

State of the Workforce Report X: Region 10

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Alabama Department of Labor



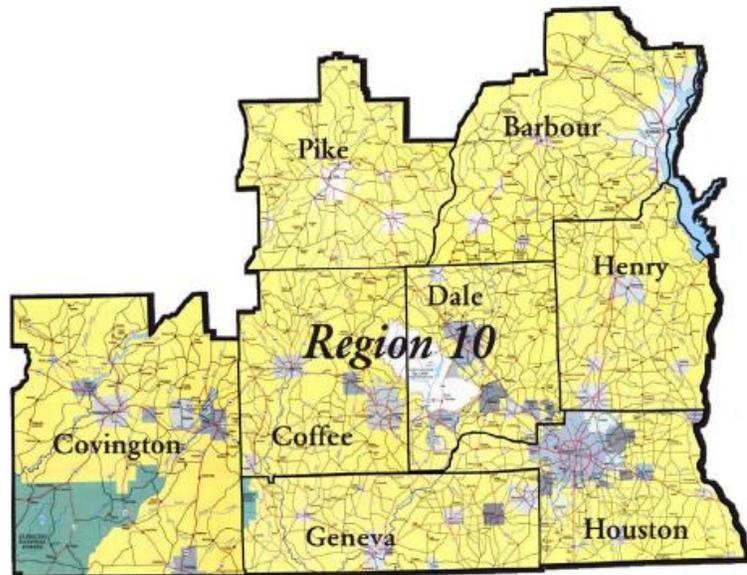
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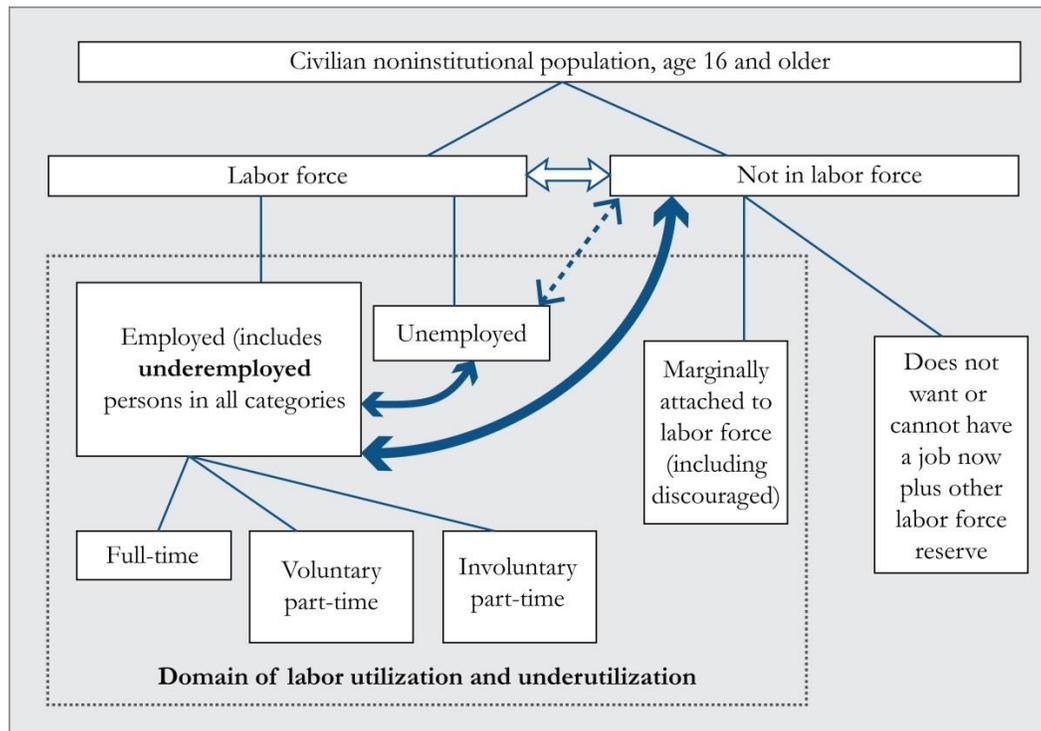
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Summary

- This report analyzes workforce supply and demand issues using available metrics of workforce characteristics for Workforce Development Region 10 and presents some implications and recommendations.
- Region 10 had a 6.5 percent unemployment rate in March 2016, with 9,161 unemployed. An underemployment rate of 24.2 percent for 2015 means that the region has a 41,240-strong available labor pool that includes 32,079 underemployed workers who are looking for better jobs and are willing to commute longer and farther for such jobs.
- The region's commute distance rose in 2015 from 2014 while time was about the same implying that congestion eased somewhat. The number of commuters has risen over the recent years; 598 net out-commuters in 2005 jumped up to 5,359 net out-commuters in 2014. Over the same period, the total number of in- and out-commuters jumped from 40,436 to 55,281. The significant within-region commuting indicates that continuous maintenance and development of regional transportation infrastructure and systems is important to ensure that congestion doesn't slow economic development.
- 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 industries provided 73,820 jobs, about 64.1 percent of the regional total. Three of these leading employers paid higher wages than the region's \$2,956 monthly average. Economic development should continue to diversify and strengthen the region's economy by retaining, expanding, and attracting more high-wage providing industries. Workforce development should also focus on preparing workers for these industries.
- On average 5,493 jobs were created per quarter from second quarter 2001 to first quarter 2015; quarterly net job flows averaged 347. Job creation is the number of new jobs that are created 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 Registered Nurses; Licensed Practical and Licensed Vocational Nurses; Construction Laborers; Medical Assistants; and Carpenters.
- The top five fast-growing occupations are Layout Workers, Metal and Plastic; Physical Therapist Assistants; Diagnostic Medical Sonographers; Personal Care Aides; and Nursing Instructors and Teachers, Postsecondary.
- The top 50 high-earning occupations are mainly in management, health, engineering, science, and computer fields and have a minimum salary \$77,356. Five of the top 10 are health occupations and four are in management.
- Of the top 40 high-demand, the top 20 fast-growing, and 50 high-earning occupations, three belong to all three categories. Nine occupations are in high-demand and high-earning and 16 are both high-demand and fast-growing.

- Of the region's 623 single occupations, 59 are expected to decline over the 2012 to 2022 period, with 20 occupations expected to sharply decline by at least 12 percent and lose a minimum of 10 jobs each. 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 future 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. For Region 10 the pace of training needs to increase for technical skills while the scale of training is raised for basic and social skills. Ideally, high school graduates should possess basic skills so that postsecondary and higher education can focus on 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 5,400 for 2022 and 13,100 for 2030 are expected. Worker skills and the projected shortfalls must be of high priority through 2030. Worker shortfalls for critical occupations will also need to be addressed continuously. Strategies to address skill needs and worker shortfalls should 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) facilitation of in-commuting; and (7) encouragement of older worker participation in the labor force.
- 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 important, especially for a region that has average population and labor force growth rates as well as low per capita income.
- Together, workforce development and economic development can build a strong, well-diversified Region 10 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 they do 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. 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^{1,2}. 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, the disabled, and discouraged workers). Table 10.1 shows labor force information on Region 10 and its 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.

