

# WORKFORCE INFORMATION *Governor's Report*

*Program Year 2006-2007*



LABOR MARKET INFORMATION DIVISION,  
DEPARTMENT OF INDUSTRIAL RELATIONS



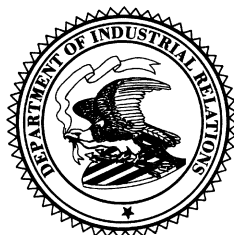
**Workforce Information  
Governor's Report  
Program Year 2006 – 2007**

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- II. Occupational Projections*
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**Alabama Department of Industrial Relations  
Labor Market Information Division  
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# *Alabama Industry Projections Through 2014*



# Projected Employment by Major Industry

## **Workforce Investment Alabama Statewide**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014				
	Total Employment	2,080,080	2,379,440	299360	14.39	1.35	1.23
	Total Wage & Salary Employment	1,887,660	2,182,220	294560	15.60	1.46	1.33
	Goods Producing	406,920	426,970	20050	4.93	0.48	-0.01
21	Natural Resources	12,510	12,100	-410	-3.28	-0.33	-0.91
23	Construction	103,480	117,430	13950	13.48	1.27	1.08
31-33	Manufacturing	290,930	297,440	6510	2.24	0.22	-0.56
	Durable Goods	167,760	189,000	21240	12.66	1.20	-0.36
	Nondurable Goods	123,170	108,450	-14720	-11.95	-1.26	-0.89
	Service Producing	1,480,740	1,755,250	274510	18.54	1.72	1.58
	Trade, Transportation, & Utilities	386,270	436,350	50080	12.97	1.23	0.98
42	Whole Trade	77,910	87,720	9810	12.59	1.19	0.81
44-45	Retail Trade	232,280	262,460	30180	12.99	1.23	1.05
48-49	Transportation & Warehousing	62,200	72,250	10050	16.16	1.51	1.13
22	Utilities	13,870	13,920	50	0.36	0.04	-0.13
51	Information	31,200	33,140	1940	6.22	0.61	1.10
52	Finance & Insurance	71,910	76,640	4730	6.58	0.64	0.80
53	Real Estate & Rental & Leasing	24,600	28,970	4370	17.76	1.65	1.58
54	Professional, Scientific, & Technical Services	88,340	117,620	29280	33.14	2.90	2.53
55	Mgt. of Companies & Enterprises	10,470	11,750	1280	12.23	1.16	1.01
56	Administrative & Support & Waste Mgt. & Remediation Services	98,640	134,890	36250	36.75	3.18	2.74
61	Educational Services	154,340	181,100	26760	17.34	1.61	1.55
62	Health Care & Social Assistance	216,950	275,290	58340	26.89	2.41	2.68
71	Arts, Entertainment, & Recreation	15,470	19,910	4440	28.70	2.56	2.26
72	Accommodation & Food Services	144,380	170,360	25980	17.99	1.67	1.54
81	Other Services (except Pub. Administration)	81,540	95,850	14310	17.55	1.63	1.12
90	Government	156,650	173,390	16740	10.69	1.02	1.05
91	Federal	36,850	39,840	2990	8.11	0.78	0.16
92	State	34,840	37,180	2340	6.72	0.65	0.68
93	Local	84,960	96,380	11420	13.44	1.27	1.08
	ALL OTHER	192,420	197,220	4800	2.49	0.25	0.18

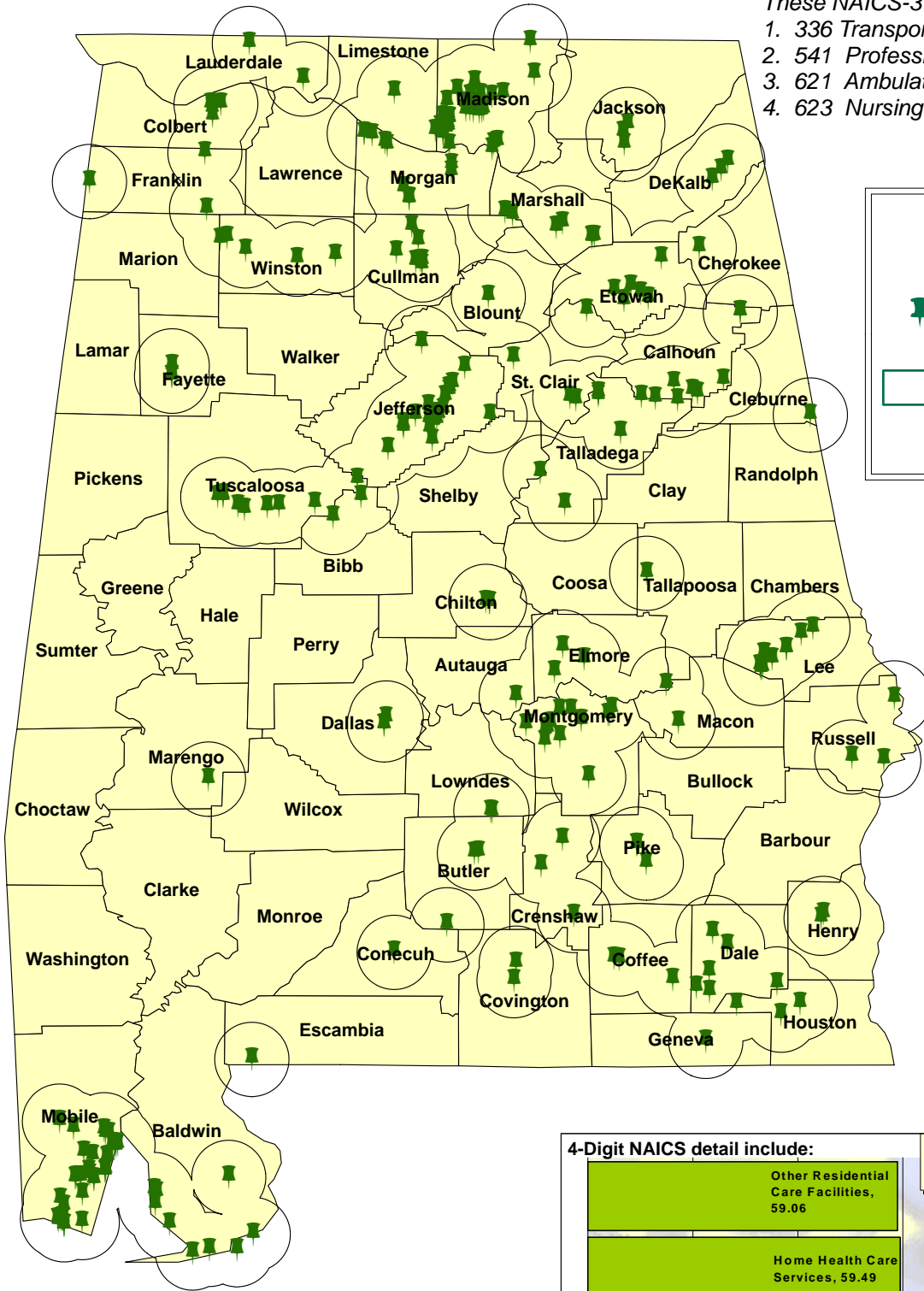
Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Top Fast Growing Industries Through Year 2014

These NAICS-3 industries include:

1. 336 Transportation Equipment Mfg
2. 541 Professional, Scientific, & Technical Svcs
3. 621 Ambulatory Health Care Svcs
4. 623 Nursing & Residential Care Facilities



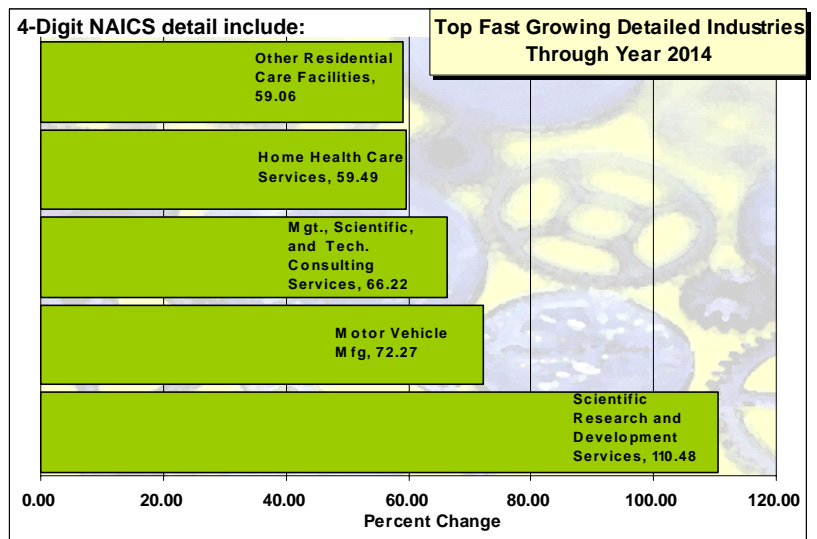
**Map 1 of 4**

**Transportation Equip Mfg, NAICS 336**

**NAICS 336 10 Mi. Radius Impact Buffer**

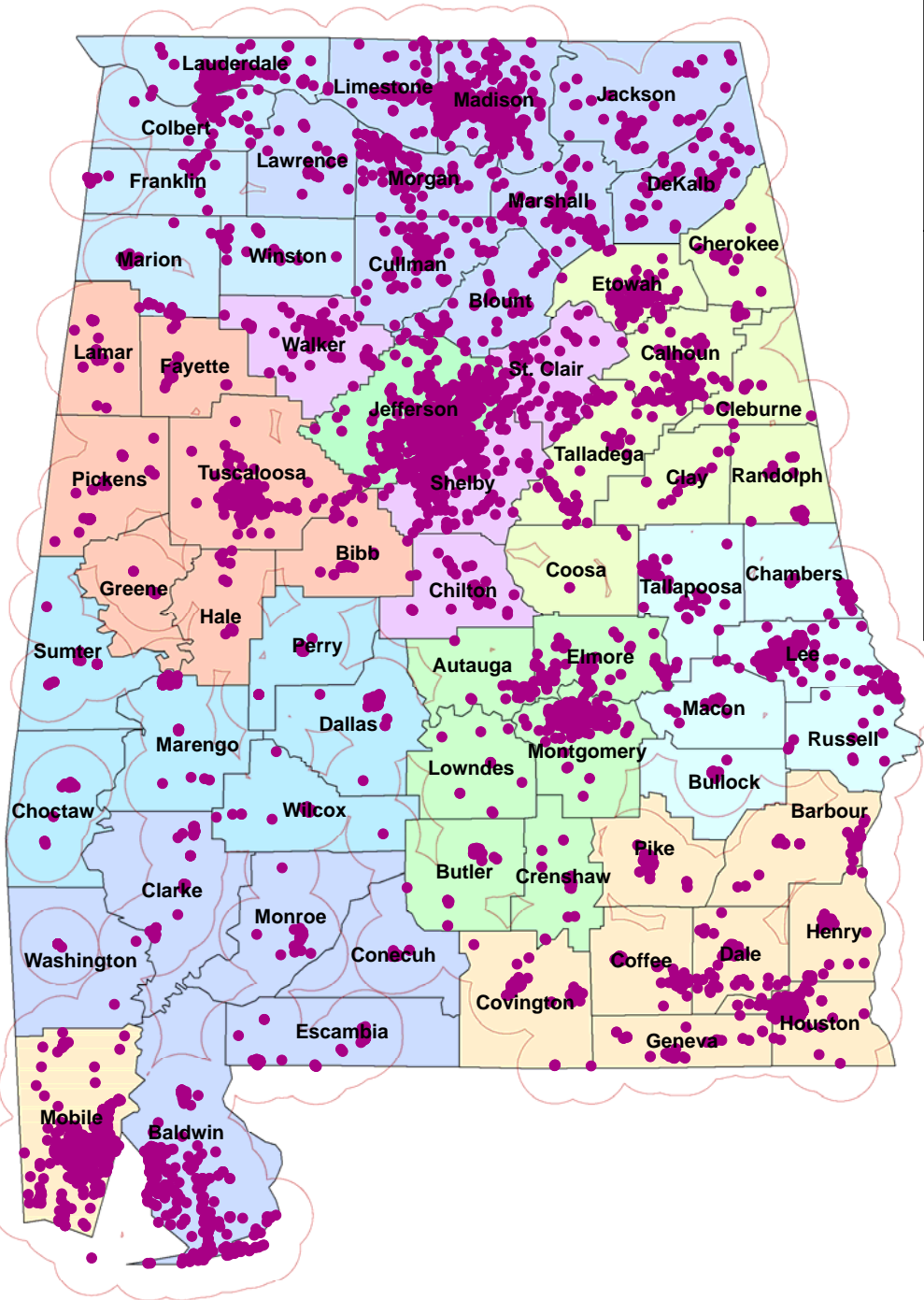
Data is from the LMI publication, Alabama Industry Projections Through 2014, and The Quarterly Census of Employment and Wages EQUI, 3rd Quarter 2006.

Prepared by the Alabama Department of Industrial Relations, Labor Market Information (LMI) Division.



# Top Fast Growing Industries Through Year 2014

## Map 2 of 4



Data is from the LMI publication, Alabama Industry Projections Through 2014, and the Quarterly Census of Employment and Wages EQUI, 3rd Quarter 2006.

