — Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.</p> <p>Mathematics — Using mathematics to solve problems.</p> <p>Monitoring — Monitoring / Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.</p> <p>Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.</p> <p>Science — Using scientific rules and methods to solve problems.</p> <p>Speaking — Talking to others to convey information effectively.</p> <p>Writing — Communicating effectively in writing as appropriate for the needs of the audience.</p> <p>Complex Problem Solving Skills: Developed capacities used to solve novel, ill-defined problems in complex, real-world settings.</p> <p>Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.</p> <p>Resource Management Skills: Developed capacities used to allocate resources efficiently.</p> <p>Management of Financial Resources — Determining how money will be spent to get the work done and accounting for these expenditures.</p> <p>Management of Material Resources — Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.</p> <p>Management of Personnel Resources — Motivating, developing, and directing people as they work, identifying the best people for the job.</p> <p>Time Management — Managing one's own time and the time of others.</p> <p>Social Skills: Developed capacities used to work with people to achieve goals.</p> <p>Coordination — Adjusting actions in relation to others' actions.</p> <p>Instructing — Teaching others how to do something.</p> <p>Negotiation — Bringing others together and trying to reconcile differences.</p> <p>Persuasion — Persuading others to change their minds or behavior.</p> <p>Service Orientation — Actively looking for ways to help people.</p> <p>Social Perceptiveness — Being aware of others' reactions and understanding why they react as they do.</p> <p>Systems Skills: Developed capacities used to understand, monitor, and improve socio-technical systems.</p> <p>Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.</p> <p>Systems Analysis — Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.</p> <p>Systems Evaluation — Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.</p> <p>Technical Skills: Developed capacities used to design, set-up, operate, and correct malfunctions involving application of machines or technological systems.</p> <p>Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.</p> <p>Equipment Selection — Determining the kind of tools and equipment needed to do a job.</p> <p>Installation — Installing equipment, machines, wiring, or programs to meet specifications.</p> <p>Operation and Control — Controlling operations of equipment or systems.</p> <p>Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.</p> <p>Operations Analysis — Analyzing needs and product requirements to create a design.</p> <p>Programming — Writing computer programs for various purposes.</p> <p>Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.</p> <p>Repairing — Repairing machines or systems using the needed tools.</p> <p>Technology Design — Generating or adapting equipment and technology to serve user needs.</p> <p>Troubleshooting — Determining causes of operating errors and deciding what to do about it.</p>
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Source: O*NET Online (<http://online.onetcenter.org/skills/>).

Table 5.15 Percentage of Selected Occupations for Which Skill Is Primary

	Selected High-Demand Occupations	Selected Fast-Growing Occupations	Selected High-Earning Occupations
Basic Skills			
Active Learning	33	40	42
Active Listening	90	90	82
Critical Thinking	90	90	80
Learning Strategies	10	5	6
Mathematics	0	0	10
Monitoring	83	85	54
Reading Comprehension	80	75	74
Science	10	10	14
Speaking	85	90	78
Writing	40	30	42
Complex Problem Solving Skills			
Complex Problem Solving	38	40	60
Resource Management Skills			
Management of Financial Resources	0	0	2
Management of Material Resources	0	0	0
Management of Personnel Resources	13	5	18
Time Management	45	50	22
Social Skills			
Coordination	60	60	36
Instructing	20	25	8
Negotiation	5	5	12
Persuasion	5	5	10
Service Orientation	38	40	22
Social Perceptiveness	55	45	44
Systems Skills			
Judgment and Decision Making	55	55	72
Systems Analysis	3	0	8
Systems Evaluation	0	0	8
Technical Skills			
Equipment Maintenance	5	10	0
Equipment Selection	3	0	0
Installation	0	0	0
Operation and Control	15	20	0
Operation Monitoring	20	25	0
Operations Analysis	0	0	8
Programming	0	0	6
Quality Control Analysis	15	15	2
Repairing	5	10	0
Technology Design	0	0	0
Troubleshooting	10	10	0

Note: Rounding errors may be present.

Source: O*NET Online and Center for Business and Economic Research, The University of Alabama.

High-earning occupations require more active learning, mathematics, science, writing, complex problem solving, management of financial resources, management of personnel resources, persuasion, negotiation, judgment and decision making, system analysis, systems evaluation, operations analysis, and programming skills than both high-demand and fast-growing jobs. Many of these skills require long training periods and postsecondary education. However, high-earning jobs require fewer technical skills. High-demand occupations require more systems and complex problem solving skills than fast-growing occupations but somewhat less technical skills.

Table 5.16 shows skill gap indexes for all 35 skills in Table 5.14 based on a previous projection period (2008 to 2018). Skills gap indexes range up to 100 and are standardized measures of the gap between current supply and projected demand. The index does not provide any information about current or base year skill supply. Its focus is on the projection period and identifies critical skill needs. The index essentially ranks expected training needs. The higher the index the more critical is the skill over the specified projection period.