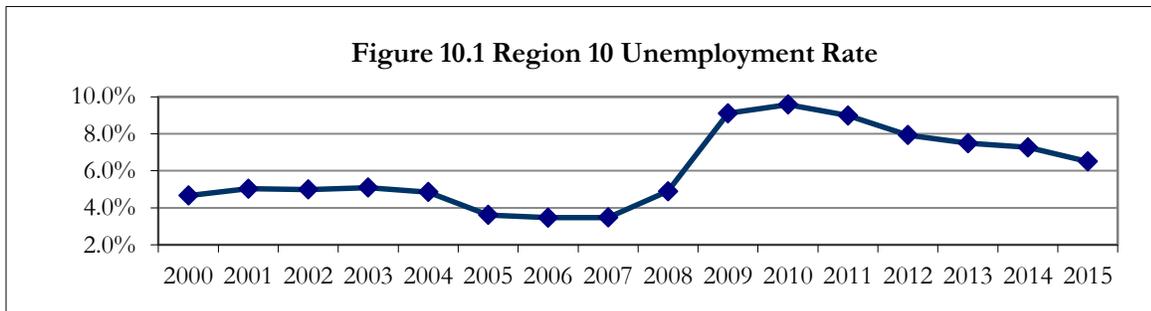
Table 10.1 Region 10 Labor Force Information

	2015 Annual Average			
	Labor Force	Employed	Unemployed	Rate (%)
Barbour	8,625	7,854	771	8.9
Coffee	20,310	19,109	1,201	5.9
Covington	15,456	14,355	1,101	7.1
Dale	19,758	18,503	1,255	6.4
Geneva	10,806	10,173	633	5.9
Henry	6,735	6,279	456	6.8
Houston	44,743	41,978	2,765	6.2
Pike	14,929	13,923	1,006	6.7
Region10	141,362	132,174	9,188	6.5
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 (%)
Barbour	8,502	7,766	736	8.7
Coffee	20,547	19,231	1,316	6.4
Covington	15,307	14,235	1,072	7.0
Dale	19,859	18,628	1,231	6.2
Geneva	10,855	10,183	672	6.2
Henry	6,735	6,288	447	6.6
Houston	44,811	42,107	2,704	6.0
Pike	15,101	14,118	983	6.5
Region10	141,717	132,556	9,161	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.

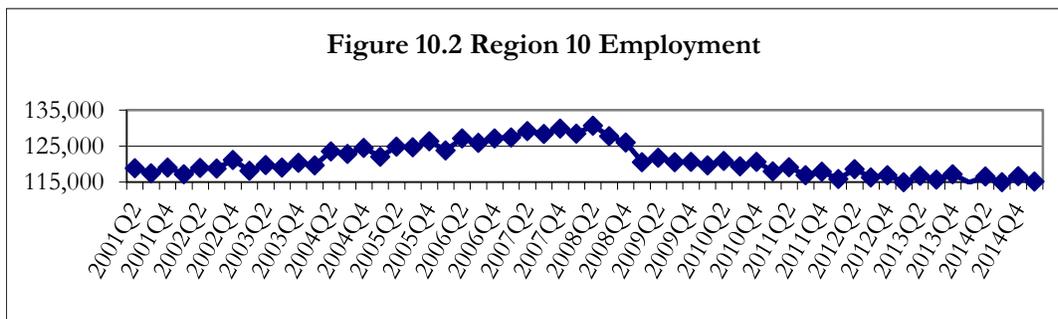
The recession that began in 2007 increased the number of unemployed and drastically raised county unemployment rates. Regional and state economic recovery efforts lowered county unemployment rates to a range of 5.9 percent to 8.9 percent for 2015 (6.5 percent for the region). By March 2016 county unemployment rates ranged from 6.0 percent to 8.7 percent and the regional unemployment was at 6.5 percent. Three of the eight counties had lower unemployment rates than Alabama's 6.2 percent. Unemployment was lowest in Houston County and highest in Barbour. The county unemployment rates are still high compared to the pre-recession period but are expected to decline at a slow pace.

Annual unemployment rates for 2000 to 2015 are shown in Figure 10.1. The 2001 national economic recession kept the region’s unemployment rate at about 5.0 percent through 2004, but successful state and local economic development efforts brought the rate to record lows in 2006 and 2007. However, the last recession raised regional unemployment to its highest rate for the decade. Unemployment was at 9.6 percent in 2010 before gradually declining to 7.3 and 6.5 percent in 2014 and 2015, respectively. Year-to-date monthly labor force data point to similar regional unemployment rates for 2016 as seen in 2015 although they are expected to be slightly lower. Regional unemployment is expected to keep declining in the next several years as the economy recovers from the recent recession.



Source: Alabama Department of Labor.

Quarterly nonagricultural employment in Region 10 averaged 121,008 from the second quarter of 2001 to the first quarter of 2015 (Figure 10.2). The number of jobs continues to decline since the onset of the last recession. The employment level was highest in the second quarter of 2008 at about 130,700 jobs but declined sharply due to the recession. Despite the end of the recession, employment continues to drop. By the first quarter of 2015, total nonagricultural employment was at its lowest level at about 115,200 jobs.



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

Table 10.2 shows worker distribution by age in Region 10 for the first quarter of 2015. The region’s workforce is older than the state’s; workers age 55 and over are 22.2 percent of the region’s nonagricultural employment compared to 21.0 percent for Alabama. Those who are age 65 and over constitute 5.5 percent of nonagricultural employment compared to 4.9 percent for the state. Labor force participation of younger residents must increase to meet long term occupational projections for growth and replacement or older workers may have to work longer.

Table 10.2 Workers by Age Group (First Quarter 2015)

Age Group	Nonagricultural Employment	
	Number	Percent
14-18	1,821	1.6
19-24	12,096	10.5
25-34	24,116	20.9
35-44	25,570	22.2
45-54	26,036	22.6
55-64	19,182	16.7
65+	6,374	5.5
55 and over total	25,556	22.2
Total all ages	115,195	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 there were 40,436 in- and out-commuters for Region 10, with a net of 598 out-commuters (Table 10.3). The number of commuters jumped up sharply and by 2014 there were 55,281 in and out-commuters, with 5,359 net out-commuters. There is also significant commuting inside the region and Houston County has the largest number of in- and out-commuters. Table 10.3 also shows that the region's commute distance rose in 2015 from 2014 while time travelled remained about the same. This implies that congestion may have eased in the region. However, as the regional economy recovers from the last recession, the rising in- and out-commuting is likely to increase congestion, which can delay or slow economic development by impeding the flow of goods and movement of workers. It is essential that the region's transportation infrastructure and systems be continuously maintained and developed to ensure uninterrupted mobility of workers and goods.