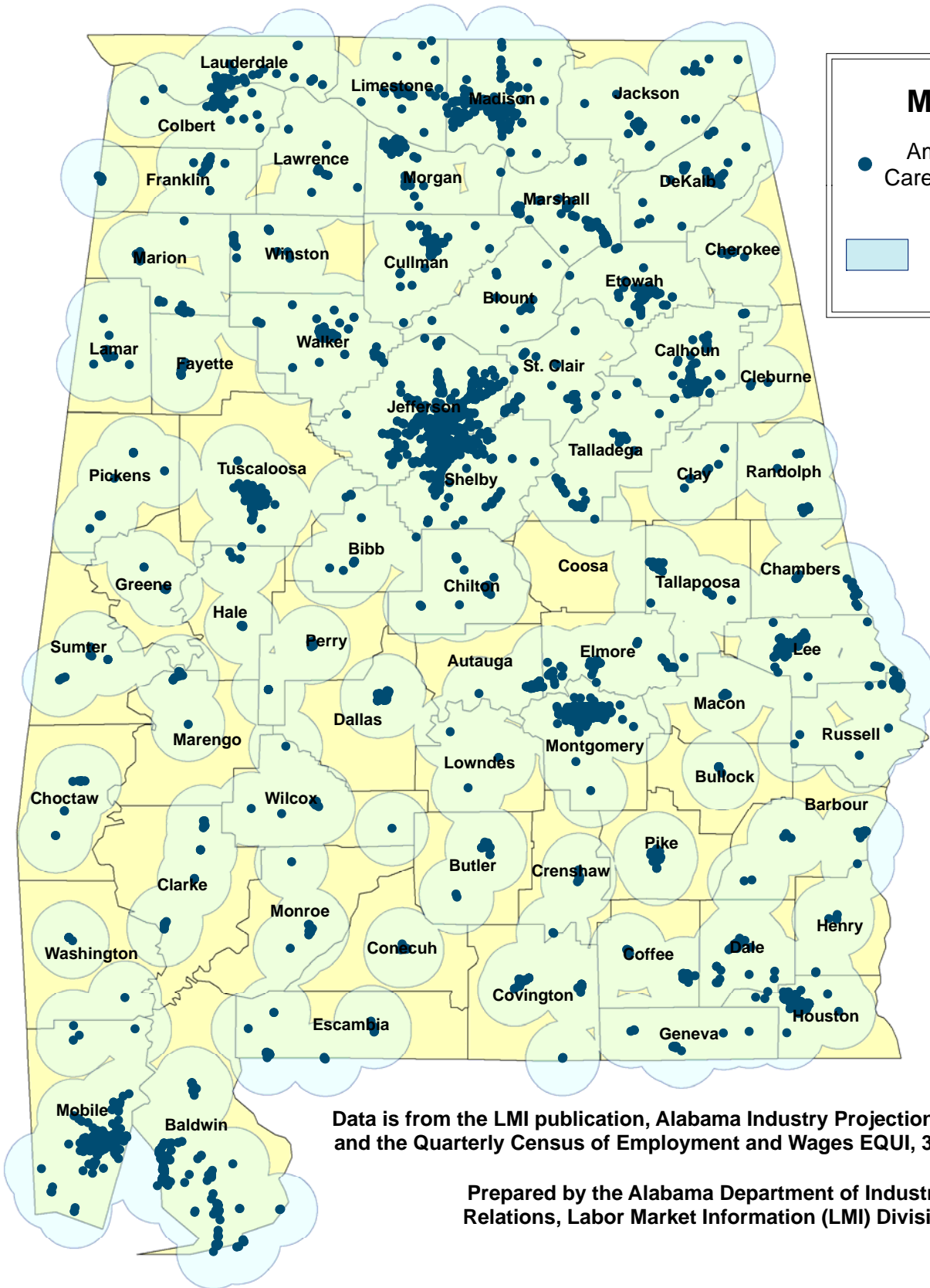
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### Map 3 of 4

● Ambulatory Health Care Svcs, NAICS 621

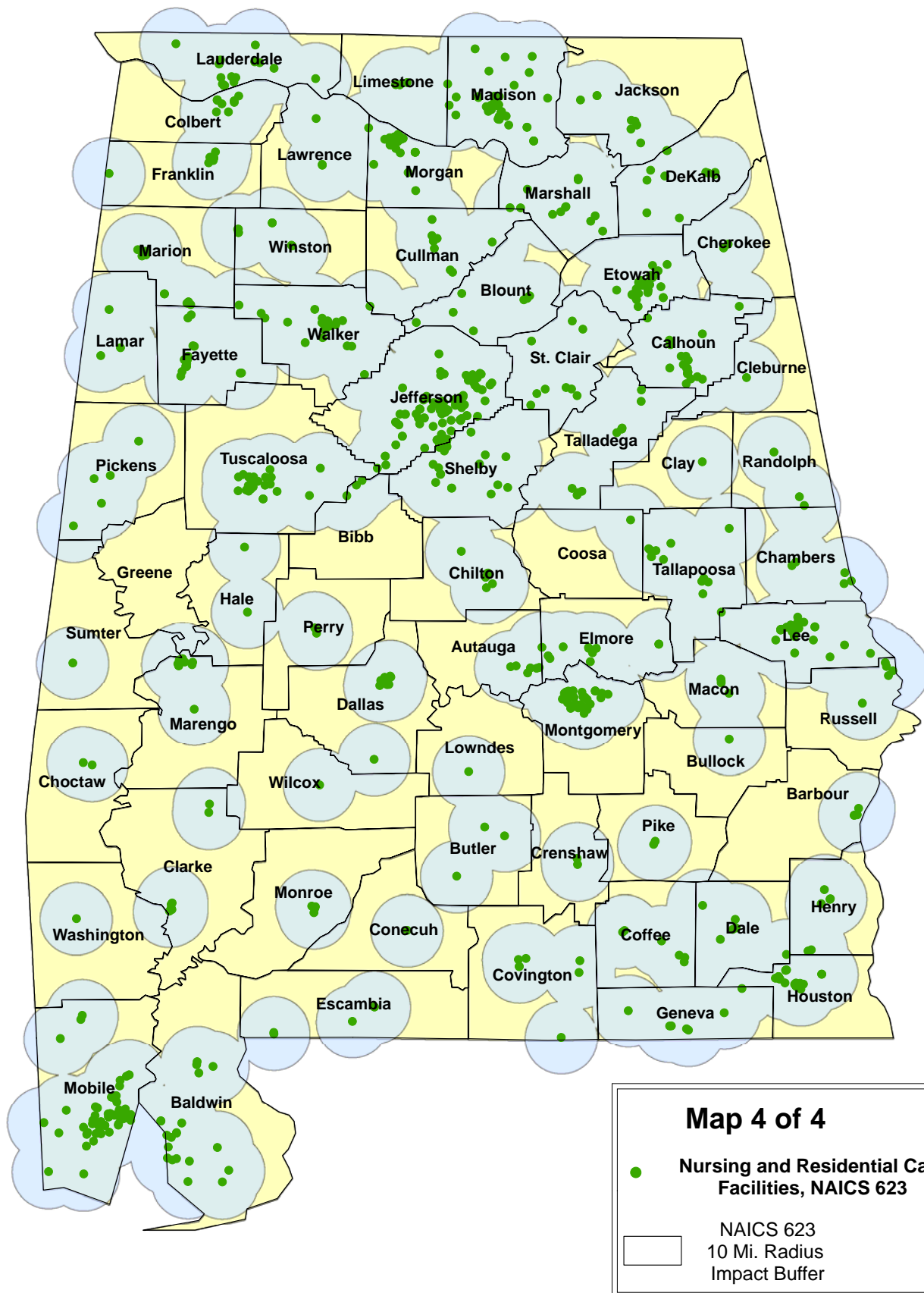
■ NAICS 621  
10 Mi. Radius  
Impact Buffer



Data is from the LMI publication, Alabama Industry Projections Through 2014, and the Quarterly Census of Employment and Wages EQUI, 3rd Quarter 2006.

Prepared by the Alabama Department of Industrial Relations, Labor Market Information (LMI) Division.

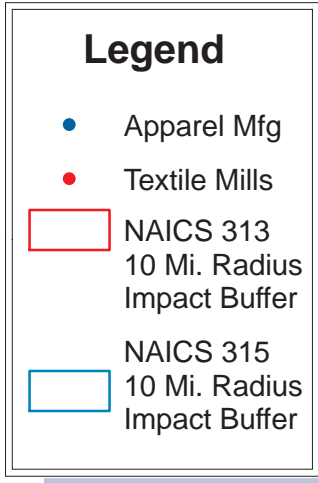
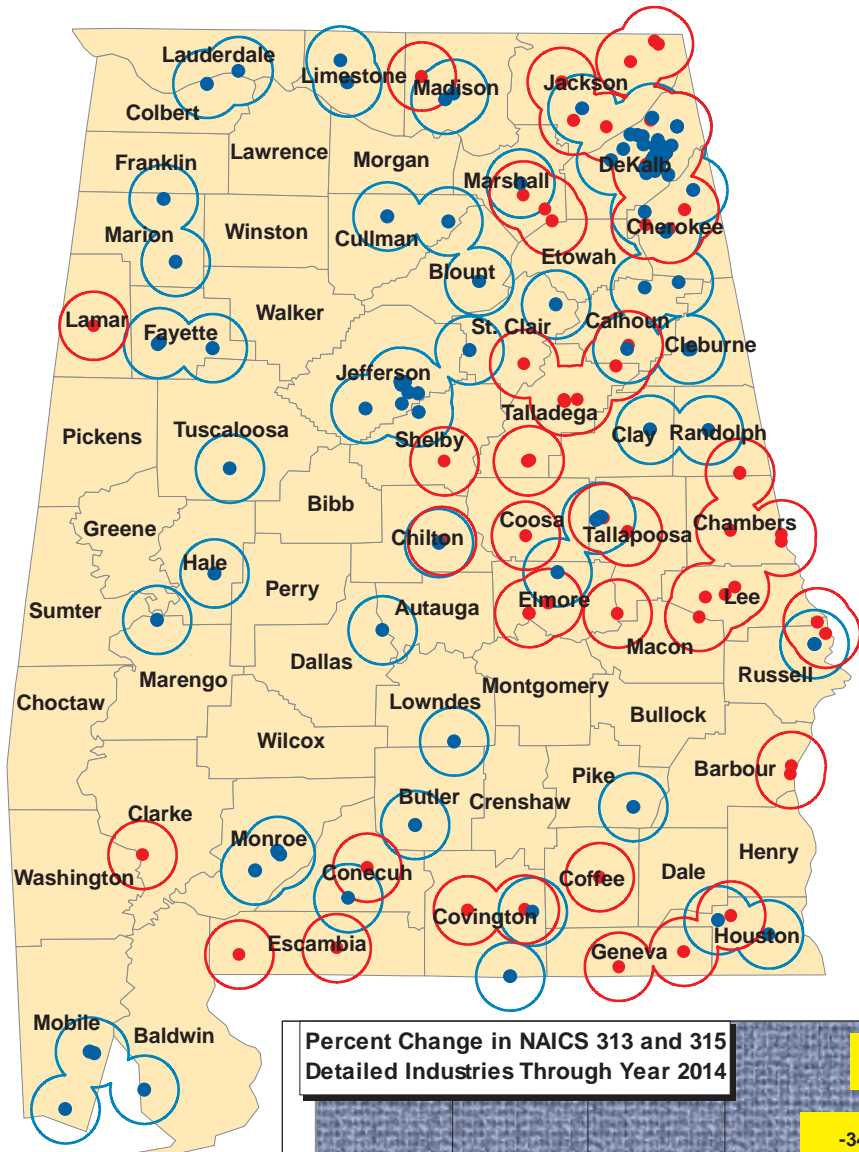
# Top Fast Growing Industries Through Year 2014



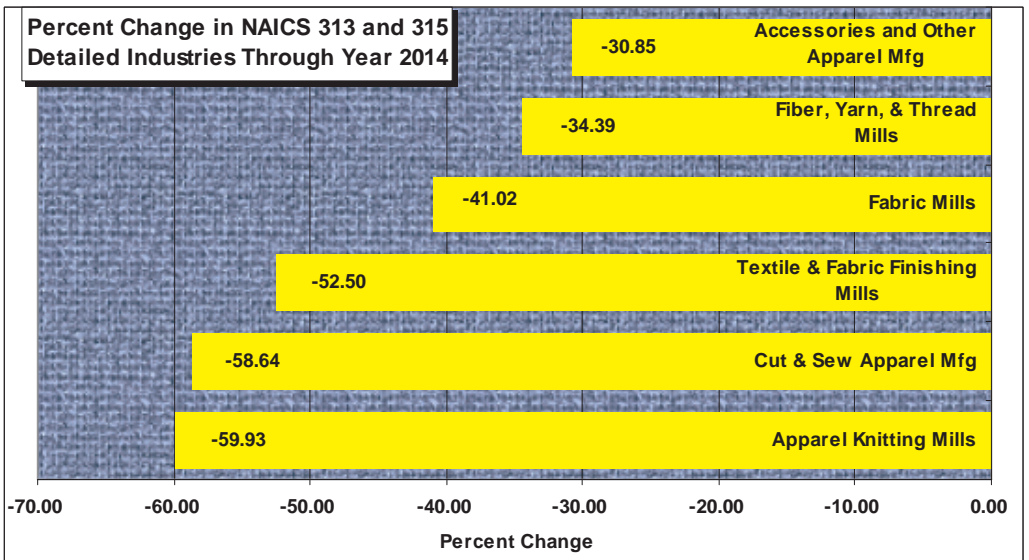
Data is from the LMI publication, *Alabama Industry Projections Through 2014*, and the Quarterly Census of Employment and Wages EQUI, 3rd Quarter 2006.

Prepared by the Alabama Department of Industrial Relations, Labor Market Information (LMI) Division.

# Top Declining Industries Through Year 2014 Textile Mills and Apparel Mfg



Data is from the LMI publication, Alabama Industry Projections Through 2014, and The Quarterly Census of Employment and Wages EQUI, 3rd Quarter 2006.



Prepared by the Alabama Department of Industrial Relations, Labor Market Information (LMI) Division in cooperation with the US Employment and Training Administration.