For policy and planning purposes, skill gap indexes have to be considered together with replacement indexes, which are the expected shares of job openings due to replacement. Replacement is necessary because of turnover and people leaving the labor force. The smaller the replacement index, the larger the share of job openings due to growth, which in turn implies a need to increase the pace of skill training. Skill gap indexes point to the need to ramp up the scale of skill training while replacement indexes address the pace of training.

By skill type, the skill gap indexes show that basic skills are most critical followed by social, complex problem solving, resource management, system, and technical skills. Although the skills gap indexes are for a previous projection period, they are applicable to current projections. The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs indicates a strong need for training in these skills. The scale of training needs to increase for basic and social skills; the pace of training should be raised for these and also for technical and complex problem solving skills.

Education and Training Issues

Educational attainment in Region 5 is low compared to the state as a whole. About 80.0 percent of residents age 25 and over have graduated from high school, compared to 84.0 percent for Alabama. About 15.0 percent have a bachelor's or higher degree versus 23.0 percent for the state. Skill and education requirements for jobs keep rising. This highlights a strong need to raise educational attainment in the region.

Table 5.17 shows the number of selected occupations in the region for which a particular education/training category is most common. In general, high-earning occupations require high educational attainment levels. Only four of the high-earning occupations do not require a bachelor's or higher degree. Twenty-five (63.0 percent) of the 40 high-demand occupations require an associate degree at the minimum and 16 (40.0 percent) require a bachelor's or higher degree. Eleven (55.0 percent) of the 20 fast-growing occupations require an associate degree or higher degree at the minimum.

The 2012 to 2022 occupational projections indicate that future jobs will require postsecondary education and training at a minimum. Job ads are increasingly requiring a high school diploma or GED at a minimum. Of the region's 623 occupations, 68 are expected to decline over the period and education and training for these should slow accordingly.

Table 5.16 Skills Gap Indexes (Base Year 2008 and Projected Year 2018)

Skill	Total Openings (Projected Demand)	Replacement Index	Skills Gap Index
Reading Comprehension	2,075	70	100
Active Listening	2,100	71	97
Critical Thinking	1,955	70	94
Active Learning	1,715	68	91
Speaking	1,655	68	89
Coordination	1,685	69	86
Instructing	1,650	68	83
Monitoring	1,515	69	80
Social Perceptiveness	1,370	67	77
Writing	1,470	70	74
Time Management	1,385	70	71
Learning Strategies	1,375	70	69
Service Orientation	1,140	68	66
Persuasion	1,075	70	63
Complex Problem Identification	945	70	60
Judgment and Decision Making	950	72	57
Mathematics	815	67	54
Equipment Selection	750	71	51
Negotiation	560	72	49
Equipment Maintenance	560	71	46
Troubleshooting	535	72	43
Installation	405	68	40
Management of Personnel Resources	520	80	37
Repairing	320	72	34
Operation Monitoring	390	76	31
Science	115	70	29
Management of Financial Resources	270	81	26
Operations Analysis	160	78	23
Quality Control	220	80	20
Systems Evaluation	150	77	17
Operation and Control	305	75	14
Management of Material Resources	175	83	11
Systems Analysis	70	64	9
Technology Design	55	82	6
Programming	10	50	3

Note: The skills gap indexes are from 2008 to 2018 projection period and not 2012 to 2022.

Source: Alabama Department of Labor.

Table 5.17 Number of Selected Occupations by Education/Training Requirement

Most Common Education/Training Requirements Categories	Selected High-Demand Occupations	Selected Fast-Growing Occupations	Selected High-Earning Occupations
Doctoral Degree or First Professional Degree	2	1	12
Master's Degree	5	2	6
Bachelor's or Higher Degree Plus Work Experience	5	1	15
Bachelor's Degree	4	1	13
Associate Degree	9	6	0
Postsecondary Non-Degree Plus On-the-job Training	2	0	0
Postsecondary Non-Degree	2	0	0
Some College, no Degree Plus On-the-job Training	0	0	0
Some College, no Degree	0	0	0
High School Diploma Plus On-the-job Training	9	6	4
High School Diploma	0	0	0
Less than High School Plus On-the-job Training	2	3	0
Less than High School	0	0	0

Note: The on-the-job training refers to the typical on-the-job training needed to attain competency in the occupation in addition to the typical education needed for entry to the occupation. This could be long-term, moderate-term, or short-term on-the-job training. **Long-term** requires more than 12 months on-the-job training. **Moderate-term** requires one to 12 months of on-the-job training. **Short-term** requires up to one month of on-the-job training. These types of training are more common in occupations that require postsecondary non-degree or less educational attainment. Other types of on-the-job training requirements that may be needed but are not shown on the table are apprenticeship and internship/residency that are typical in certain professions many of which require higher educational attainment.

Source: O*NET Online; Center for Business and Economic Research, The University of Alabama; and Alabama Department of Labor.