Table 10.3 Commuting Patterns

Year	Region 10 Inflow		Region 10 Outflow			
	Number		Number			
2005	19,919		20,517			
2006	20,041		21,497			
2007	24,541		25,302			
2008	26,360		25,484			
2009	24,370		27,185			
2010	25,733		28,222			
2011	26,396		28,899			
2012	25,082		28,813			
2013	24,322		29,779			
2014	24,961		30,320			
Region 10 Counties	Inflow, 2014		Outflow, 2014			
	Number	Percent	Number	Percent		
Barbour	3,858	7.0	4,928	8.1		
Coffee	7,919	14.3	9,659	15.8		
Covington	4,730	8.5	5,260	8.6		
Dale	8,255	14.9	9,992	16.4		
Geneva	1,997	3.6	6,758	11.1		
Henry	1,621	2.9	5,541	9.1		
Houston	19,992	36.1	12,715	20.8		
Pike	7,050	12.7	6,228	10.2		
	Percent of workers					
Average commute time (one-way)	2010	2011	2012	2013	2014	2015
Less than 20 minutes	61.06	62.2	57.6	58.2	53.9	57.0
20 to 40 minutes	25.22	26.2	27.5	25.6	28.3	25.4
40 minutes to an hour	6.86	6.2	8.1	8.0	7.2	7.4
More than an hour	3.1	2.1	3.6	3.7	2.8	2.2
Average commute distance (one-way)	2010	2011	2012	2013	2014	2015
Less than 10 miles	49.43	50.9	50.3	50.7	49.4	49.2
10 to 25 miles	33.64	31.0	31.6	29.6	33.4	31.0
25 to 45 miles	9.38	12.7	11.3	10.9	10.8	13.1
More than 45 miles	4.81	2.8	5.9	5.9	4.8	4.3

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.

Population

The regional population count in 2010 was 343,959, a 7.5 percent increase from 2000 census (Table 10.4). This regional population growth was in pace with Alabama’s 7.5 percent for the decade. Population shrank in one county—Barbour—and grew in the other seven. Coffee County growth’s rate was the fastest, followed by Houston and Pike. However, the 2015 population estimates show a lower regional population growth since 2010, with four counties losing population. Regional population growth was 0.7 percent, which is below Alabama’s 1.7 percent growth. Much of the population growth was in Coffee and Houston counties.

Table 10.4 Region 10 Population

	1990 Census	2000 Census	2010 Census	2015 Estimate	Change 2000-2010	% change 2000-2010	Change 2010-2015	% change 2010-2015
Barbour	25,417	29,038	27,457	26,489	-1,581	-5.4	-968	-3.5
Coffee	40,240	43,615	49,948	51,211	6,333	14.5	1,263	2.5
Covington	36,478	37,631	37,765	37,835	134	0.4	70	0.2
Dale	49,633	49,129	50,251	49,565	1,122	2.3	-686	-1.4
Geneva	23,647	25,764	26,790	26,777	1,026	4.0	-13	0.0
Henry	15,374	16,310	17,302	17,221	992	6.1	-81	-0.5
Houston	81,331	88,787	101,547	104,173	12,760	14.4	2,626	2.6
Pike	27,595	29,605	32,899	33,046	3,294	11.1	147	0.4
Region 10	299,715	319,879	343,959	346,317	24,080	7.5	2,358	0.7
Alabama	4,040,587	4,447,100	4,779,736	4,849,377	332,636	7.5	69,641	1.5
United States	248,709,873	281,421,906	308,745,538	318,857,056	27,323,632	9.7	10,111,518	3.3

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

Table 10.5 shows the region's population counts, estimates, and projections by age group. The population aged 65 and over is expected to grow rapidly, as the first of the baby boom generation turned 65 in 2011. Consequently, growth of the prime working age group (20-64) and youth (0-19) will lag that of the total population. This poses a challenge for workforce development. 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.

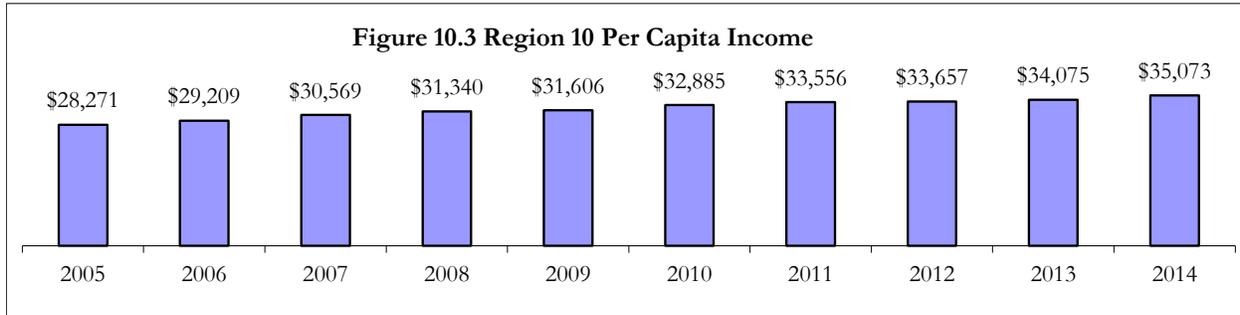
Table 10.5 Population by Age Group and Projections

Age Group	2000	2010	2012	2022	2030
0-19	89,429	90,460	89,068	94,834	96,567
20-24	20,583	23,426	25,093	24,387	25,292
25-29	21,071	22,773	22,658	22,426	23,466
30-34	20,993	20,869	21,696	22,730	23,548
35-39	23,736	21,601	20,574	23,354	23,130
40-44	24,070	21,566	22,123	22,367	22,969
45-49	22,110	24,199	22,943	21,853	24,293
50-54	20,975	24,393	24,199	21,955	21,527
55-59	16,981	22,285	23,348	23,291	22,093
60-64	14,580	20,966	21,205	24,279	21,775
65+	45,351	51,421	54,747	71,036	82,806
20-64 Total	185,099	202,078	203,839	206,642	208,093
Total Population	319,879	343,959	347,654	372,512	387,466
Change from 2012					
0-19				6.5%	8.4%
20-64				1.4%	2.1%
Total Population				7.2%	11.5%

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 10 was at \$35,073 in 2014 (Figure 10.3), up 24.1 percent from 2005, but \$2,439 or 6.5 percent below the state average of \$37,512. Coffee County had the highest PCI with \$38,941, followed by Houston with \$37,316 while Barbour had the lowest with \$30,449.