# Projected Employment by Major Industry

## **Workforce Investment Advisory Area 1**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	95,090	103,250	8160	8.58	0.83	1.35
	Total Wage & Salary Employment	83,810	91,940	8130	9.70	0.93	1.46
	Goods Producing	24,440	25,770	1330	5.44	0.53	0.48
21	Natural Resources	490	500	10	2.04	0.20	-0.33
23	Construction	3,750	3,920	170	4.53	0.44	1.27
31-33	Manufacturing	20,200	21,350	1150	5.69	0.56	0.22
	Durable Goods	13,290	14,420	1130	8.50	0.82	1.20
	Nondurable Goods	6,910	6,930	20	0.29	0.03	-1.26
	Service Producing	59,370	66,170	6800	11.45	1.09	1.72
	Trade, Transportation, & Utilities	16,080	17,590	1510	9.39	0.90	1.23
42	Wholesale Trade	3,460	3,720	260	7.51	0.73	1.19
44-45	Retail Trade	10,290	10,990	700	6.80	0.66	1.23
48-49	Transportation & Warehousing	2,180	2,740	560	25.69	2.31	1.51
22	Utilities	150	150	0	0.00	0.00	0.04
51	Information	890	950	60	6.74	0.65	0.61
52	Finance & Insurance	2,480	2,550	70	2.82	0.28	0.64
53	Real Estate & Rental & Leasing	620	680	60	9.68	0.93	1.65
54	Professional, Scientific, & Technical Services	2,360	2,640	280	11.86	1.13	2.90
55	Mgt. of Companies & Enterprises	110	120	10	9.09	0.87	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	3,250	4,710	1460	44.92	3.78	3.18
61	Educational Services	6,510	7,100	590	9.06	0.87	1.61
62	Health Care & Social Assistance	9,640	11,090	1450	15.04	1.41	2.41
71	Arts, Entertainment, & Recreation	470	560	90	19.15	1.77	2.56
72	Accommodation & Food Services	6,080	6,480	400	6.58	0.64	1.67
81	Other Services (except Pub. Administration)	4,210	4,700	490	11.64	1.11	1.63
90	Government	6,690	7,030	340	5.08	0.50	1.02
91	Federal	1,540	1,560	20	1.30	0.13	0.78
92	State	1,210	1,270	60	4.96	0.49	0.65
93	Local	3,940	4,210	270	6.85	0.67	1.27
	ALL OTHER	11,280	11,320	40	0.35	0.04	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Projected Employment by Major Industry

## **Workforce Investment Advisory Area 2**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	400,480	463,360	62880	15.70	1.47	1.35
	Total Wage & Salary Employment	362,070	423,910	61840	17.08	1.59	1.46
	Goods Producing	93,980	93,530	-450	-0.48	-0.05	0.48
21	Natural Resources	580	610	30	5.17	0.51	-0.33
23	Construction	15,510	17,760	2250	14.51	1.36	1.27
31-33	Manufacturing	77,890	75,160	-2730	-3.50	-0.36	0.22
	Durable Goods	44,450	45,980	1530	3.44	0.34	1.20
	Nondurable Goods	33,440	29,180	-4260	-12.74	-1.35	-1.26
	Service Producing	268,090	330,380	62290	23.23	2.11	1.72
	Trade, Transportation, & Utilities	66,340	77,880	11540	17.40	1.62	1.23
42	Whole Trade	12,140	14,100	1960	16.14	1.51	1.19
44-45	Retail Trade	43,560	50,510	6950	15.96	1.49	1.23
48-49	Transportation & Warehousing	10,130	12,310	2180	21.52	1.97	1.51
22	Utilities	510	960	450	88.24	6.53	0.04
51	Information	4,000	4,470	470	11.75	1.12	0.61
52	Finance & Insurance	8,490	9,260	770	9.07	0.87	0.64
53	Real Estate & Rental & Leasing	3,540	4,130	590	16.67	1.55	1.65
54	Professional, Scientific, & Technical Services	29,240	40,580	11340	38.78	3.33	2.90
55	Mgt. of Companies & Enterprises	1,060	1,220	160	15.09	1.42	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	21,200	29,340	8140	38.40	3.30	3.18
61	Educational Services	25,360	30,770	5410	21.33	1.95	1.61
62	Health Care & Social Assistance	34,360	45,080	10720	31.20	2.75	2.41
71	Arts, Entertainment, & Recreation	2,120	2,740	620	29.25	2.60	2.56
72	Accommodation & Food Services	25,890	31,080	5190	20.05	1.84	1.67
81	Other Services (except Pub. Administration)	13,270	15,850	2580	19.44	1.79	1.63
90	Government	33,230	37,980	4750	14.29	1.35	1.02
91	Federal	15,640	17,710	2070	13.24	1.25	0.78
92	State	2,950	3,170	220	7.46	0.72	0.65
93	Local	14,640	17,110	2470	16.87	1.57	1.27
	ALL OTHER	38,410	39,460	1050	2.73	0.27	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Projected Employment by Major Industry

## **Workforce Investment Advisory Area 3**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	115,750	132,530	16780	14.50	1.36	1.35
	Total Wage & Salary Employment	104,770	121,600	16830	16.06	1.50	1.46
	Goods Producing	27,970	30,600	2630	9.40	0.90	0.48
21	Natural Resources	3,410	3,130	-280	-8.21	-0.85	-0.33
23	Construction	7,210	8,310	1100	15.26	1.43	1.27
31-33	Manufacturing	17,350	19,160	1810	10.43	1.00	0.22
	Durable Goods	12,040	14,140	2100	17.44	1.62	1.20
	Nondurable Goods	5,310	5,020	-290	-5.46	-0.56	-1.26
	Service Producing	76,800	91,000	14200	18.49	1.71	1.72
	Trade, Transportation, & Utilities	18,840	21,250	2410	12.79	1.21	1.23
42	Whole Trade	2,400	2,670	270	11.25	1.07	1.19
44-45	Retail Trade	12,440	13,990	1550	12.46	1.18	1.23
48-49	Transportation & Warehousing	3,410	4,010	600	17.60	1.63	1.51
22	Utilities	600	580	-20	-3.33	-0.34	0.04
51	Information	1,120	1,210	90	8.04	0.78	0.61
52	Finance & Insurance	2,480	2,590	110	4.44	0.43	0.64
53	Real Estate & Rental & Leasing	1,340	1,690	350	26.12	2.35	1.65
54	Professional, Scientific, & Technical Services	2,840	3,690	850	29.93	2.65	2.90
55	Mgt. of Companies & Enterprises	400	450	50	12.50	1.18	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	3,550	5,080	1530	43.10	3.65	3.18
61	Educational Services	11,870	14,070	2200	18.53	1.71	1.61
62	Health Care & Social Assistance	14,100	17,550	3450	24.47	2.21	2.41
71	Arts, Entertainment, & Recreation	960	1,250	290	30.21	2.67	2.56
72	Accommodation & Food Services	8,210	9,770	1560	19.00	1.75	1.67
81	Other Services (except Pub. Administration)	4,250	4,950	700	16.47	1.54	1.63
90	Government	6,850	7,470	620	9.05	0.87	1.02
91	Federal	340	340	0	0.00	0.00	0.78
92	State	2,110	2,260	150	7.11	0.69	0.65
93	Local	4,400	4,870	470	10.68	1.02	1.27
	ALL OTHER	10,980	10,930	-50	-0.46	-0.05	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Projected Employment by Major Industry

## **Workforce Investment Advisory Area 4**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	114,070	146,630	32560	28.54	2.54	1.35
	Total Wage & Salary Employment	102,750	134,450	31700	30.85	2.73	1.46
	Goods Producing	22,440	26,130	3690	16.44	1.53	0.48
21	Natural Resources	1,010	1,020	10	0.99	0.10	-0.33
23	Construction	8,600	11,340	2740	31.86	2.80	1.27
31-33	Manufacturing	12,830	13,770	940	7.33	0.71	0.22
	Durable Goods	8,800	9,860	1060	12.05	1.14	1.20
	Nondurable Goods	4,030	3,910	0	-2.98	-0.30	-1.26
	Service Producing	80,310	108,320	28010	34.88	3.04	1.72
	Trade, Transportation, & Utilities	24,970	30,280	5310	21.27	1.95	1.23
42	Whole Trade	6,750	8,120	1370	20.30	1.87	1.19
44-45	Retail Trade	13,910	17,340	3430	24.66	2.23	1.23
48-49	Transportation & Warehousing	2,500	2,990	490	19.60	1.81	1.51
22	Utilities	1,810	1,830	20	1.10	0.11	0.04
51	Information	1,370	1,730	360	26.28	2.36	0.61
52	Finance & Insurance	6,130	7,180	1050	17.13	1.59	0.64
53	Real Estate & Rental & Leasing	1,360	1,910	550	40.44	3.45	1.65
54	Professional, Scientific, & Technical Services	4,150	6,510	2360	56.87	4.61	2.90
55	Mgt. of Companies & Enterprises	810	1,050	240	29.63	2.63	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	4,240	7,670	3430	80.90	6.11	3.18
61	Educational Services	7,990	11,000	3010	37.67	3.25	1.61
62	Health Care & Social Assistance	10,320	15,340	5020	48.64	4.04	2.41
71	Arts, Entertainment, & Recreation	930	1,410	480	51.61	4.25	2.56
72	Accommodation & Food Services	8,040	11,250	3210	39.93	3.42	1.67
81	Other Services (except Pub. Administration)	4,350	6,040	1690	38.85	3.34	1.63
90	Government	5,650	6,950	1300	23.01	2.09	1.02
91	Federal	130	130	0	0.00	0.00	0.78
92	State	1,430	1,530	100	6.99	0.68	0.65
93	Local	4,100	5,290	1190	29.02	2.58	1.27
	ALL OTHER	11,320	12,180	860	7.60	0.73	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Projected Employment by Major Industry

## **Workforce Investment Advisory Area 5**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	169,860	187,010	17150	10.10	0.97	1.35
	Total Wage & Salary Employment	152,850	169,540	16690	10.92	1.04	1.46
	Goods Producing	41,200	40,340	-860	-2.09	-0.21	0.48
21	Natural Resources	900	930	30	3.33	0.33	-0.33
23	Construction	5,940	6,430	490	8.25	0.80	1.27
31-33	Manufacturing	34,360	32,980	-1380	-4.02	-0.41	0.22
	Durable Goods	20,100	22,240	2140	10.65	1.02	1.20
	Nondurable Goods	14,250	10,740	-3510	-24.63	-2.79	-1.26
	Service Producing	111,650	129,200	17550	15.72	1.47	1.72
	Trade, Transportation, & Utilities	27,800	30,990	3190	11.47	1.09	1.23
42	Whole Trade	5,410	6,010	600	11.09	1.06	1.19
44-45	Retail Trade	17,640	19,650	2010	11.39	1.08	1.23
48-49	Transportation & Warehousing	3,920	4,500	580	14.80	1.39	1.51
22	Utilities	830	840	10	1.20	0.12	0.04
51	Information	2,040	2,120	80	3.92	0.39	0.61
52	Finance & Insurance	3,500	3,720	220	6.29	0.61	0.64
53	Real Estate & Rental & Leasing	1,250	1,410	160	12.80	1.21	1.65
54	Professional, Scientific, & Technical Services	3,410	4,220	810	23.75	2.15	2.90
55	Mgt. of Companies & Enterprises	340	380	40	11.76	1.12	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	8,330	11,100	2770	33.25	2.91	3.18
61	Educational Services	13,810	15,810	2000	14.48	1.36	1.61
62	Health Care & Social Assistance	17,090	20,950	3860	22.59	2.06	2.41
71	Arts, Entertainment, & Recreation	1,080	1,310	230	21.30	1.95	2.56
72	Accommodation & Food Services	12,240	13,740	1500	12.25	1.16	1.67
81	Other Services (except Pub. Administration)	5,780	6,580	800	13.84	1.30	1.63
90	Government	14,980	16,870	1890	12.62	1.20	1.02
91	Federal	4,880	5,670	790	16.19	1.51	0.78
92	State	1,930	2,030	100	5.18	0.51	0.65
93	Local	8,180	9,170	990	12.10	1.15	1.27
	ALL OTHER	17,010	17,470	460	2.70	0.27	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.



# Projected Employment by Major Industry

## **Workforce Investment Advisory Area 6**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	43,590	42,310	-1280	-2.94	-0.30	1.35
	Total Wage & Salary Employment	38,300	37,390	-910	-2.38	-0.24	1.46
	Goods Producing	13,010	12,400	-610	-4.69	-0.48	0.48
21	Natural Resources	800	790	-10	-1.25	-0.13	-0.33
23	Construction	1,630	1,490	-140	-8.59	-0.89	1.27
31-33	Manufacturing	10,580	10,120	-460	-4.35	-0.44	0.22
	Durable Goods	3,540	4,060	520	14.69	1.38	1.20
	Nondurable Goods	7,040	6,060	-980	-13.92	-1.49	-1.26
	Service Producing	25,290	24,990	-300	-1.19	-0.12	1.72
	Trade, Transportation, & Utilities	6,890	6,680	-210	-3.05	-0.31	1.23
42	Whole Trade	910	890	-20	-2.20	-0.22	1.19
44-45	Retail Trade	4,470	4,320	-150	-3.36	-0.34	1.23
48-49	Transportation & Warehousing	1,250	1,230	-20	-1.60	-0.16	1.51
22	Utilities	260	240	-20	-7.69	-0.80	0.04
51	Information	330	240	-90	-27.27	-3.13	0.61
52	Finance & Insurance	830	750	-80	-9.64	-1.01	0.64
53	Real Estate & Rental & Leasing	290	280	-10	-3.45	-0.35	1.65
54	Professional, Scientific, & Technical Services	420	410	-10	-2.38	-0.24	2.90
55	Mgt. of Companies & Enterprises	160	160	0	0.00	0.00	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	680	720	40	5.88	0.57	3.18
61	Educational Services	4,350	4,230	-120	-2.76	-0.28	1.61
62	Health Care & Social Assistance	4,210	4,580	370	8.79	0.85	2.41
71	Arts, Entertainment, & Recreation	140	140	0	0.00	0.00	2.56
72	Accommodation & Food Services	1,940	1,920	-20	-1.03	-0.10	1.67
81	Other Services (except Pub. Administration)	1,430	1,360	-70	-4.90	-0.50	1.63
90	Government	3,640	3,530	-110	-3.02	-0.31	1.02
91	Federal	180	170	-10	-5.56	-0.57	0.78
92	State	710	740	30	4.23	0.41	0.65
93	Local	2,750	2,630	-120	-4.36	-0.45	1.27
	ALL OTHER	5,290	4,920	-370	-6.99	-0.72	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Projected Employment by Major Industry

## **Workforce Investment Advisory Area 7**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	192,680	227,530	34850	18.09	1.68	1.35
	Total Wage & Salary Employment	176,480	210,830	34350	19.46	1.79	1.46
	Goods Producing	28,570	34,570	6000	21.00	1.92	0.48
21	Natural Resources	650	670	20	3.08	0.30	-0.33
23	Construction	9,350	10,970	1620	17.33	1.61	1.27
31-33	Manufacturing	18,570	22,930	4360	23.48	2.13	0.22
	Durable Goods	10,780	15,750	4970	46.10	3.86	1.20
	Nondurable Goods	7,800	7,190	-610	-7.82	-0.81	-1.26
	Service Producing	147,910	176,260	28350	19.17	1.77	1.72
	Trade, Transportation, & Utilities	33,910	38,610	4700	13.86	1.31	1.23
42	Whole Trade	7,000	7,900	900	12.86	1.22	1.19
44-45	Retail Trade	19,680	22,490	2810	14.28	1.34	1.23
48-49	Transportation & Warehousing	6,260	7,260	1000	15.97	1.49	1.51
22	Utilities	980	970	-10	-1.02	-0.10	0.04
51	Information	2,850	3,210	360	12.63	1.20	0.61
52	Finance & Insurance	8,360	8,790	430	5.14	0.50	0.64
53	Real Estate & Rental & Leasing	2,360	2,800	440	18.64	1.72	1.65
54	Professional, Scientific, & Technical Services	7,100	9,290	2190	30.85	2.72	2.90
55	Mgt. of Companies & Enterprises	810	910	100	12.35	1.17	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	9,770	13,330	3560	36.44	3.16	3.18
61	Educational Services	13,020	15,620	2600	19.97	1.84	1.61
62	Health Care & Social Assistance	18,610	25,120	6510	34.98	3.05	2.41
71	Arts, Entertainment, & Recreation	1,700	2,220	520	30.59	2.70	2.56
72	Accommodation & Food Services	13,420	16,350	2930	21.83	1.99	1.67
81	Other Services (except Pub. Administration)	8,210	9,780	1570	19.12	1.77	1.63
90	Government	27,790	30,240	2450	8.82	0.85	1.02
91	Federal	5,040	5,090	50	0.99	0.10	0.78
92	State	14,760	15,930	1170	7.93	0.77	0.65
93	Local	8,000	9,210	1210	15.13	1.42	1.27
	ALL OTHER	16,210	16,700	490	3.02	0.30	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Projected Employment by Major Industry