Implications and Recommendations

From a 2012 base, worker shortfalls of 18,674 and 36,642 are expected for 2022 and 2030, respectively (Table 5.18). The main cause of the shortfalls is the expected decline of the region’s major working age population, those of age 20-64. A focus on both worker skills and the expected shortfall must be priorities through 2030. Worker shortfalls for critical occupations will need to be continuously addressed through 2030.

Table 5.18 Expected Worker Shortfall

	2012-2022	2012-2030
Total population growth (percent)	2.5	2.9
Age 20-64 population growth (percent)	-2.2	-4.9
Job growth (percent)	11.0	20.9
Worker shortfall (percent)	13.1	25.8
Worker shortfall (number)	18,674	36,642

Source: Center for Business and Economic Research, The University of Alabama.

Employment is critical to economic development and so strategies to address potential skill needs and worker shortfalls must be adopted and implemented. Such strategies should aim at increasing labor force participation, encouraging in-migration, and raising worker productivity and must include: (1) improvements in education and its funding; (2) continuation and enhancement of programs to assess, retrain, and place dislocated workers; (3) focus on hard-to-serve populations (e.g. out-of-school youth); (4) lowering the high school dropout rate; (5) use of economic opportunities to attract new and younger residents; (6) facilitation of in-commuting; and (7) encouragement of older worker participation in the labor force.

Improving education is vital because a highly educated and productive workforce is a critical economic development asset. The educational and training requirements of high-demand, fast-growing, and high-earning occupations show the significance of education in developing the workforce of the future. The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs demonstrates a strong need for training in these skills. The scale of training needs to increase for basic and social skills; the pace of training should be raised for these and also for complex problem solving skills. Ideally, all high school graduates should possess basic skills so that postsecondary and higher education can focus on other and more complex skills while enhancing these basic skills. Employers should be an integral part of planning for training as they can help identify future skill needs and any existing gaps. Education and training for the 20 sharp-declining occupations in Table 5.13 should slow accordingly.

Another very important reason to improve education is that more educated people are more likely to work; data on worker participation and educational attainment show that labor force participation increases with worker education. Productivity also rises with education, which yields high private and social returns. Workforce development must view all of the education and other programs (e.g. adult education, career technical training, worker retraining, career readiness, etc.) as one system. Funding to support workforce development may require tax reform at state and local levels and must provide for flexibility as workforce needs change over time and demand different priorities.

Programs to assess, retrain, and place dislocated workers—especially those affected by outsourcing and structural changes in the economy—should be continued and enhanced because they can improve the labor force participation rate. Hard-to-serve populations include persons in poverty, those receiving welfare, those in sparsely populated areas, and those on active parole. These populations are often outside of the mainstream economy and are in poverty. They usually have difficulty finding work because they have low levels of educational attainment, lack occupational skills, or face geographic or other barriers. They are a potential human resource, but investment in training, transportation, child care, infrastructure, etc. may be needed to tap this resource.

In-migration is one way of growing the labor force as it helps population growth. The region's population growth rate is low and the prime working age (20-64) is declining. This may hinder the ability to meet the expected job demand barring future economic slowdowns. Higher employment demand could be partially served by in-commuting. However, new residents can be attracted using higher-paying job opportunities from economic development successes. Investment in amenities and infrastructure may be needed to support such growth. In-migration is generally more beneficial than in-commuting since it grows the economy faster and adds to the tax base.

Policies that facilitate and encourage older worker participation are needed as older workers can help meet the region's workforce challenge. Such policies can be related to income taxation, job flexibility, and retirement programs. As the share of older people in the population is projected to increase (see Table 5.5), it becomes even more important that they be active in the workforce. Older worker participation has been rising nationally since the early 1990s. This has been attributed to reasons including:

- Older workers can work longer because they are healthier
- The number of physically demanding jobs is falling
- Defined contribution plans are replacing pensions
- There are fewer employer-paid retiree health insurance programs
- Social security reforms affecting those born after 1938 (i) gradually raise the normal retirement age from 65 to 67, (ii) increase the rate at which monthly payments rise with delayed benefits, and (iii) eliminate the reduction in benefits for those working beyond the full retirement age.

Diversifying the region's economy will strengthen it. This demands that economic development also focus on retaining, expanding, and attracting businesses that provide more high-earning jobs. Current workers—including the underemployed—would welcome higher-earning opportunities. An economic development focus on diversification would require that workforce development pay attention to postsecondary and higher educational systems to ensure a ready and available workforce for new and expanding businesses. The higher incomes earned by graduates of these institutions would help raise personal income for the region and provide additional local (county and city) tax revenue. Raising personal income by improving educational attainment and technological skills for a region that has low population and labor force growth rates is an effective economic development strategy. Together, workforce development and economic development can build a strong, well-diversified Region 5 economy. Indeed, one cannot achieve success without the other.