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

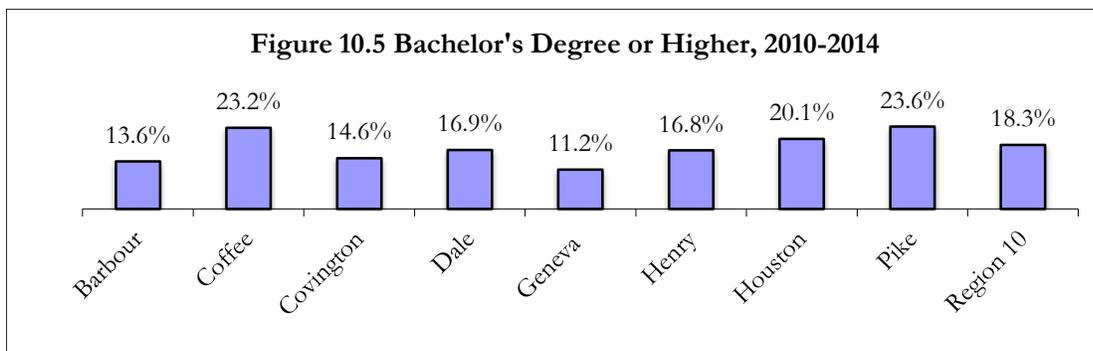
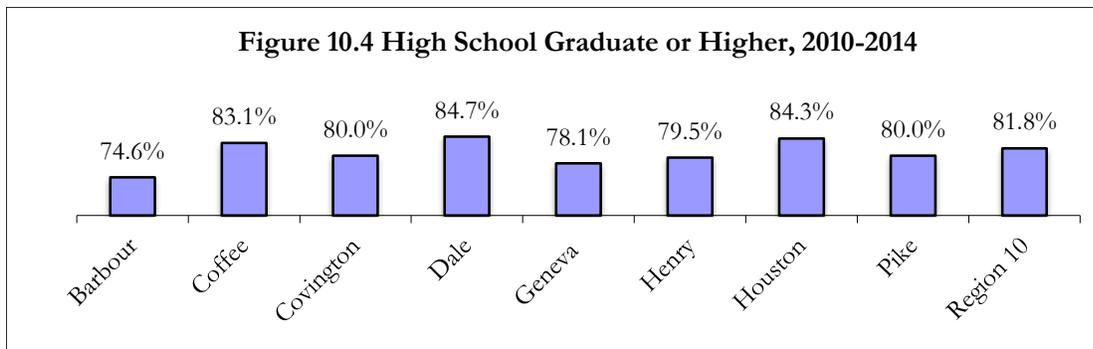
Educational Attainment

Educational attainment in 2010 to 2014 of Region 10 residents who were 25 years old and over is shown in Table 10.6 and Figures 10.4 and 10.5. Of this population, about 82 percent graduated from high school and 18.0 percent held a bachelor's or higher degree. This is below the state's educational attainment. Dale and Houston counties had the highest percentages of high school graduates while Pike and Coffee had the highest percentages of bachelor's or higher degree holders. Geneva and Barbour counties had the lowest educational attainment. Educational attainment is important as skills rise with education and high-wage jobs demand more skill sets.

Table 10.6 Educational Attainment of Population 25 Years and Over, 2010-2014

	Barbour	Coffee	Covington	Dale	Geneva	Henry	Houston	Pike	Region 10
Total	18,836	34,363	26,478	33,129	18,733	12,307	69,723	19,278	232,847
No schooling completed	388	522	432	441	303	244	980	298	3,608
Nursery to 4th grade	208	122	149	137	168	180	378	84	1,426
5th and 6th grade	327	503	436	346	282	221	703	146	2,964
7th and 8th grade	782	1,010	1,094	728	845	276	1,522	408	6,665
9th grade	651	943	1,028	609	771	396	1,535	668	6,601
10th grade	897	1,129	841	1,065	753	480	2,125	883	8,173
11th grade	1,030	847	931	1,216	672	492	2,430	873	8,491
12th grade, no diploma	507	721	389	520	314	230	1,279	496	4,456
High school graduate/equivalent	6,300	10,241	9,025	10,301	7,221	4,407	23,629	6,490	77,614
Some college, less than 1 year	1,095	2,257	1,771	2,446	1,582	619	4,599	1,052	15,421
Some college, 1+ years, no degree	2,757	5,009	4,075	6,252	2,413	1,758	10,618	2,379	35,261
Associate degree	1,331	3,084	2,453	3,480	1,303	942	5,935	954	19,482
Bachelor's degree	1,481	4,891	2,483	3,709	1,528	1,137	9,111	2,851	27,191
Master's degree	840	2,346	1,016	1,462	519	804	3,456	1,124	11,567
Professional school degree	178	495	253	330	54	104	923	193	2,530
Doctorate degree	64	243	102	87	5	17	500	379	1,397

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 10 had an underemployment rate of 24.2 percent in 2015. Applying this rate to March 2016 labor force data means that 32,079 employed residents were underemployed (Table 10.7). Adding the unemployed gives a total available labor pool of 41,240 for the region. This is 4.5 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. County underemployment rates ranged from 14.3 percent for Geneva County to 37.0 percent for Barbour. Geneva County had the smallest available labor pool while Houston had the largest. The underemployed workers are willing to extend their commute for a better job. For the one-way commute, 45.1 percent are prepared to travel for 20 or more minutes longer and 34.1 percent will go 20 or more extra miles.

Table 10.7 Underemployed and Available Labor by County

	Region 10	Barbour	Coffee	Covington	Dale	Geneva	Henry	Houston	Pike
Labor Force	141,717	8,502	20,547	15,307	19,859	10,855	6,735	44,811	15,101
Employed	132,556	7,766	19,231	14,235	18,628	10,183	6,288	42,107	14,118
Underemployment rate	24.2%	37.0%	21.8%	22.9%	22.5%	14.3%	26.8%	29.3%	17.7%
Underemployed workers	32,079	2,870	4,196	3,263	4,182	1,455	1,685	12,342	2,492
Unemployed	9,161	736	1,316	1,072	1,231	672	447	2,704	983
Available labor pool	41,240	3,606	5,512	4,335	5,413	2,127	2,132	15,046	3,475

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 686 complete responses were obtained from Region 10. About 59.0 percent (405 respondents) were employed, of whom 98 respondents stated that they were underemployed. A lack of job opportunities in their area, low wages at available jobs, other family or personal obligations, living too far from jobs, a spouse or partner having a really good job, childcare responsibilities, other undisclosed reasons, and owning a house in the area are the primary reasons given for being underemployed. Economic development efforts can help in this regard. Nonworkers cite retirement, disability or other health concerns but many also cite a lack of job opportunities in their area, social security limitations, and low wages at available jobs as the main reasons for their status. These residents 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 Region 10's available labor pool could be larger than estimated in this report.