## **Workforce Investment Advisory Area 8**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	87,090	98,540	11450	13.15	1.24	1.35
	Total Wage & Salary Employment	79,540	90,970	11430	14.37	1.35	1.46
	Goods Producing	19,190	20,180	990	5.16	0.50	0.48
21	Natural Resources	370	370	0	0.00	0.00	-0.33
23	Construction	3,980	4,330	350	8.79	0.85	1.27
31-33	Manufacturing	14,840	15,480	640	4.31	0.42	0.22
	Durable Goods	5,860	7,640	1780	30.38	2.69	1.20
	Nondurable Goods	8,980	7,840	-1140	-12.69	-1.35	-1.26
	Service Producing	60,350	70,790	10440	17.30	1.61	1.72
	Trade, Transportation, & Utilities	13,480	15,400	1920	14.24	1.34	1.23
42	Whole Trade	1,470	1,910	440	29.93	2.65	1.19
44-45	Retail Trade	9,320	10,380	1060	11.37	1.08	1.23
48-49	Transportation & Warehousing	2,320	2,720	400	17.24	1.60	1.51
22	Utilities	380	400	20	5.26	0.51	0.04
51	Information	840	910	70	8.33	0.80	0.61
52	Finance & Insurance	1,520	1,600	80	5.26	0.51	0.64
53	Real Estate & Rental & Leasing	980	1,140	160	16.33	1.52	1.65
54	Professional, Scientific, & Technical Services	1,430	1,810	380	26.57	2.38	2.90
55	Mgt. of Companies & Enterprises	210	230	20	9.52	0.91	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	3,920	5,460	1540	39.29	3.37	3.18
61	Educational Services	11,600	13,600	2000	17.24	1.60	1.61
62	Health Care & Social Assistance	8,720	10,570	1850	21.22	1.94	2.41
71	Arts, Entertainment, & Recreation	1,230	1,390	160	13.01	1.23	2.56
72	Accommodation & Food Services	7,870	9,220	1350	17.15	1.60	1.67
81	Other Services (except Pub. Administration)	2,760	3,150	390	14.13	1.33	1.63
90	Government	5,790	6,310	520	8.98	0.86	1.02
91	Federal	290	290	0	0.00	0.00	0.78
92	State	1,040	1,100	60	5.77	0.56	0.65
93	Local	4,470	4,920	450	10.07	0.96	1.27
	ALL OTHER	7,540	7,580	40	0.53	0.05	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Projected Employment by Major Industry

## **Workforce Investment Advisory Area 9**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	106,260	124,830	18570	17.48	1.62	1.35
	Total Wage & Salary Employment	94,370	112,330	17960	19.03	1.76	1.46
	Goods Producing	22,300	22,880	580	2.60	0.26	0.48
21	Natural Resources	1,390	1,370	-20	-1.44	-0.14	-0.33
23	Construction	5,320	6,310	990	18.61	1.72	1.27
31-33	Manufacturing	15,590	15,200	-390	-2.50	-0.25	0.22
	Durable Goods	8,500	9,620	1120	13.18	1.25	1.20
	Nondurable Goods	7,080	5,580	-1500	-21.19	-2.35	-1.26
	Service Producing	72,070	89,450	17380	24.12	2.18	1.72
	Trade, Transportation, & Utilities	21,470	24,950	3480	16.21	1.51	1.23
42	Whole Trade	2,560	3,020	460	17.97	1.67	1.19
44-45	Retail Trade	14,570	17,310	2740	18.81	1.74	1.23
48-49	Transportation & Warehousing	3,700	3,970	270	7.30	0.71	1.51
22	Utilities	650	640	-10	-1.54	-0.15	0.04
51	Information	1,500	1,710	210	14.00	1.32	0.61
52	Finance & Insurance	2,530	2,780	250	9.88	0.95	0.64
53	Real Estate & Rental & Leasing	2,270	2,770	500	22.03	2.01	1.65
54	Professional, Scientific, & Technical Services	1,800	2,730	930	51.67	4.25	2.90
55	Mgt. of Companies & Enterprises	240	290	50	20.83	1.91	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	2,970	4,680	1710	57.58	4.65	3.18
61	Educational Services	7,460	8,930	1470	19.71	1.81	1.61
62	Health Care & Social Assistance	9,670	12,840	3170	32.78	2.88	2.41
71	Arts, Entertainment, & Recreation	1,130	1,690	560	49.56	4.11	2.56
72	Accommodation & Food Services	9,660	12,160	2500	25.88	2.33	1.67
81	Other Services (except Pub. Administration)	4,040	5,410	1370	33.91	2.96	1.63
90	Government	7,350	8,520	1170	15.92	1.49	1.02
91	Federal	180	180	0	0.00	0.00	0.78
92	State	1,610	1,690	80	4.97	0.49	0.65
93	Local	5,550	6,640	1090	19.64	1.81	1.27
	ALL OTHER	11,890	12,500	610	5.13	0.50	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Projected Employment by Major Industry

## **Workforce Investment Advisory Area 10**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	146,740	160,080	13340	9.09	0.87	1.35
	Total Wage & Salary Employment	131,010	144,350	13340	10.18	0.97	1.46
	Goods Producing	32,530	32,680	150	0.46	0.05	0.48
21	Natural Resources	710	700	-10	-1.41	-0.14	-0.33
23	Construction	6,020	6,380	360	5.98	0.58	1.27
31-33	Manufacturing	25,800	25,600	-200	-0.78	-0.08	0.22
	Durable Goods	12,530	13,990	1460	11.65	1.11	1.20
	Nondurable Goods	13,270	11,610	-1660	-12.51	-1.33	-1.26
	Service Producing	98,480	111,670	13190	13.39	1.26	1.72
	Trade, Transportation, & Utilities	30,740	33,950	3210	10.44	1.00	1.23
42	Whole Trade	4,680	5,040	360	7.69	0.74	1.19
44-45	Retail Trade	17,760	19,290	1530	8.61	0.83	1.23
48-49	Transportation & Warehousing	6,400	7,790	1390	21.72	1.98	1.51
22	Utilities	1,900	1,830	-70	-3.68	-0.37	0.04
51	Information	1,720	1,790	70	4.07	0.40	0.61
52	Finance & Insurance	3,240	3,390	150	4.63	0.45	0.64
53	Real Estate & Rental & Leasing	1,570	1,730	160	10.19	0.98	1.65
54	Professional, Scientific, & Technical Services	2,910	3,550	640	21.99	2.01	2.90
55	Mgt. of Companies & Enterprises	700	770	70	10.00	0.96	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	4,370	5,750	1380	31.58	2.78	3.18
61	Educational Services	10,120	11,460	1340	13.24	1.25	1.61
62	Health Care & Social Assistance	16,150	19,260	3110	19.26	1.78	2.41
71	Arts, Entertainment, & Recreation	770	920	150	19.48	1.80	2.56
72	Accommodation & Food Services	10,000	11,580	1580	15.80	1.48	1.67
81	Other Services (except Pub. Administration)	5,100	5,650	550	10.78	1.03	1.63
90	Government	11,090	11,890	800	7.21	0.70	1.02
91	Federal	2,760	2,760	0	0.00	0.00	0.78
92	State	1,800	1,900	100	5.56	0.54	0.65
93	Local	6,530	7,230	700	10.72	1.02	1.27
	ALL OTHER	15,730	15,730	0	0.00	0.00	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Projected Employment by Major Industry

## **Workforce Investment Jefferson County Local Area**

Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	422,000	478,150	56150	13.31	1.26	1.35
	Total Wage & Salary Employment	391,970	447,130	55160	14.07	1.33	1.46
	Goods Producing	54,190	57,980	3790	6.99	0.68	0.48
21	Natural Resources	1,640	1,470	-170	-10.37	-1.09	-0.33
23	Construction	23,980	26,560	2580	10.76	1.03	1.27
31-33	Manufacturing	28,570	29,950	1380	4.83	0.47	0.22
	Durable Goods	20,000	21,230	1230	6.15	0.60	1.20
	Nondurable Goods	8,570	8,720	150	1.75	0.17	-1.26
	Service Producing	337,780	389,150	51370	15.21	1.43	1.72
	Trade, Transportation, & Utilities	87,340	96,020	8680	9.94	0.95	1.23
42	Whole Trade	22,820	25,140	2320	10.17	0.97	1.19
44-45	Retail Trade	47,250	52,400	5150	10.90	1.04	1.23
48-49	Transportation & Warehousing	12,560	14,040	1480	11.78	1.12	1.51
22	Utilities	4,710	4,440	-270	-5.73	-0.59	0.04
51	Information	12,060	12,050	-10	-0.08	-0.01	0.61
52	Finance & Insurance	26,570	27,880	1310	4.93	0.48	0.64
53	Real Estate & Rental & Leasing	5,460	6,220	760	13.92	1.31	1.65
54	Professional, Scientific, & Technical Services	24,280	31,360	7080	29.16	2.59	2.90
55	Mgt. of Companies & Enterprises	5,330	5,860	530	9.94	0.95	1.16
56	Administrative & Support & Waste Mgt. & Remediation Services	22,750	28,370	5620	24.70	2.23	3.18
61	Educational Services	28,210	31,970	3760	13.33	1.26	1.61
62	Health Care & Social Assistance	52,790	66,810	14020	26.56	2.38	2.41
71	Arts, Entertainment, & Recreation	3,600	4,530	930	25.83	2.32	2.56
72	Accommodation & Food Services	27,680	31,500	3820	13.80	1.30	1.67
81	Other Services (except Pub. Administration)	19,000	21,920	2920	15.37	1.44	1.63
90	Government	22,710	24,670	1960	8.63	0.83	1.02
91	Federal	4,190	4,230	40	0.95	0.10	0.78
92	State	3,190	3,370	180	5.64	0.55	0.65
93	Local	15,330	17,070	1740	11.35	1.08	1.27
	ALL OTHER	30,030	31,020	990	3.30	0.32	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

# Projected Employment by Major Industry

## **Workforce Investment Mobile County Local Area**

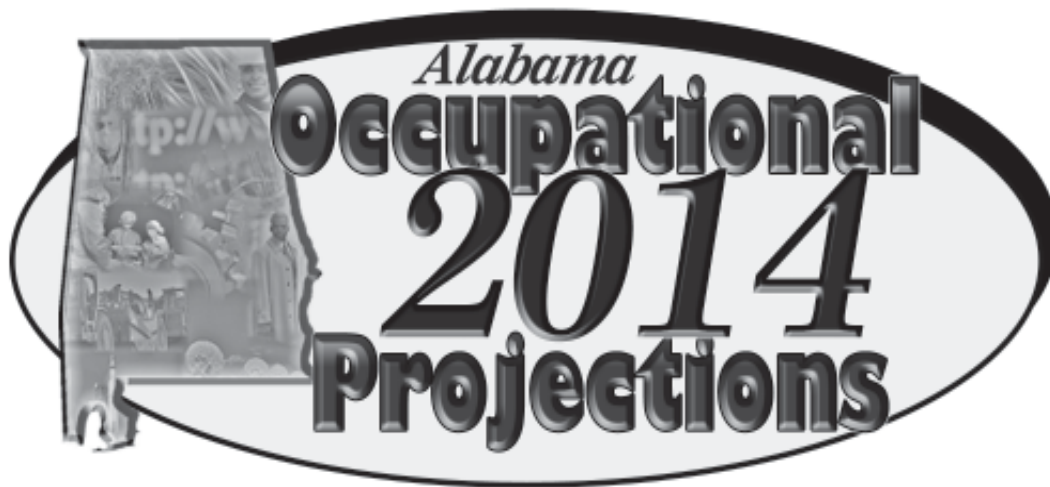
Naics	Industry	Employment		Net Change	Percent Change	Avg Annual Growth	
		2004	2014			Area	State
	Total Employment	169,800	198,070	28270	16.65	1.55	1.46
	Total Wage & Salary Employment	27,060	29,970	2910	10.75	1.03	0.48
<b>21</b>	Natural Resources	500	460	-40	-8.00	-0.83	-0.33
<b>23</b>	Construction	12,150	13,600	1450	11.93	1.13	1.27
<b>31-33</b>	Manufacturing	14,410	15,910	1500	10.41	1.00	0.22
	Goods Producing	7,950	10,180	2230	28.05	2.50	1.20
	Durable Goods	6,450	5,730	-720	-11.16	-1.18	-1.26
	Nondurable Goods	142,740	168,100	25360	17.77	1.65	1.72
	Service Providing	38,890	43,220	4330	11.13	1.06	1.23
<b>42</b>	Whole Trade	8,640	9,530	890	10.30	0.99	1.19
<b>44-45</b>	Retail Trade	21,630	24,030	2400	11.10	1.06	1.23
<b>48-49</b>	Transportation & Warehousing	7,530	8,610	1080	14.34	1.35	1.51
<b>22</b>	Utilities	1,100	1,060	-40	-3.64	-0.37	0.04
<b>51</b>	Information	2,410	2,690	280	11.62	1.11	0.61
<b>52</b>	Finance & Insurance	5,730	6,150	420	7.33	0.71	0.64
<b>53</b>	Real Estate & Rental & Leasing	3,540	4,200	660	18.64	1.72	1.65
<b>54</b>	Professional, Scientific, & Technical Services	8,350	10,780	2430	29.10	2.59	2.90
<b>55</b>	Mgt. of Companies & Enterprises	290	310	20	6.90	0.67	1.16
<b>56</b>	Administrative & Support & Waste Mgt. & Remediation Services	13,390	18,490	5100	38.09	3.28	3.18
<b>61</b>	Educational Services	13,880	16,370	2490	17.94	1.66	1.61
<b>62</b>	Health Care & Social Assistance	21,380	26,270	4890	22.87	2.08	2.41
<b>71</b>	Arts, Entertainment, & Recreation	1,370	1,740	370	27.01	2.42	2.56
<b>72</b>	Accommodation & Food Services	13,390	15,350	1960	14.64	1.38	1.67
<b>81</b>	Other Services (except Pub. Administration)	9,290	10,610	1320	14.21	1.34	1.63
<b>90</b>	Government	10,840	11,910	1070	9.87	0.95	1.02
<b>91</b>	Federal	1,680	1,690	10	0.60	0.06	0.78
<b>92</b>	State	2,060	2,160	100	4.85	0.48	0.65
<b>93</b>	Local	7,110	8,050	940	13.22	1.25	1.27
	ALL OTHER	16,660	17,140	480	2.88	0.28	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.