A comparison of underemployed workers to the overall workforce in Region 10 shows that:

- Fewer work full-time and more of the part-timers would like to work full-time.
- Slightly fewer hold multiple jobs.
- They have longer commute times and distances.
- More work in life, physical, and social science; education, training, and library; building and grounds cleaning and maintenance; office and administration support; construction and extraction; installation, maintenance, and repair; and production occupations.
- They have shorter job tenure and earn less.
- More are in agriculture, forestry, fishing, and hunting; utilities; information; construction; manufacturing; retail trade; administrative and support and waste management and remediation; arts, entertainment, and recreation; educational services; public administration; 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 a higher income.
- More are willing to extend their commute distance for a better job.
- Fewer are satisfied with their current jobs.
- More have sought better jobs in the preceding quarter.
- More are willing to train for a better job even if they have to pay all the cost.
- Fewer are married and more are female.
- Their median age is 3.5 years lower than the median for all workers.
- More are African-Americans or other nonwhite racial groups.
- They are more likely to have associate and bachelor's degrees.

Table 10.8 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 (78.8 percent) are satisfied or completely satisfied with their jobs. Workers are most satisfied with the work they do and least satisfied with their earnings. Fewer (62.3 percent) underemployed workers are satisfied with their jobs. The underemployed are most satisfied with their work shift and very dissatisfied with their earnings.

Workers are generally willing to train for a new or better job, with the underemployed being more willing (67.0 percent vs. 51.7 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 must pay the full costs. Underemployed workers are more willing to train for a new or better job even if they have to pay the full cost of the training. The results show that workers expect the government

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.

to bear at least part of the training cost. This expectation may result from worker awareness of government workforce programs that provide such assistance.

Table 10.8 Job Satisfaction and Willingness to Train (Percent)

		Job Satisfaction				
		Completely Dissatisfied	Dissatisfied	Neutral	Satisfied	Completely Satisfied
Employed						
Overall		4.2	4.9	11.9	23.2	55.6
	Earnings	12.1	11.4	20.3	22.7	33.3
	Retention	3.2	4.7	12.4	15.8	62.7
	Work	1.2	2.7	8.9	19.0	67.9
	Hours	5.2	3.5	11.6	16.3	62.5
	Shift	3.5	4.0	7.4	15.6	69.1
	Conditions	3.0	4.0	12.8	21.5	58.5
	Commuting Distance	4.2	3.5	9.1	11.4	71.4
Underemployed						
Overall		11.2	13.3	12.2	24.5	37.8
	Earnings	26.5	20.4	16.3	19.4	17.4
	Retention	7.1	8.2	22.5	22.5	39.8
	Work	3.1	8.2	16.3	15.3	57.1
	Hours	12.2	8.2	10.2	13.3	55.1
	Shift	5.1	8.2	8.2	15.3	62.2
	Conditions	7.1	5.1	19.4	26.5	41.8
	Commuting Distance	6.1	5.1	13.3	10.2	64.3
		Willingness to Train				
		Completely Unwilling	Unwilling	Neutral	Willing	Completely Willing
Employed						
For a new or better job		22.8	6.8	17.9	8.6	43.1
	If paid by trainee	42.6	15.9	23.5	4.0	10.4
	If paid by trainee and government	16.3	10.0	32.7	15.5	20.3
	If paid by government	6.8	3.2	11.2	15.9	61.0
Underemployed						
For a new or better job		15.4	3.3	13.2	8.8	58.2
	If paid by trainee	36.4	16.9	23.4	6.5	11.7
	If paid by trainee and government	14.3	7.8	28.6	18.2	26.0
	If paid by government	3.9	1.3	7.8	11.7	71.4

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 largest Region 10 employer with 19,416 jobs in the first quarter of 2015 (Table 10.9). 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 73,820 jobs, 64.1 percent of the regional total. The average monthly wage across all industries in the region was \$2,956; three leading employers—manufacturing, educational services, and health care and social assistance—paid more than the average. New hire monthly earnings averaged \$1,746, about 59 percent of the average monthly wage. The highest average monthly wages were for utilities at \$7,679; wholesale trade \$3,944; professional, scientific, and technical services \$3,872; finance and insurance \$3,860; and manufacturing \$3,696. Accommodation and food services paid the least at \$1,062. Utilities had the highest average monthly new hire wages with \$4,729, followed by finance and insurance at \$2,945 and wholesale trade with \$2,798. Accommodation and food services paid newly hired workers the least at \$867.

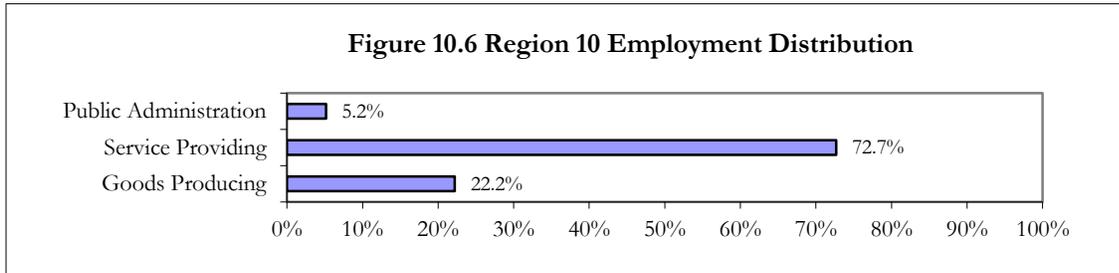
Table 10.9 Industry Mix (First Quarter 2015)

Industry by 2-digit NAICS Code	Total Employment	Share	Rank	Average Monthly Wage	Average Monthly New Hire Earnings
11 Agriculture, Forestry, Fishing and Hunting	1,658	1.44%	15	\$2,774	\$2,037
21 Mining	243	0.21%	20	\$3,485	\$1,670
22 Utilities	2,253	1.96%	14	\$7,679	\$4,729
23 Construction	4,240	3.68%	10	\$2,875	\$2,202
31-33 Manufacturing	19,416	16.85%	1	\$3,696	\$2,273
42 Wholesale Trade	4,567	3.96%	9	\$3,944	\$2,798
44-45 Retail Trade	15,992	13.88%	3	\$2,046	\$1,238
48-49 Transportation and Warehousing	5,578	4.84%	7	\$3,322	\$2,368
51 Information	1,252	1.09%	16	\$3,310	\$1,961
52 Finance and Insurance	3,007	2.61%	11	\$3,860	\$2,945
53 Real Estate and Rental and Leasing	1,148	1.00%	17	\$2,798	\$2,050
54 Professional, Scientific, and Technical Services	2,762	2.40%	12	\$3,872	\$2,488
55 Management of Companies and Enterprises	691	0.60%	18	\$2,655	\$1,636
56 Administrative and Support and Waste Management and Remediation Services	5,037	4.37%	8	\$1,756	\$1,516
61 Educational Services	10,423	9.05%	4	\$3,312	\$1,705
62 Health Care and Social Assistance	17,886	15.53%	2	\$3,250	\$2,258
71 Arts, Entertainment, and Recreation	613	0.53%	19	\$1,211	\$888
72 Accommodation and Food Services	10,103	8.77%	5	\$1,062	\$867
81 Other Services (Except Public Administration)	2,387	2.07%	13	\$2,189	\$1,617
92 Public Administration	5,940	5.16%	6	\$2,603	\$1,753
ALL INDUSTRIES	115,195	100.00%		\$2,956	\$1,746

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

By broad industry classification, service producing industries provided 72.7 percent of jobs in first quarter 2015 (Figure 10.6). Goods producing industries were next with 22.2 percent and public

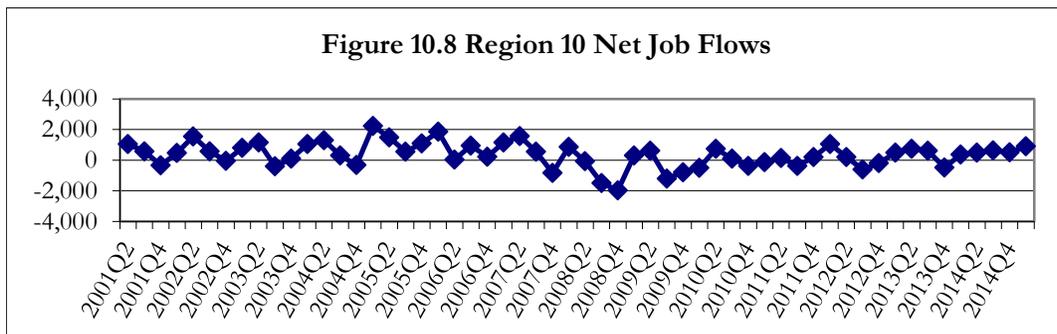
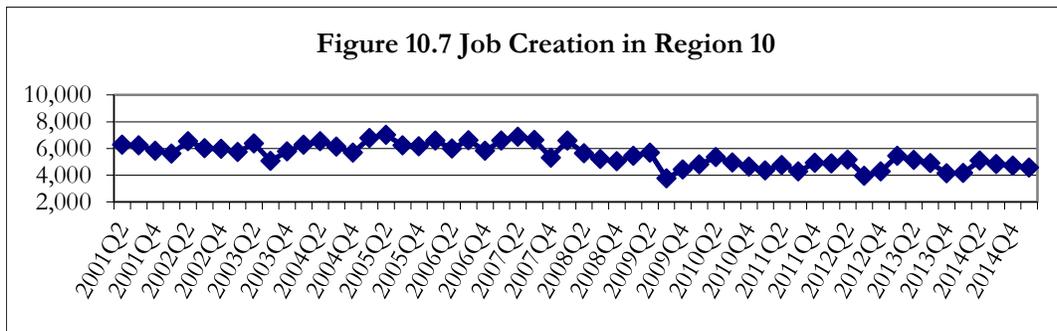
administration accounted for 5.2 percent. The distribution is for all nonagricultural jobs in the region, but there is significant variation by county.



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

Job Creation and Net Job Flows

On average, 5,493 jobs were created per quarter from second quarter 2001 to first quarter 2015 (Figure 10.7); quarterly net job flows averaged 347 (Figure 10.8). Quarterly net job flows generally reflected trends in job creation over the period and both have been fluctuating without any significant improvement for most part. Regional job creation has declined gradually since the second quarter of 2014 while net job flows increased. Quarterly net job flows fluctuate considerably and have ranged from a loss of 1,983 to a gain of 2,237 through the period. 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 10 has 623 single occupations based on 2012 to 2022 occupational projections. Table 10.10 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 related to health care and social assistances, one of the five largest employment sectors identified earlier (Table 10.9). Thus, this sector will continue to be a major employer in the region.

The top five high-demand occupations are Registered Nurses; Licensed Practical and Licensed Vocational Nurses; Construction Laborers; Medical Assistants; and Carpenters. Sixteen of the high-demand occupations are also fast-growing. This means that these 16 occupations have a minimum annual growth rate of 2.10 percent, much faster than the regional and state occupational growth rates of 0.77 percent and 0.99 percent, respectively.

The 20 fastest growing occupations ranked by projected growth of employment are listed in Table 10.11. Many of these occupations are related to health care and social assistance industry. The top five fast-growing occupations are Layout Workers, Metal and Plastic; Physical Therapist Assistants; Diagnostic Medical Sonographers; Personal Care Aides; and Nursing Instructors and Teachers, Postsecondary.

Table 10.12 shows the 50 selected highest earning occupations in the region. The top 50 high-earning occupations paid a minimum average salary of \$77,356 per year. These occupations are mainly in management, health, engineering, and computer fields. Five of the top 10 listed are health occupations and four 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. Nine occupations are both high-earning and in high-demand (Table 10.10). The following three occupations are in high-demand, fast-growing, and high-earning:

1. Physical Therapists
2. Nurse Practitioners
3. Logisticians

Of the region's 623 single occupations, 59 are expected to decline over the 2012 to 2022 period. Employment in the 20 sharpest-declining occupations will fall by at least 12 percent, with each losing a minimum of 10 jobs over the period (Table 10.13). 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 10.10 Selected High-Demand Occupations (Base Year 2012 and Projected Year 2022)

Occupation	Average Annual Job Openings		
	Total	Due to Growth	Due to Separations
Registered Nurses	110	55	50
Licensed Practical and Licensed Vocational Nurses	70	30	40
Construction Laborers	40	20	20
Medical Assistants*	30	20	10
Carpenters*	30	25	10
Home Health Aides*	25	15	10
Commercial Pilots	25	10	15
Logisticians*	20	15	5
Emergency Medical Technicians and Paramedics	20	10	10
Personal Care Aides*	20	15	0
Medical Secretaries*	20	15	5
First-Line Supervisors of Construction Trades and Extraction Workers	20	15	5
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	20	10	10
Dental Hygienists*	15	10	10
Electricians	15	10	10
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	15	10	5
Construction Managers	10	5	5
Medical and Health Services Managers	10	5	5
Cost Estimators	10	5	5
Management Analysts	10	5	5
Civil Engineers	10	5	5
Coaches and Scouts	10	5	5
Physical Therapists*	10	5	5
Painters, Construction and Maintenance	10	5	5
Transportation Inspectors	10	5	5
Social and Community Service Managers	5	5	0
Market Research Analysts and Marketing Specialists	5	5	0
Software Developers, Applications	5	5	0
Software Developers, Systems Software	5	0	0
Healthcare Social Workers	5	5	5
Nursing Instructors and Teachers, Postsecondary*	5	0	0
Dietitians and Nutritionists*	5	0	0
Occupational Therapists	5	0	0
Speech-Language Pathologists	5	0	0
Nurse Practitioners*	5	5	0
Medical and Clinical Laboratory Technicians*	5	5	5
Diagnostic Medical Sonographers*	5	5	0
Physical Therapist Assistants*	5	5	0
Helpers--Electricians*	5	5	0
Layout Workers, Metal and Plastic*	5	5	0