***Employment by Occupation  
2004 - 2014***



***Alabama Dept. of Industrial Relations  
Labor Market Information Division  
649 Monroe Street  
Montgomery, AL 36131***



**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**ALABAMA**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	2,080,090	2,379,450	299,360	14.39	1.35	81,725
110000	Management Occupations	118,870	134,670	15,800	13.29	1.26	3,785
130000	Business and Financial Operations Occupations	63,220	75,140	11,920	18.85	1.74	2,335
150000	Computer and Mathematical Science Occupations	32,770	44,250	11,480	35.03	3.05	1,595
170000	Architecture and Engineering Occupations	38,670	45,910	7,240	18.72	1.73	1,595
190000	Life, Physical, and Social Services Occupations	12,280	14,270	1,990	16.21	1.51	495
210000	Community and Social Services Occupaitons	28,740	35,970	7,230	25.16	2.27	1,260
230000	Legal Occupations	14,190	16,840	2,650	18.68	1.73	430
250000	Education, Training, and Library Occupations	107,580	129,100	21,520	20.00	1.84	4,390
270000	Art, Design, Entertainment, Sports, and Media Occ.	24,310	28,200	3,890	16.00	1.50	875
290000	Healthcare Practitioner and Technical Occ.	113,330	142,110	28,780	25.39	2.29	5,045
310000	Healthcare Support Occupations	47,170	61,910	14,740	31.25	2.76	2,195
330000	Protective Service Occupations	42,830	49,410	6,580	15.36	1.44	1,825
350000	Food Preparation and Serving Related Occ.	148,550	174,320	25,770	17.35	1.61	8,415
370000	Building & Grounds Cleaning & Maintenance Occ.	70,630	83,880	13,250	18.76	1.73	2,720
390000	Personal Care and Service Occupations	48,420	58,770	10,350	21.38	1.96	2,215
410000	Sales and Related Occupations	218,220	244,940	26,720	12.24	1.16	9,885
430000	Office and Administrative Support Occupations	321,820	346,430	24,610	7.65	0.74	10,545
450000	Farming, Fishing, and Forestry Occupations	23,490	22,080	-1,410	-6.00	-0.62	590
470000	Construction and Extraction Occupations	121,610	137,930	16,320	13.42	1.27	4,095
490000	Installation, Maint., and Repair Occupations	99,460	113,880	14,420	14.50	1.36	3,770
510000	Production Occupations	218,340	229,600	11,260	5.16	0.50	7,410
530000	Transportation and Mat. Moving Occupations	165,590	189,830	24,240	14.64	1.38	6,240

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.

## Top 40 High Demand Occupations ALABAMA

SOC	Occupation	Employment <sup>1</sup>		Avg Annual Growth(%)	Avg Annual Openings <sup>2</sup>	10-YR Change(%)	Mean Annual Salary(\$)
		2,004	2,014				
29-1111	Registered Nurses	39,360	51,180	2.66	2005	30	48,840
51-2092	Team Assemblers	27,750	36,610	2.81	1600	32	25,630
31-1011	Home Health Aides	8,780	13,630	4.49	600	55	16,030
43-4051	Customer Service Representatives	21,580	26,880	2.22	850	25	26,290
15-1051	Computer Systems Analysts	7,670	10,180	2.88	335	33	67,220
31-9092	Medical Assistants	3,810	5,730	4.16	260	50	21,840
15-1031	Computer Software Engineers, Applications	3,560	5,620	4.65	240	58	21,840
39-9011	Child Care Workers	15,940	19,500	2.04	790	22	14,460
43-4171	Receptionists and Information Clerks	13,540	16,680	2.11	650	23	19,850
41-2031	Retail Salespersons	61,860	73,700	1.77	3435	19	21,820
35-2021	Food Preparation Workers	8,070	10,110	2.28	490	25	15,610
21-2011	Clergy	7,670	9,780	2.46	365	28	37,590
25-2011	Preschool Teachers, Except Special Education	4,510	5,990	2.89	205	33	20,880
39-9021	Personal and Home Care Aides	3,430	4,900	3.65	205	43	15,920
11-1021	General and Operations Managers	26,820	32,220	1.85	1045	20	86,460
41-2021	Counter and Rental Clerks	6,960	8,690	2.24	440	25	19,190
13-1199	Business Operations Specialists, All Other	8,020	10,040	2.28	340	25	62,680
31-1012	Nursing Aides, Orderlies, and Attendants	22,040	26,610	1.90	745	21	18,000
53-3032	Truck Drivers, Heavy and Tractor-Trailer	38,230	45,580	1.77	1360	19	32,720
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	40,070	47,520	1.72	2480	19	13,370
13-2011	Accountants and Auditors	14,030	17,050	1.97	565	22	52,110
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	29,970	35,790	1.79	1150	19	17,110
15-1032	Computer Software Engineers, Systems Software	2,460	4,080	5.20	185	66	79,330
43-3011	Bill and Account Collectors	6,910	8,600	2.21	300	24	26,220
35-3031	Waiters and Waitresses	30,770	36,350	1.68	2145	18	
29-2052	Pharmacy Technicians	5,550	7,010	2.37	215	26	21,340
49-3011	Aircraft Mechanics and Service Technicians	2,410	3,690	4.34	185	53	36,620
29-2021	Dental Hygienists	2,990	4,220	3.52	150	41	37,120
15-1041	Computer Support Specialists	5,270	6,650	2.35	205	26	34,960
33-2011	Fire Fighters	5,050	6,320	2.27	270	25	33,410
15-1071	Network and Computer Systems Administrators	2,790	4,050	3.81	155	45	58,560
37-2012	Maids and Housekeeping Cleaners	19,430	23,120	1.75	780	19	14,850
31-9091	Dental Assistants	2,500	3,530	3.50	175	41	23,940
25-2021	Elementary School Teachers, Except Special Education	17,440	20,760	1.76	715	19	38,270
21-1093	Social and Human Service Assistants	4,240	5,380	2.39	190	27	25,560
15-1081	Network Systems and Data Communications Analysts	2,320	3,600	4.47	155	55	58,210
29-2041	Emergency Medical Technicians and Paramedics	2,790	3,800	3.14	130	36	22,280
25-9041	Teacher Assistants	21,530	25,440	1.68	805	18	15,010
13-1111	Management Analysts	5,180	6,420	2.16	195	24	68,940
41-4012	Sales Representatives, Except Technical and Scientific Products	18,460	21,770	1.66	815	18	49,770
11-3021	Computer and Information Systems Managers	2,860	3,720	2.66	135	30	83,710

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

<sup>1</sup> Employment is rounded to the nearest 10.

<sup>2</sup> Average Annual Openings are rounded to the nearest 5.

## Selected Fast-Growing Occupations

### ALABAMA

Soc	Occupation	Employment		Percent Change	Annual Growth	Total
		2004	2014			Annual Average Job Openings
191042	Medical Scientists, Except Epidemiologists	120	210	75.00	5.76	10
151032	Computer Software Engineers, Systems Software	2,460	4,080	65.85	5.19	185
151031	Computer Software Engineers, Applications	3,560	5,620	57.87	4.67	240
291071	Physician Assistants	520	810	55.77	4.53	40
191021	Biochemists and Biophysicists	90	140	55.56	4.52	10
311011	Home Health Aides	8,780	13,630	55.24	4.50	600
151081	Network Systems and Data Communications Analysts	2,320	3,600	55.17	4.49	155
493011	Aircraft Mechanics and Service Technicians	2,410	3,690	53.11	4.35	185
319092	Medical Assistants	3,810	5,730	50.39	4.17	260
373019	Grounds Maintenance Workers, All Other	240	360	50.00	4.14	15
151061	Database Administrators	760	1,130	48.68	4.05	45
151011	Computer and Information Scientists, Research	370	550	48.65	4.04	25
151071	Network and Computer Systems Administrators	2,790	4,050	45.16	3.80	155
399021	Personal and Home Care Aides	3,430	4,900	42.86	3.63	205
439031	Desktop Publishers	1,050	1,500	42.86	3.63	70
319091	Dental Assistants	2,500	3,530	41.20	3.51	175
292021	Dental Hygienists	2,990	4,220	41.14	3.51	150
291122	Occupational Therapists	940	1,320	40.43	3.45	55
312021	Physical Therapist Assistants	1,080	1,510	39.81	3.41	65
312011	Occupational Therapist Assistants	260	360	38.46	3.31	15
211013	Marriage and Family Therapists	380	520	36.84	3.19	25
292041	Emergency Medical Technicians and Paramedics	2,790	3,800	36.20	3.14	130
172131	Materials Engineers	360	490	36.11	3.13	25
191029	Biological Scientists, All Other	140	190	35.71	3.10	10
291123	Physical Therapists	1,690	2,290	35.50	3.08	75
533011	Ambul. Drivers & Attendants, Except Emerg. Med. Techn.	340	460	35.29	3.07	20
212021	Directors, Religious Activities and Education	2,220	2,990	34.68	3.02	100
474041	Hazardous Materials Removal Workers	290	390	34.48	3.01	20
251193	Recreation and Fitness Studies Teachers, Postsecondary	240	320	33.33	2.92	10
251194	Vocational Education Teachers, Postsecondary	1,620	2,160	33.33	2.92	90
399041	Residential Advisors	540	720	33.33	2.92	30
292056	Veterinary Technologists and Technicians	910	1,210	32.97	2.89	40
299099	Healthcare Practitioners and Technical Workers, All Other	910	1,210	32.97	2.89	45
252011	Preschool Teachers, Except Special Education	4,510	5,990	32.82	2.88	205
119031	Educ. Administrators, Preschool & Child Care Center/Prog.	580	770	32.76	2.87	35
151051	Computer Systems Analysts	7,670	10,180	32.72	2.87	335
312022	Physical Therapist Aides	520	690	32.69	2.87	30
172112	Industrial Engineers	2,120	2,810	32.55	2.86	120

Selection Criteria: At least 10 average annual job openings and an annual growth rate of at least 2.85%.  
Employment level data is rounded to the nearest 10 and Openings data is rounded to the nearest 5

## Selected Declining Occupations

### ALABAMA

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
516031	Sewing Machine Operators**	10,560	6,900	-3,660
516063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders**	4,770	2,250	-2,520
516064	Textile Winding, Twisting, & Drawing Out Machine Setters, Operators, & Tenders**	3,830	2,420	-1,410
434071	File Clerks**	3,370	2,260	-1,110
434151	Order Clerks**	3,570	2,720	-850
439011	Computer Operators**	2,280	1,560	-720
439051	Mail Clerks and Mail Machine Operators, Except Postal Service**	1,800	1,140	-660
435041	Meter Readers, Utilities**	1,190	680	-510
516091	Extruding & Forming Machine Setters, Oper. & Tenders, Synthetic & Glass Fibers	1,680	1,170	-510
516099	Textile, Apparel, and Furnishings Workers, All Other	1,380	920	-460
537063	Machine Feeders and Offbearers**	2,800	2,360	-440
452093	Farmworkers, Farm and Ranch Animals	2,240	1,930	-310
516061	Textile Bleaching and Dyeing Machine Operators and Tenders	650	360	-290
434041	Credit Authorizers, Checkers, and Clerks**	640	370	-270
516062	Textile Cutting Machine Setters, Operators, and Tenders	660	450	-210
518091	Chemical Plant and System Operators**	1,270	1,090	-180
439071	Office Machine Operators, Except Computer**	510	400	-110
454011	Forest and Conservation Workers	610	530	-80
519131	Photographic Process Workers	300	250	-50
517021	Furniture Finishers	340	290	-50
475061	Roof Bolters, Mining	150	110	-40
516092	Fabric and Apparel Patternmakers	170	130	-40
512021	Coil Winders, Tapers, and Finishers	200	170	-30
534021	Railroad Brake, Signal, and Switch Operators	***	***	***
519132	Photographic Processing Machine Operators**	***	***	***
432021	Telephone Operators**	***	***	***
534099	Rail Transportation Workers, All Other	***	***	***
534013	Rail Yard Engineers, Dinkey Operators, and Hostlers	***	***	***
537111	Shuttle Car Operators	***	***	***

Selection Criteria: Employment decline from 2004 - 2014 of at least 30 with at least a 12% decline over the period.  
Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

**Summary of Employment and Annual Average Job Openings  
by WIA Areas**

	Employment				2004 - 2014		Annual Growth Rate	Annual Average Job Openings
	2004 Number	Percent Distribution	2014 Number	Percent Distribution	Net Change	Percent Change		
<b>Total Statewide</b>	<b>2,080,090</b>	<b>100.00</b>	<b>2,379,450</b>	<b>100.00</b>	<b>299,360</b>	<b>14.39</b>	<b>1.35</b>	<b>81,725</b>
<b>Jefferson County WIA</b>	<b>422,000</b>	<b>20.29</b>	<b>478,150</b>	<b>20.09</b>	<b>56,150</b>	<b>13.31</b>	<b>1.26</b>	<b>15,730</b>
<b>Mobile County WIA</b>	<b>188,470</b>	<b>9.06</b>	<b>215,210</b>	<b>9.04</b>	<b>26,740</b>	<b>14.19</b>	<b>1.44</b>	<b>7,525</b>
Region 1	95,090	4.57	103,260	4.34	8,170	8.59	0.83	3,200
Region 2	400,480	19.25	463,360	19.47	62,880	15.70	1.47	16,410
Region 3	115,750	5.56	132,530	5.57	16,780	14.50	1.36	4,550
Region 4	114,070	5.48	146,630	6.16	32,560	28.54	2.54	6,070
Region 5	169,860	8.17	187,020	7.86	17,160	10.10	0.97	6,180
Region 6	43,590	2.10	42,310	1.78	-1,280	-2.94	-0.30	1,145
Region 7	192,690	9.26	227,530	9.56	34,840	18.08	1.68	8,210
Region 8	87,090	4.19	98,550	4.14	11,460	13.16	1.24	3,385
Region 9	106,250	5.11	124,830	5.25	18,580	17.49	1.62	4,605
Region 10	146,740	7.05	160,080	6.73	13,340	9.09	0.87	5,130
<b>Alabama WIA</b>	<b>1,471,610</b>	<b>70.75</b>	<b>1,686,100</b>	<b>70.86</b>	<b>214,490</b>	<b>14.58</b>	<b>1.37</b>	<b>58,885</b>

The employment data is rounded to the nearest 10. The openings data is rounded to the nearest 5.

Some components may not add due to rounding.

Balance of State equals the area of the state not included in the metro areas.

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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**REGION 1**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	95,090	103,260	8,170	8.59	0.83	3,200
110000	Management Occupations	5,440	5,810	370	6.80	0.66	135
130000	Business and Financial Operations Occupations	2,550	2,940	390	15.29	1.43	85
150000	Computer and Mathematical Science Occupations	750	880	130	17.33	1.61	25
170000	Architecture and Engineering Occupations	70	70	0	0.00	0.00	0
190000	Life, Physical, and Social Services Occupations	380	390	10	2.63	0.26	10
210000	Community and Social Services Occupaitons	1,180	1,350	170	14.41	1.35	35
230000	Legal Occupations	360	380	20	5.56	0.54	10
250000	Education, Training, and Library Occupations	4,690	5,210	520	11.09	1.06	150
270000	Art, Design, Entertainment, Sports, and Media Occ.	1,080	1,180	100	9.26	0.89	30
290000	Healthcare Practitioner and Technical Occ.	4,830	5,540	710	14.70	1.38	160
310000	Healthcare Support Occupations	2,460	2,980	520	21.14	1.94	85
330000	Protective Service Occupations	1,530	1,650	120	7.84	0.76	55
350000	Food Preparation and Serving Related Occ.	6,660	7,080	420	6.31	0.61	300
370000	Building & Grounds Cleaning & Maintenance Occ.	2,940	3,260	320	10.88	1.04	90
390000	Personal Care and Service Occupations	2,270	2,510	240	10.57	1.01	80
410000	Sales and Related Occupations	9,180	9,810	630	6.86	0.67	370
430000	Office and Administrative Support Occupations	12,950	13,510	560	4.32	0.42	390
450000	Farming, Fishing, and Forestry Occupations	1,730	1,610	-120	-6.94	-0.72	40
470000	Construction and Extraction Occupations	6,240	6,710	470	7.53	0.73	165
490000	Installation, Maint., and Repair Occupations	4,090	4,520	430	10.51	1.00	140
510000	Production Occupations	14,880	15,810	930	6.25	0.61	510
530000	Transportation and Mat. Moving Occupations	8,020	9,160	1,140	14.21	1.34	300

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.



**Top 40 High Demand Occupations**  
**WORKFORCE INVESTMENT ADVISORY AREA 1**

SOC	Occupation	Employment <sup>1</sup>		Avg Annual Growth (%)	Avg Annual Openings <sup>2</sup>	10-YR Change (%)	Mean Annual Salary (\$)
		2004	2014				
512092	Team Assemblers	2,580	3,050	1.69	110	18	19,682
533032	Truck Drivers, Heavy and Tractor-Trailer	1,730	2,090	1.91	65	21	26,030
537064	Packers and Packagers, Hand	870	1,090	2.28	35	25	17,029
291111	Registered Nurses	1,630	1,940	1.76	65	19	46,487
537062	Laborers and Freight, Stock, and Material Movers, Hand	1,870	2,170	1.5	90	16	21,689
412031	Retail Salespersons	2,630	3,000	1.32	130	14	21,049
519198	Helpers--Production Workers	800	980	2.05	40	23	21,924
311011	Home Health Aides	520	740	3.59	25	42	16,909
111021	General and Operations Managers	1,130	1,320	1.57	40	17	76,438
131199	Business Operations Specialists, All Other	450	590	2.75	25	31	65,680
311012	Nursing Aides, Orderlies, and Attendants	1,300	1,490	1.37	35	15	17,051
472031	Carpenters	1,680	1,910	1.29	50	14	29,060
434051	Customer Service Representatives	910	1,050	1.44	30	15	27,598
513022	Meat, Poultry, and Fish Cutters and Trimmers <sup>3</sup>	*	*	1.34	35	*	*
514041	Machinists	410	510	2.21	20	24	39,713
372011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,230	1,380	1.16	40	12	19,157
439061	Office Clerks, General	1,980	2,190	1.01	65	11	19,153
151041	Computer Support Specialists <sup>3</sup>	*	*	2.26	15	*	32,489
493023	Automotive Service Technicians and Mechanics	540	630	1.55	25	17	27,918
513023	Slaughterers and Meat Packers	870	980	1.2	30	13	20,234
433011	Bill and Account Collectors	220	320	3.82	15	45	24,727
414012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	700	790	1.22	30	13	48,509
499042	Maintenance and Repair Workers, General	970	1,080	1.08	30	11	29,334
132011	Accountants and Auditors	460	540	1.62	15	17	52,644
514121	Welders, Cutters, Solderers, and Brazers	660	740	1.15	30	12	28,141
292041	Emergency Medical Technicians and Paramedics <sup>3</sup>	*	*	2.03	10	*	22,260
212011	Clergy	280	340	1.96	10	21	21,210
511011	First-Line Supervisors/Managers of Production & Operating Workers	1,080	1,180	0.89	35	9	36,806
353021	Combined Food Prep. & Serving Workers, Including Fast Food	1,840	1,950	0.58	90	6	12,980
252021	Elementary School Teachers, Except Special Education	860	950	1	30	10	38,191
353031	Waiters and Waitresses	1,140	1,220	0.68	70	7	12,603
352021	Food Preparation Workers	570	640	1.17	25	12	13,801
259041	Teacher Assistants	980	1,070	0.88	30	9	13,903
399011	Child Care Workers	730	810	1.05	25	11	14,262
292052	Pharmacy Technicians	270	320	1.71	10	19	20,691
412011	Cashiers	2,510	2,510	0	120	0	14,370
131023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	190	230	1.93	10	21	41,056
319092	Medical Assistants	140	180	2.54	10	29	20,444
319091	Dental Assistants <sup>3</sup>	*	*	2.72	10	*	21,455
372012	Maids and Housekeeping Cleaners	840	910	0.8	30	8	13,869
519199	Production Workers, All Other <sup>3</sup>	*	*	1.24	15	*	*

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Unit, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

1 Employment is rounded to the nearest 10.

2 Average Annual Openings are rounded to the nearest 5.

3 Data is suppressed due to confidentiality standards.

## Selected Fast-Growing Occupations

### REGION 1

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2004	2014			
373019	Grounds Maintenance Workers, All Other	***	***	***	6.05	5
433011	Bill and Account Collectors	220	320	45.5	3.82	15
311011	Home Health Aides	520	740	42.3	3.59	25
292021	Dental Hygienists	160	210	31.3	2.76	5
131199	Business Operations Specialists, All Other	450	590	31.1	2.75	25
319091	Dental Assistants	***	***	***	2.72	10
252041	Special Educ. Teachers, Presch., Kinderg., & Elem. School	100	130	30.0	2.66	5
319092	Medical Assistants	140	180	28.6	2.54	10
251194	Vocational Education Teachers, Postsecondary	***	***	***	2.44	10
537064	Packers and Packagers, Hand	870	1,090	25.3	2.28	35
151041	Computer Support Specialists	***	***	***	2.26	15
514041	Machinists	410	510	24.4	2.21	20
112022	Sales Managers	130	160	23.1	2.10	5
519198	Helpers--Production Workers	800	980	22.5	2.05	40
291126	Respiratory Therapists	***	***	***	2.03	5
292041	Emergency Medical Technicians and Paramedics	***	***	***	2.03	10
212011	Clergy	280	340	21.4	1.96	10
291051	Pharmacists	140	170	21.4	1.96	10
131023	Purchasing Agents, Except Wholes., Retail, & Farm Prod.	190	230	21.1	1.93	10
533032	Truck Drivers, Heavy and Tractor-Trailer	1,730	2,090	20.8	1.91	65
211022	Medical and Public Health Social Workers	150	180	20.0	1.84	5
291111	Registered Nurses	1,630	1,940	19.0	1.76	65
292052	Pharmacy Technicians	270	320	18.5	1.71	10

Selection Criteria: Annual growth rate of at least 1.70%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### REGION 1

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
516031	Sewing Machine Operators**	540	320	-220
514031	Cutting, Punching, and Press Machine Setters, Oper. & Tend., Metal and Plastic**	430	350	-80
434151	Order Clerks**	120	90	-30
435041	Meter Readers, Utilities**	40	20	-20
514035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	90	70	-20
452011	Agricultural Inspectors	20	10	-10
452041	Graders and Sorters, Agricultural Products	20	10	-10
373012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	30	20	-10
439051	Mail Clerks and Mail Machine Operators, Except Postal Service**	30	20	-10
439011	Computer Operators**	40	30	-10
454011	Forest and Conservation Workers	50	40	-10
516063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders**	***	***	***
434071	File Clerks**	***	***	***
516051	Sewers, Hand	***	***	***
516064	Textile Winding, Twisting, and Drawing Out Machine Setters, Oper. & Tend.**	***	***	***
514033	Grinding, Lapping, Polishing, & Buffing Machine Tool Setters, Oper. & Tend.,	***	***	***
514052	Pourers and Casters, Metal	***	***	***
516062	Textile Cutting Machine Setters, Operators, and Tenders	***	***	***
434061	Eligibility Interviewers, Government Programs	***	***	***
514051	Metal-Refining Furnace Operators and Tenders	***	***	***
519132	Photographic Processing Machine Operators**	***	***	***
534021	Railroad Brake, Signal, and Switch Operators	***	***	***
492022	Telecommunications Equipment Installers and Repairers, Except Line Installers	***	***	***
514193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10 and a drop of at least 20% over the period.  
Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

**Top 20 Occupations by Avg. Hourly Wage**

Associate Degree and Under

WIA Region 1

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings	Education & Training Code	Average Hourly Wage	Average Entry Hourly Wage	Experienced Entry Hourly Wage
41-4011	Sales Representatives, Wholesale & Manufacturing, Technical & Scientific Products	40	40	0	0.00	0	10	\$35.14	\$16.98	\$44.22
11-9199	Managers, All Other	540	560	20	0.36	10	8	\$34.38	\$21.01	\$41.06
11-3051	Industrial Production Managers	130	150	20	1.44	5	8	\$31.65	\$18.84	\$38.05
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	220	230	10	0.45	5	8	\$31.61	\$17.66	\$38.58
49-9069	Precision Instrument and Equipment Repairers, All Other	30	30	0	0.00	0	10	\$30.74	\$25.49	\$33.36
11-9131	Postmasters and Mail Superintendents	30	30	0	0.00	0	8	\$25.97	\$21.09	\$28.40
49-9099	Installation, Maintenance, and Repair Workers, All Other	360	370	10	0.27	10	10	\$25.72	\$20.98	\$28.09
11-3071	Transportation, Storage, and Distribution Managers	50	60	10	1.84	0	8	\$25.42	\$16.33	\$29.97
13-1031	Claims Adjusters, Examiners, & Investigators	70	80	10	1.34	0	9	\$23.84	\$12.82	\$29.35
41-4012	Sales Representatives, Wholesale & Manuf., Except Technical & Scientific Products	700	790	90	1.22	30	10	\$23.32	\$12.30	\$28.83
47-1011	First-Line Supervisors/Managers of Constr. Trades & Extraction Workers	650	690	40	0.60	15	8	\$22.51	\$14.91	\$26.31
29-1111	Registered Nurses	1,630	1,940	310	1.76	65	6	\$22.35	\$16.97	\$25.04
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	340	380	40	1.12	15	8	\$22.20	\$13.99	\$26.31
33-1012	First-Line Supervisors/Managers of Police & Detectives	50	50	0	0.00	0	8	\$21.99	\$15.78	\$25.09
13-1051	Cost Estimators	120	140	20	1.55	5	8	\$21.97	\$15.59	\$25.16
17-3023	Electrical & Electronic Engineering Technicians	50	50	0	0.00	0	6	\$21.57	\$16.99	\$23.86
43-5051	Postal Service Clerks	60	60	0	0.00	0	11	\$21.02	\$17.62	\$22.72
43-5052	Postal Service Mail Carriers	300	300	0	0.00	10	11	\$20.23	\$14.69	\$23.01
53-1031	First-Line Supervisors/Managers of Transp. & Material-Moving Machine & Vehicle Operators	210	230	20	0.91	5	8	\$19.92	\$13.27	\$23.25
11-9061	Funeral Directors	50	60	10	1.84	0	6	\$19.91	\$12.46	\$23.64

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

<sup>3</sup> In cases where the occupation's employment information is published but the wage data is confidential, the wage field contains asterisks.

<sup>4</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>5</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training;

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>6</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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**Top 20 Occupations by Avg. Annual Job Openings** <sup>1</sup>

Associate Degree and Under

WIA Region 1 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
41-2031	Retail Salespersons	2,630	3,000	370	1.32	130	11	\$10.12	\$6.37	\$11.99
41-2011	Cashiers	2,510	2,510	0	0.00	120	11	\$6.91	\$5.89	\$7.42
51-2092	Team Assemblers	2,580	3,050	470	1.69	110	10	\$9.46	\$7.37	\$10.51
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	1,870	2,170	300	1.50	90	11	\$10.43	\$6.78	\$12.25
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	1,840	1,950	110	0.58	90	11	\$6.24	\$5.93	\$6.40
35-3031	Waiters and Waitresses	1,140	1,220	80	0.68	70	11	\$6.06	\$5.88	\$6.15
53-3032	Truck Drivers, Heavy and Tractor-Trailer	1,730	2,090	360	1.91	65	10	\$12.51	\$7.67	\$14.94
29-1111	Registered Nurses	1,630	1,940	310	1.76	65	6	\$22.35	\$16.97	\$25.04
43-9061	Office Clerks, General	1,980	2,190	210	1.01	65	11	\$9.21	\$6.35	\$10.64
47-2031	Carpenters	1,680	1,910	230	1.29	50	9	\$13.97	\$9.31	\$16.30
51-9198	Helpers--Production Workers	800	980	180	2.05	40	11	\$10.54	\$6.89	\$12.36
37-2011	Housekeeping Cleaners	1,230	1,380	150	1.16	40	11	\$9.21	\$6.52	\$10.55
43-3071	Tellers	690	730	40	0.57	40	11	\$9.47	\$7.52	\$10.44
53-7064	Packers and Packagers, Hand	870	1,090	220	2.28	35	11	\$8.19	\$5.92	\$9.32
31-1012	Nursing Aides, Orderlies, and Attendants	1,300	1,490	190	1.37	35	7	\$8.20	\$7.12	\$8.74
51-3022	Meat, Poultry, & Fish Cutters & Trimmers	910	1,040	130	1.34	35	11	***	***	***
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	1,080	1,180	100	0.89	35	8	\$17.70	\$11.47	\$20.81
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	1,500	1,580	80	0.52	35	8	\$13.04	\$8.61	\$15.26
43-6014	Secretaries, Except Legal, Medical, & Executive	1,710	1,680	(30)	-0.18	35	10	\$10.81	\$7.73	\$12.36
43-5081	Stock Clerks and Order Fillers	970	880	(90)	-0.97	35	11	\$8.95	\$6.36	\$10.25