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

Occupation	Employment		Percent Change	Annual Growth (Percent)	Average Annual Job Openings
	2012	2022			
Layout Workers, Metal and Plastic*	50	80	53	4.81	5
Physical Therapist Assistants*	110	160	40	3.82	5
Diagnostic Medical Sonographers*	90	130	43	3.75	5
Personal Care Aides*	340	490	46	3.72	20
Nursing Instructors and Teachers, Postsecondary*	70	100	32	3.63	5
Physical Therapists*	130	180	40	3.31	10
Helpers—Electricians*	130	180	38	3.31	5
Medical Secretaries*	370	510	40	3.26	20
Home Health Aides*	500	670	34	2.97	25
Dietitians and Nutritionists*	60	80	30	2.92	5
Medical Assistants*	590	780	31	2.83	30
Logisticians*	450	590	31	2.75	20
Dental Hygienists*	290	380	32	2.74	15
Nurse Practitioners*	130	170	37	2.72	5
Carpenters*	760	990	31	2.68	30
Cement Masons and Concrete Finishers	100	130	30	2.66	5
Helpers—Carpenters	100	130	34	2.66	5
Ambulance Drivers and Attendants, Except Emergency Medical Technicians	70	90	32	2.54	5
Rehabilitation Counselors	80	100	32	2.26	5
Medical and Clinical Laboratory Technicians*	130	160	30	2.10	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.

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

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

Table 10.12 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			
Internists, General	50	60	1.84	0	229,605
Physicians and Surgeons, All Other	270	340	2.33	15	220,773
Family and General Practitioners	NA	NA	2.92	0	174,571
Chief Executives	100	110	0.96	0	173,496
Dentists, General	110	130	1.68	5	171,330
Lawyers	250	290	1.50	5	130,826
Pharmacists	370	410	1.03	15	124,796
Architectural and Engineering Managers	190	210	1.01	5	111,801
General and Operations Managers	1,560	1,720	0.98	45	110,469
Sales Managers	90	100	1.06	5	108,448
Veterinarians	50	60	1.84	5	106,151
Securities, Commodities, and Financial Services Sales Agents	60	60	0.00	0	104,511
Operations Research Analysts	NA	NA	0.00	0	104,502
Administrative Services Managers	50	60	1.84	0	101,882
Aerospace Engineers	70	80	1.34	5	101,686
Psychologists, All Other	20	30	4.14	0	101,054
Financial Managers	270	290	0.72	5	99,994
Marketing Managers	70	80	1.34	0	99,514
Personal Financial Advisors	70	90	2.54	0	99,017
Purchasing Managers	50	50	0.00	0	98,141
Engineers, All Other	250	250	0.00	5	97,095
Air Traffic Controllers	90	90	0.00	5	96,305
Managers, All Other	490	530	0.79	15	95,237
Medical and Health Services Managers*	170	220	2.61	10	94,169
Computer Network Architects	50	40	-2.21	0	93,889
Materials Engineers	10	20	7.18	0	92,812
Computer and Information Systems Managers	90	100	1.06	0	92,029
Physician Assistants	NA	NA	0.00	0	91,705
Commercial Pilots*	580	670	1.45	25	91,346
Industrial Production Managers	160	160	0.00	5	91,209
Physical Therapists*	130	180	3.31	10	89,897
Electronics Engineers, Except Computer	20	20	0.00	0	89,862
Database Administrators	40	40	0.00	0	89,418
Electrical Engineers	410	430	0.48	10	88,304
Nurse Practitioners*	130	170	2.72	5	87,298
Software Developers, Applications*	170	210	2.14	5	87,245
Human Resources Managers	50	60	1.84	0	87,091
Training and Development Managers	20	20	0.00	0	87,039
Information Security Analysts	20	30	4.14	0	85,045
Architects, Except Landscape and Naval	60	70	1.55	0	85,008
Education Administrators, Postsecondary	NA	NA	0.80	5	84,799
Chemists	30	30	0.00	0	83,258
Construction Managers*	280	330	1.66	10	80,822
Software Developers, Systems Software*	100	130	2.66	5	80,030
Occupational Therapists*	60	80	2.92	5	78,431
Radiation Therapists	30	40	2.92	0	77,924
Education Administrators, Elementary and Secondary School	210	220	0.47	5	77,864
Logisticians*	450	590	2.75	20	77,674
Mechanical Engineers	230	240	0.43	10	77,395
Health Specialties Teachers, Postsecondary	30	40	2.92	0	77,356

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

Occupation	Employment		Net Change	Percent Change
	2012	2022		
Meat, Poultry, and Fish Cutters and Trimmers	3,030	2,630	-400	-13
Farmers, Ranchers, and Other Agricultural Managers	2,650	2,320	-330	-12
Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders	NA	NA	-180	-24
Sewing Machine Operators	620	490	-130	-20
Postal Service Mail Carriers	380	290	-90	-23
Slaughterers and Meat Packers	160	120	-40	-22
Airline Pilots, Copilots, and Flight Engineers	NA	NA	-30	-13
Switchboard Operators, Including Answering Service	170	140	-30	-17
Textile Knitting and Weaving Machine Setters, Operators, and Tenders	100	80	-20	-16
Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers	NA	NA	-20	-24
Data Entry Keyers	70	50	-20	-24
Postal Service Clerks	70	50	-20	-29
Mail Clerks and Mail Machine Operators, Except Postal Service	60	40	-20	-29
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	60	40	-20	-38
Tailors, Dressmakers, and Custom Sewers	80	70	-10	-13
Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	80	70	-10	-13
Computer Operators	50	40	-10	-13
Postmasters and Mail Superintendents	40	30	-10	-19
Postal Service Mail Sorters, Processors, and Processing Machine Operators	40	30	-10	-26
Word Processors and Typists	30	20	-10	-27

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

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 10.14 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 10.15 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 10.15 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 10.14 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 10.15 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	35	46
Active Listening	93	95	88
Critical Thinking	90	95	88
Learning Strategies	13	10	6
Mathematics	10	0	18
Monitoring	65	85	58
Reading Comprehension	73	60	80
Science	10	15	18
Speaking	85	90	84
Writing	35	35	42
Complex Problem Solving Skills			
Complex Problem Solving	45	35	68
Resource Management Skills			
Management of Financial Resources	3	0	2
Management of Material Resources	0	0	0
Management of Personnel Resources	13	0	18
Time Management	35	40	22
Social Skills			
Coordination	53	65	38
Instructing	20	30	8
Negotiation	0	0	10
Persuasion	5	5	10
Service Orientation	33	50	22
Social Perceptiveness	58	65	36
Systems Skills			
Judgment and Decision Making	53	35	74
Systems Analysis	10	0	10
Systems Evaluation	3	0	8
Technical Skills			
Equipment Maintenance	5	0	0
Equipment Selection	0	0	0
Installation	3	0	0
Operation and Control	3	0	2
Operation Monitoring	10	10	4
Operations Analysis	5	0	16
Programming	3	0	2
Quality Control Analysis	8	15	2
Repairing	5	5	0
Technology Design	0	0	0
Troubleshooting	5	5	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, reading comprehension, science, writing, complex problem solving, personnel resources management, persuasion, negotiation, judgment and decision making, system evaluation, and operations analysis skills than both high-demand and fast-growing jobs. Some of these skills require long training periods and postsecondary education. Fast-growing occupations require more social skills than high-demand occupations but less resource management, complex problem solving, systems, and technical skills.

Table 10.16 shows skill gap indexes for all 35 skills in Table 10.14 based on a previous projections period (2008 to 2018). Although the skills gap indexes are for a previous projection period, they are applicable to current projections. 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. The index focus is on the projection period, which for Table 10.16 is 2008 to 2018, and it 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, skills 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 for Region 10 basic skills are most critical followed by social, complex problem solving, resource management, system, and technical skills. 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 pace of training needs to increase for technical skills; the scale of training should be raised for basic and social skills.

Education and Training Issues

Educational attainment in Region 10 is below that of the state as a whole. About 82 percent of residents age 25 and over had graduated from high school in 2010 to 2014, compared to about 84 percent for Alabama. Of the age 25 and over population, about 18 percent had a bachelor's or higher degree versus 23 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 10.17 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 high-earning occupations do not require a bachelor's or higher degree. Twenty-one (53.0 percent) of the 40 high-demand occupations require at least an associate degree and 16 (40.0 percent) require a bachelor's or higher degree. Ten (50.0 percent) of the 20 fast-growing occupations require an associate degree at the minimum and six (30.0 percent) require a bachelor's or higher degree.

The 2012 to 2022 occupational projections indicate that future jobs will require postsecondary education and training at a minimum. Job ads are increasingly asking for at least a high school

diploma or GED. Of the region's 623 occupations, 59 are expected to decline over the period. The 20 sharpest-declining occupations will decline by at least 12 percent with each losing 10 jobs at the minimum. Education and training for these should slow accordingly.

Table 10.16 Skills Gap Indexes (Base Year 2008 to Projected Year 2018)

Skill	Total Openings (Projected Demand)	Replacement Index	Skills Gap Index
Reading Comprehension	2,385	59	100
Active Listening	2,295	61	97
Critical Thinking	2,125	59	94
Active Learning	1,865	60	91
Speaking	1,790	60	89
Coordination	1,735	61	86
Instructing	1,755	59	83
Monitoring	1,620	60	80
Writing	1,550	61	77
Time Management	1,460	60	74
Learning Strategies	1,450	59	71
Social Perceptiveness	1,410	60	69
Service Orientation	1,195	59	66
Complex Problem Identification	1,015	59	63
Persuasion	995	64	60
Judgment and Decision Making	980	64	57
Mathematics	865	59	54
Equipment Selection	815	58	51
Equipment Maintenance	620	56	49
Troubleshooting	580	56	46
Management of Personnel Resources	570	68	43
Installation	395	54	40
Negotiation	500	69	37
Repairing	350	54	34
Operation Monitoring	400	63	31
Quality Control	270	54	29
Operation and Control	340	59	26
Management of Financial Resources	305	69	23
Operations Analysis	205	61	20
Systems Evaluation	210	60	17
Science	130	65	14
Technology Design	100	50	11
Systems Analysis	110	50	9
Management of Material Resources	200	73	6
Programming	30	33	3

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

Source: Alabama Department of Labor.

Table 10.17 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	1	1	9
Master's Degree	5	3	6
Bachelor's or Higher Degree Plus Work Experience	2	1	18
Bachelor's Degree	8	1	13
Associate Degree	5	4	2
Postsecondary Non-Degree Plus On-the-job Training	1	0	0
Postsecondary Non-Degree	3	1	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	10	5	2
High School Diploma	0	0	0
Less than High School Plus On-the-job Training	5	4	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

Employment growth is expected to be faster than that of prime working age group (20-64) and the youth. From a 2012 base, worker shortfalls of 5,426 and 13,085 are estimated for 2022 and 2030, respectively (Table 10.18). A focus on worker skills and the projected shortfalls must be the priorities through 2030. Worker shortfalls for critical occupations will also need to be continuously addressed through 2030.

Table 10.18 Expected Worker Shortfall

	2012-2022	2012-2030
Total population growth (percent)	7.2	11.5
Age 20-64 population growth (percent)	1.4	2.1
Job growth (percent)	5.7	12.5
Worker shortfall (percent)	4.3	10.4
Worker shortfall (number)	5,426	13,085

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

Employment is critical to economic development and so strategies to address skill needs and worker shortfalls must be adopted and implemented. Such strategies should aim at increasing labor force participation and raising worker productivity and could 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) 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. In Region 10 the pace of training needs to increase for technical skills while the scale of training is raised for basic and social 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 10.13 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 out-of-school youth, persons in poverty, those receiving welfare, residents of sparsely populated areas, and those on active parole. These populations are often outside of the mainstream economy and are poor. They usually have difficulty finding work because of low levels of educational attainment, geographic or other barriers, or a lack of occupational skills. 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 comparable to the state's average but the prime working age population growth is lower. This is likely to hinder its ability to meet long term expected job demands. Higher employment demand could be partially served by in-commuting as well. However, new residents can be attracted using higher-paying job opportunities from the region's economic development successes. Investment in amenities and infrastructure may be needed to support such growth. In-migration is preferred to 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 10.5), 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 will 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 is an effective economic development strategy, especially for a region that has average population and labor force growth rates as well as a low per capita income. Together, workforce development and economic development can build a strong, well-diversified economy. Indeed, one cannot achieve success without the other.