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

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6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training; 10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

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# Top 20 Occupations by Avg. Annual Growth Rate <sup>1</sup>

## Associate Degree and Under

### WIA Region 1 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
13-1061	Emergency Management Specialists	10	20	10	7.18	0	8	***	***	***
49-9094	Locksmiths and Safe Repairers	10	20	10	7.18	0	10	***	***	***
37-3019	Grounds Maintenance Workers, All Other	50	90	40	6.05	5	11	***	***	***
27-1012	Craft Artists	20	30	10	4.14	0	9	\$6.09	\$5.56	\$6.21
39-9099	Personal Care & Service Workers, All Other	20	30	10	4.14	0	11	\$6.20	\$5.79	\$6.41
35-9099	Food Preparation and Serving Related Workers, All Other	20	30	10	4.14	0	11	\$9.73	\$6.65	\$11.26
33-1021	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers	20	30	10	4.14	0	8	\$19.46	\$14.45	\$21.97
23-2011	Paralegals and Legal Assistants	20	30	10	4.14	0	6	***	***	***
27-1025	Interior Designers	20	30	10	4.14	0	6	***	***	***
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	20	30	10	4.14	0	10	***	***	***
51-9012	Separating, Filtering, Clarifying, Precipitating, & Still Machine Setters, Oper. & Tenders	20	30	10	4.14	0	10	***	***	***
51-2022	Electrical & Electronic Equipment Assemblers	20	30	10	4.14	0	11	***	***	***
43-3011	Bill and Account Collectors	220	320	100	3.82	15	11	\$11.89	\$9.04	\$13.31
31-1011	Home Health Aides	520	740	220	3.59	25	11	\$8.13	\$6.81	\$8.79
29-9099	Healthcare Practitioners and Technical Workers, All Other	50	70	20	3.42	0	7	\$11.70	\$8.04	\$11.17
31-2021	Physical Therapist Assistants	50	70	20	3.42	0	6	\$19.59	\$17.63	\$20.56
43-4121	Library Assistants, Clerical	30	40	10	2.92	0	11	\$9.41	\$6.65	\$10.80
47-2044	Tile and Marble Setters	30	40	10	2.92	0	9	\$14.76	\$9.79	\$17.24
43-9031	Desktop Publishers	30	40	10	2.92	0	7	***	***	***
49-3011	Aircraft Mechanics & Service Technicians	30	40	10	2.92	0	7	***	***	***

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training;

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenanced" wage data.

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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**REGION 2**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	400,480	463,360	62,880	15.70	1.47	16,410
110000	Management Occupations	23,720	27,070	3,350	14.12	1.33	770
130000	Business and Financial Operations Occupations	15,760	19,190	3,430	21.76	1.99	630
150000	Computer and Mathematical Science Occupations	11,950	17,290	5,340	44.69	3.76	695
170000	Architecture and Engineering Occupations	16,400	19,630	3,230	19.70	1.81	690
190000	Life, Physical, and Social Services Occupations	2,580	2,960	380	14.73	1.38	105
210000	Community and Social Services Occupaitons	4,130	5,280	1,150	27.85	2.49	195
230000	Legal Occupations	1,700	2,030	330	19.41	1.79	55
250000	Education, Training, and Library Occupations	18,330	22,670	4,340	23.68	2.15	815
270000	Art, Design, Entertainment, Sports, and Media Occ.	4,420	5,320	900	20.36	1.87	180
290000	Healthcare Practitioner and Technical Occ.	17,360	22,440	5,080	29.26	2.60	840
310000	Healthcare Support Occupations	8,340	11,330	2,990	35.85	3.11	430
330000	Protective Service Occupations	7,270	8,670	1,400	19.26	1.78	340
350000	Food Preparation and Serving Related Occ.	26,230	31,330	5,100	19.44	1.79	1,545
370000	Building & Grounds Cleaning & Maintenance Occ.	12,150	14,780	2,630	21.65	1.98	505
390000	Personal Care and Service Occupations	8,100	9,900	1,800	22.22	2.03	375
410000	Sales and Related Occupations	38,310	44,010	5,700	14.88	1.40	1,865
430000	Office and Administrative Support Occupations	55,480	61,060	5,580	10.06	0.96	1,965
450000	Farming, Fishing, and Forestry Occupations	5,340	4,890	-450	-8.43	-0.88	135
470000	Construction and Extraction Occupations	17,860	20,330	2,470	13.83	1.30	610
490000	Installation, Maint., and Repair Occupations	18,640	21,570	2,930	15.72	1.47	740
510000	Production Occupations	54,480	54,330	-150	-0.28	-0.03	1,670
530000	Transportation and Mat. Moving Occupations	31,970	37,310	5,340	16.70	1.56	1,270

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.



**Top 40 High Demand Occupations  
WORKFORCE INVESTMENT ADVISORY AREA 2**

SOC	Occupation	Employment <sup>1</sup>		Avg Annual Growth (%)	Avg Annual Openings <sup>2</sup>	10-YR Change (%)	Mean Annual Salary (\$)
		2004	2014				
291111	Registered Nurses	6,420	8,660	3.04	360	35	47,230
151051	Computer Systems Analysts	3,550	4,910	3.30	175	38	71,497
513022	Meat, Poultry, and Fish Cutters and Trimmers	6,130	7,810	2.45	305	27	18,088
151031	Computer Software Engineers, Applications	1,690	2,860	5.40	135	69	76,187
311011	Home Health Aides	1,800	2,820	4.59	130	57	15,012
412031	Retail Salespersons	12,220	14,850	1.97	710	22	21,286
533032	Truck Drivers, Heavy and Tractor-Trailer	7,090	8,830	2.22	290	25	34,718
131199	Business Operations Specialists, All Other	3,260	4,170	2.49	145	28	71,447
151032	Computer Software Engineers, Systems Software	1,190	2,090	5.79	100	76	83,193
353021	Combined Food Preparation & Serving Workers, Including Fast Food	7,980	9,690	1.96	515	21	13,249
434171	Receptionists and Information Clerks	2,180	2,840	2.68	120	30	19,670
372011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	5,380	6,620	2.10	225	23	17,538
399011	Child Care Workers	2,760	3,450	2.26	145	25	13,856
111021	General and Operations Managers	4,710	5,780	2.07	195	23	84,892
434051	Customer Service Representatives	2,700	3,400	2.33	110	26	26,069
493023	Automotive Service Technicians and Mechanics	2,440	3,060	2.29	130	25	28,722
252021	Elementary School Teachers, Except Special Education	3,260	4,020	2.12	145	23	39,867
131111	Management Analysts	1,850	2,360	2.46	75	28	69,417
259041	Teacher Assistants	3,770	4,580	1.97	155	21	14,700
319092	Medical Assistants	770	1,230	4.80	60	60	20,395
353031	Waiters and Waitresses	4,980	5,970	1.83	355	20	12,666
311012	Nursing Aides, Orderlies, and Attendants	3,470	4,240	2.02	120	22	17,533
372012	Maids and Housekeeping Cleaners	2,990	3,650	2.01	130	22	15,242
151041	Computer Support Specialists	1,050	1,410	2.99	50	34	36,077
537062	Laborers and Freight, Stock, and Material Movers, Hand	9,400	10,990	1.58	465	17	19,044
172011	Aerospace Engineers	2,340	2,870	2.06	115	23	86,025
352021	Food Preparation Workers	1,270	1,610	2.40	80	27	15,709
151071	Network and Computer Systems Administrators	660	1,090	5.14	50	65	54,666
212011	Clergy	1,150	1,480	2.55	60	29	36,050
113021	Computer and Information Systems Managers	770	1,080	3.44	45	40	87,800
414012	Sales Rep., Wholesale & Manuf., Except Technical & Scientific Products	2,690	3,250	1.91	125	21	52,410
119041	Engineering Managers	1,420	1,780	2.29	65	25	101,497
436011	Executive Secretaries and Administrative Assistants	1,870	2,290	2.05	75	22	41,528
252011	Preschool Teachers, Except Special Education	790	1,070	3.08	40	35	20,004
252031	Secondary Sch. Teachers, Exc. Special & Vocat. Educ.	2,310	2,790	1.91	115	21	40,868
292021	Dental Hygienists	670	960	3.66	35	43	36,466
373011	Landscaping and Groundskeeping Workers	2,240	2,710	1.92	95	21	19,879
412021	Counter and Rental Clerks	1,040	1,300	2.26	65	25	19,651
332011	Fire Fighters	860	1,110	2.58	50	29	31,845
439061	Office Clerks, General	7,100	8,200	1.45	265	15	21,314

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Unit, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

1 Employment is rounded to the nearest 10.

2 Average Annual Openings are rounded to the nearest 5.

## Selected Fast-Growing Occupations

### REGION 2

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2,004	2,014			
151032	Computer Software Engineers, Systems Software	1,190	2,090	75.6	5.79	100
151081	Network Systems and Data Communications Analysts	490	840	71.4	5.54	40
151031	Computer Software Engineers, Applications	1,690	2,860	69.2	5.40	135
151061	Database Administrators	180	300	66.7	5.24	10
151071	Network and Computer Systems Administrators	660	1,090	65.2	5.14	50
319092	Medical Assistants	770	1,230	59.7	4.80	60
311011	Home Health Aides	1,800	2,820	56.7	4.59	130
151011	Computer and Information Scientists, Research	***	***	***	4.26	20
312021	Physical Therapist Assistants	180	270	50.0	4.14	15
439031	Desktop Publishers	160	240	50.0	4.14	15
493011	Aircraft Mechanics and Service Technicians	160	240	50.0	4.14	10
499051	Electrical Power-Line Installers and Repairers	260	390	50.0	4.14	20
292021	Dental Hygienists	670	960	43.3	3.66	35
211014	Mental Health Counselors	120	170	41.7	3.54	10
319091	Dental Assistants	530	750	41.5	3.53	35
113021	Computer and Information Systems Managers	770	1,080	40.3	3.44	45
119031	Educ. Administrators, Preschool & Child Care Center/Prog.	100	140	40.0	3.42	10
172081	Environmental Engineers	230	320	39.1	3.36	15
251194	Vocational Education Teachers, Postsecondary	230	320	39.1	3.36	15
251032	Engineering Teachers, Postsecondary	130	180	38.5	3.31	10
151051	Computer Systems Analysts	3,550	4,910	38.3	3.30	175
399021	Personal and Home Care Aides	470	650	38.3	3.30	25
212021	Directors, Religious Activities and Education	340	470	38.2	3.29	15
292041	Emergency Medical Technicians and Paramedics	500	690	38.0	3.27	25
499098	Helpers--Installation, Maintenance, and Repair Workers	480	660	37.5	3.24	35
299099	Healthcare Practitioners and Technical Workers, All Other	190	260	36.8	3.19	10
131071	Employment, Recruitment, and Placement Specialists	220	300	36.4	3.15	15
291123	Physical Therapists	250	340	36.0	3.12	15
252011	Preschool Teachers, Except Special Education	790	1,070	35.4	3.08	40
211093	Social and Human Service Assistants	680	920	35.3	3.07	35
292032	Diagnostic Medical Sonographers	200	270	35.0	3.05	10
291111	Registered Nurses	6,420	8,660	34.9	3.04	360
399031	Fitness Trainers and Aerobics Instructors	260	350	34.6	3.02	15
435061	Production, Planning, and Expediting Clerks	***	***	***	3.01	80

Selection Criteria: At least an annual growth rate of 3.00%.

Employment level data is rounded to the nearest 10 and openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### REGION 2

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
516063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders**	2,220	1,000	-1,220
516031	Sewing Machine Operators**	2,730	1,790	-940
516064	Textile Winding, Twisting, & Drawing Out Machine Setters, Oper. & Tend.**	1,210	780	-430
516099	Textile, Apparel, and Furnishings Workers, All Other	680	370	-310
516091	Extruding & Forming Machine Setters, Oper. & Tend, Synthetic & Glass Fibers	760	530	-230
434151	Order Clerks**	790	600	-190
434071	File Clerks**	660	480	-180
516061	Textile Bleaching and Dyeing Machine Operators and Tenders	210	110	-100
518091	Chemical Plant and System Operators**	380	290	-90
439011	Computer Operators**	390	310	-80
434041	Credit Authorizers, Checkers, and Clerks**	160	90	-70
435041	Meter Readers, Utilities**	200	130	-70
439051	Mail Clerks and Mail Machine Operators, Except Postal Service**	200	130	-70
454011	Forest and Conservation Workers	170	140	-30
517041	Sawing Machine Setters, Operators, and Tenders, Wood	210	180	-30
516092	Fabric and Apparel Patternmakers	30	20	-10
172021	Agricultural Engineers	40	30	-10
515011	Bindery Workers	50	40	-10
517021	Furniture Finishers	50	40	-10
439071	Office Machine Operators, Except Computer**	70	60	-10
518021	Stationary Engineers and Boiler Operators	70	60	-10
519131	Photographic Process Workers	70	60	-10
516062	Textile Cutting Machine Setters, Operators, and Tenders	***	***	***
519132	Photographic Processing Machine Operators**	***	***	***
534013	Rail Yard Engineers, Dinkey Operators, and Hostlers	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10 and a 14% drop over the period.

Data is rounded to nearest 10.

\*\* Qualify among the occupations with the largest job decline in the 2004-2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

**Top 20 Occupations by Avg. Hourly Wage<sup>1</sup>**

**Associate Degree and Under**

**WIA Region 2<sup>2</sup>**

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
11-9199	Managers, All Other	2,220	2,490	270	1.15	70	8	\$39.70	\$23.16	\$47.97
41-9022	Real Estate Sales Agents	690	780	90	1.23	25	7	\$35.58	\$16.41	\$45.17
11-3051	Industrial Production Managers	570	580	10	0.17	10	8	\$35.56	\$21.62	\$42.53
17-3021	Aerospace Engineering & Operations Technicians	190	220	30	1.48	5	6	\$32.09	\$20.70	\$37.78
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	1,910	2,210	300	1.47	80	8	\$29.25	\$17.55	\$35.09
15-1099	Computer Specialists, All Other	550	710	160	2.59	20	6	\$28.49	\$14.57	\$35.45
11-3071	Transportation, Storage, and Distribution Managers	210	270	60	2.54	10	8	\$28.27	\$15.39	\$34.72
49-9069	Precision Instrument and Equipment Repairers, All Other	280	310	30	1.02	15	10	\$27.66	\$19.36	\$31.81
29-2033	Nuclear Medicine Technologists	60	70	10	1.55	0	6	\$27.35	\$22.49	\$29.78
43-4199	Information and Record Clerks, All Other	1,630	1,530	(100)	-0.63	25	11	\$27.26	\$13.38	\$34.20
11-9131	Postmasters and Mail Superintendents	80	90	10	1.18	0	8	\$27.04	\$22.21	\$29.46
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	880	950	70	0.77	20	8	\$26.60	\$14.88	\$32.46
17-3029	Engineering Technicians, Except Drafters, All Other	870	1,030	160	1.70	35	6	\$25.44	\$15.05	\$30.63
41-4012	Sales Representatives, Wholesale & Manuf., Except Technical & Scientific Products	2,690	3,250	560	1.91	125	10	\$25.20	\$12.90	\$31.35
33-1012	First-Line Supervisors/Managers of Police and Detectives	170	200	30	1.64	10	8	\$24.40	\$17.59	\$27.81
19-4099	Life, Physical, and Social Science Technicians, All Other	310	380	70	2.06	10	6	\$24.38	\$17.09	\$28.02
41-4011	Sales Representatives, Wholesale & Manuf., Technical & Scientific Products	860	960	100	1.11	35	10	\$24.17	\$12.64	\$29.93
29-2032	Diagnostic Medical Sonographers	200	270	70	3.05	10	6	\$23.54	\$17.05	\$26.78
13-1051	Cost Estimators	600	760	160	2.39	30	8	\$23.43	\$13.06	\$28.62
17-3012	Electrical and Electronics Drafters	250	260	10	0.39	5	7	\$23.42	\$14.58	\$27.85

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

<sup>3</sup> In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>4</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>5</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training;

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>6</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Job Openings <sup>1</sup>

Associate Degree and Under  
WIA Region 2 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
41-2031	Retail Salespersons	12,220	14,850	2,630	1.97	710	11	\$10.23	\$6.41	\$12.15
41-2011	Cashiers	10,010	11,080	1,070	1.02	590	11	\$7.48	\$5.90	\$8.27
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	7,980	9,690	1,710	1.96	515	11	\$6.37	\$5.91	\$6.60
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	9,400	10,990	1,590	1.58	465	11	\$9.16	\$6.68	\$10.39
29-1111	Registered Nurses	6,420	8,660	2,240	3.04	360	6	\$22.71	\$17.13	\$25.49
35-3031	Waiters and Waitresses	4,980	5,970	990	1.83	355	11	\$6.09	\$5.90	\$6.18
51-3022	Meat, Poultry, & Fish Cutters & Trimmers	6,130	7,810	1,680	2.45	305	11	\$20.00	\$13.67	\$23.17
53-3032	Truck Drivers, Heavy and Tractor-Trailer	7,090	8,830	1,740	2.22	290	10	\$16.69	\$10.25	\$19.91
43-9061	Office Clerks, General	7,100	8,200	1,100	1.45	265	11	\$10.25	\$7.08	\$11.83
51-2092	Team Assemblers	5,750	6,540	790	1.30	230	10	\$11.67	\$7.20	\$13.90
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	5,380	6,620	1,240	2.10	225	11	\$8.43	\$6.00	\$9.65
43-5081	Stock Clerks and Order Fillers	4,960	4,720	(240)	-0.49	185	11	\$9.76	\$6.76	\$11.26
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	5,610	6,240	630	1.07	160	8	\$14.92	\$9.62	\$17.57
25-9041	Teacher Assistants	3,770	4,580	810	1.97	155	11	***	***	***
43-3031	Bookkeeping, Accounting, & Auditing Clerks	4,750	5,390	640	1.27	155	10	\$12.94	\$9.06	\$14.89
43-6014	Secretaries, Except Legal, Medical, and Executive	6,570	6,790	220	0.33	145	10	\$11.80	\$8.41	\$13.49
39-9011	Child Care Workers	2,760	3,450	690	2.26	145	11	\$6.66	\$5.93	\$7.03
43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	3,970	4,530	560	1.33	140	8	\$19.27	\$11.96	\$22.93
49-3023	Automotive Service Technicians and Mechanics	2,440	3,060	620	2.29	130	7	\$13.81	\$8.50	\$16.46
37-2012	Maids and Housekeeping Cleaners	2,990	3,650	660	2.01	130	11	\$7.33	\$5.89	\$8.04

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training  
10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855.

**Top 20 Occupations by Avg. Annual Growth Rate <sup>1</sup>**

Associate Degree and Under  
WIA Region 2 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
19-4092	Forensic Science Technicians	30	50	20	5.24	0	6	\$22.31	\$17.62	\$24.66
31-9092	Medical Assistants	770	1,230	460	4.80	60	10	\$9.81	\$7.28	\$11.07
31-1011	Home Health Aides	1,800	2,820	1,020	4.59	130	11	\$7.22	\$5.86	\$7.89
49-9051	Electrical Power-Line Installers & Repairers	260	390	130	4.14	20	9	\$23.07	\$19.12	\$25.04
43-9031	Desktop Publishers	160	240	80	4.14	15	7	***	***	***
31-2021	Physical Therapist Assistants	180	270	90	4.14	15	6	\$19.61	\$16.10	\$21.36
49-3011	Aircraft Mechanics & Service Technicians	160	240	80	4.14	10	7	\$18.24	\$12.88	\$20.91
31-2011	Occupational Therapist Assistants	40	60	20	4.14	0	6	\$19.25	\$17.25	\$20.25
27-3091	Interpreters and Translators	20	30	10	4.14	0	9	\$15.56	\$11.21	\$17.74
29-2056	Veterinary Technologists & Technicians	90	130	40	3.75	5	6	\$10.48	\$8.00	\$11.71
27-2032	Choreographers	160	230	70	3.70	20	8	\$15.81	\$9.35	\$19.03
29-2021	Dental Hygienists	670	960	290	3.66	35	6	\$17.53	\$13.13	\$19.73
31-9091	Dental Assistants	530	750	220	3.53	35	10	\$13.03	\$7.99	\$15.55
27-3099	Media & Communication Workers, All Other	50	70	20	3.42	0	9	\$19.16	\$7.67	\$24.91
39-9021	Personal and Home Care Aides	470	650	180	3.30	25	11	\$7.54	\$6.34	\$8.14
29-2041	Emergency Medical Technicians & Paramedics	500	690	190	3.27	25	7	\$12.47	\$8.31	\$14.55
49-9098	Helpers--Installation, Maintenance, and Repair Workers	480	660	180	3.24	35	11	\$8.90	\$6.61	\$10.05
31-2022	Physical Therapist Aides	80	110	30	3.24	5	11	\$9.46	\$8.00	\$10.19
29-9099	Healthcare Practitioners and Technical Workers, All Other	190	260	70	3.19	10	7	\$19.83	\$9.15	\$25.16
25-2011	Preschool Teachers, Except Special Education	790	1,070	280	3.08	40	7	\$9.62	\$7.28	\$10.78

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855

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# Region 3



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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**REGION 3**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	115,750	132,530	16,780	14.50	1.36	4,550
110000	Management Occupations	6,310	7,060	750	11.89	1.13	195
130000	Business and Financial Operations Occupations	2,400	2,840	440	18.33	1.70	90
150000	Computer and Mathematical Science Occupations	730	920	190	26.03	2.34	30
170000	Architecture and Engineering Occupations	1,580	1,950	370	23.42	2.13	80
190000	Life, Physical, and Social Services Occupations	710	850	140	19.72	1.82	30
210000	Community and Social Services Occupaitons	1,690	2,040	350	20.71	1.90	65
230000	Legal Occupations	650	780	130	20.00	1.84	25
250000	Education, Training, and Library Occupations	7,400	8,990	1,590	21.49	1.97	315
270000	Art, Design, Entertainment, Sports, and Media Occ.	1,220	1,420	200	16.39	1.53	45
290000	Healthcare Practitioner and Technical Occ.	7,260	8,930	1,670	23.00	2.09	305
310000	Healthcare Support Occupations	3,100	3,910	810	26.13	2.35	125
330000	Protective Service Occupations	1,710	1,920	210	12.28	1.17	70
350000	Food Preparation and Serving Related Occ.	8,780	10,320	1,540	17.54	1.63	500
370000	Building & Grounds Cleaning & Maintenance Occ.	4,130	4,870	740	17.92	1.66	155
390000	Personal Care and Service Occupations	2,660	3,130	470	17.67	1.64	110
410000	Sales and Related Occupations	11,060	12,370	1,310	11.84	1.13	505
430000	Office and Administrative Support Occupations	16,420	17,660	1,240	7.55	0.73	535
450000	Farming, Fishing, and Forestry Occupations	1,770	1,670	-100	-5.65	-0.58	45
470000	Construction and Extraction Occupations	9,530	10,570	1,040	10.91	1.04	300
490000	Installation, Maint., and Repair Occupations	5,020	5,680	660	13.15	1.24	185
510000	Production Occupations	12,610	14,360	1,750	13.88	1.31	510
530000	Transportation and Mat. Moving Occupations	9,060	10,330	1,270	14.02	1.32	335

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.



**Top 40 High Demand Occupations  
WORKFORCE INVESTMENT ADVISORY AREA 3**

SOC	Occupation	Employment <sup>1</sup>		Avg Annual Growth (%)	Avg Annual Openings <sup>2</sup>	10-YR Change (%)	Mean Annual Salary (\$)
		2,004	2,014				
512092	Team Assemblers	3,370	4,940	3.90	240	47	26,768
291111	Registered Nurses <sup>3</sup>	*	*	2.48	*	*	*
311011	Home Health Aides	590	830	3.47	35	41	16,719
412031	Retail Salespersons	3,040	3,650	1.85	170	20	21,440
533032	Truck Drivers, Heavy and Tractor-Trailer	2,770	3,370	1.98	105	22	28,689
499042	Maintenance and Repair Workers, General	1,200	1,490	2.19	55	24	28,163
353021	Combined Food Prep. & Serving Workers, Including Fast Food	2,690	3,190	1.72	165	19	13,317
111021	General and Operations Managers	1,400	1,680	1.84	55	20	85,202
433011	Bill and Account Collectors	350	500	3.63	20	43	21,367
412021	Counter and Rental Clerks	420	550	2.73	30	31	16,804
353031	Waiters and Waitresses	1,600	1,900	1.73	110	19	12,448
372011	Janitors and Cleaners, Except Maids & Housekeeping Cleaners	1,850	2,200	1.75	70	19	17,512
251199	Postsecondary Teachers, All Other <sup>3</sup>	*	*	2.69	*	*	*
434171	Receptionists and Information Clerks	670	830	2.16	30	24	18,558
252011	Preschool Teachers, Except Special Education	310	420	3.08	15	35	14,830
212011	Clergy	370	470	2.42	20	27	51,607
311012	Nursing Aides, Orderlies, and Attendants	1,530	1,810	1.69	50	18	18,275
259041	Teacher Assistants	1,300	1,540	1.71	50	18	14,188
399011	Child Care Workers	870	1,040	1.80	40	20	13,725
319091	Dental Assistants	200	290	3.79	15	45	22,240
373011	Landscaping and Groundskeeping Workers	700	840	1.84	30	20	18,805
172141	Mechanical Engineers	160	240	4.14	15	50	96,569
352021	Food Preparation Workers	470	580	2.13	25	23	15,253
132011	Accountants and Auditors	620	750	1.92	25	21	42,941
352014	Cooks, Restaurant	600	720	1.84	30	20	16,802
372012	Maids and Housekeeping Cleaners	1,100	1,290	1.61	45	17	14,154
252021	Elementary School Teachers, Except Special Education	1,040	1,220	1.61	45	17	37,166
292061	Licensed Practical and Licensed Vocational Nurses	1,440	1,670	1.49	55	16	28,329
351012	First-Line Supervisors/Managers of Food Prepar. & Serving Workers	770	910	1.68	35	18	23,837
292034	Radiologic Technologists and Technicians	330	410	2.19	15	24	40,415
414012	Sales Representatives, Wholesale & Manuf., Except Technical & Scientific Products	760	890	1.59	35	17	45,343
292052	Pharmacy Technicians	340	420	2.14	15	24	21,346
172112	Industrial Engineers	160	230	3.70	10	44	59,250
272022	Coaches and Scouts	270	340	2.33	10	26	42,052
352011	Cooks, Fast Food	350	430	2.08	15	23	14,121
231011	Lawyers	470	570	1.95	15	21	84,344
259099	Education, Training, and Library Workers, All Other <sup>3</sup>	*	*	2.41	*	*	*
537062	Laborers and Freight, Stock, and Material Movers, Hand	1,670	1,860	1.08	75	11	19,127
436012	Legal Secretaries	240	300	2.26	10	25	25,990
472031	Carpenters	1,030	1,200	1.54	30	17	27,718
436013	Medical Secretaries <sup>3</sup>	*	*	2.26	*	*	25,267

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Unit, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

1 Employment is rounded to the nearest 10.

2 Average Annual Openings are rounded to the nearest 5.

3 Data is suppressed due to confidentiality standards.

## Selected Fast-Growing Occupations

### REGION 3

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2004	2014			
172199	Engineers, All Other	***	***	***	5.05	5
319092	Medical Assistants	90	140	55.6	4.52	5
151071	Network and Computer Systems Administrators	80	120	50.0	4.14	5
172141	Mechanical Engineers	160	240	50.0	4.14	15
512092	Team Assemblers	3,370	4,940	46.6	3.90	240
319091	Dental Assistants	200	290	45.0	3.79	15
172112	Industrial Engineers	160	230	43.8	3.70	10
151081	Network Systems and Data Communications Analysts	70	100	42.9	3.63	5
292021	Dental Hygienists	70	100	42.9	3.63	5
433011	Bill and Account Collectors	350	500	42.9	3.63	20
311011	Home Health Aides	590	830	40.7	3.47	35
151031	Computer Software Engineers, Applications	***	***	***	3.42	5
292071	Medical Records and Health Information Technicians	160	220	37.5	3.24	5
131079	Human Resources, Training, & Labor Rel. Specialists, All Oth.	110	150	36.4	3.15	5
212021	Directors, Religious Activities and Education	110	150	36.4	3.15	5
252011	Preschool Teachers, Except Special Education	310	420	35.5	3.08	15
172071	Electrical Engineers	120	160	33.3	2.92	5
251011	Business Teachers, Postsecondary	***	***	***	2.92	5
252041	Special Educ. Teachers, Preschool, Kinder., & Elem. School	120	160	33.3	2.92	10
399031	Fitness Trainers and Aerobics Instructors	***	***	***	2.92	10
412012	Gaming Change Persons and Booth Cashiers	***	***	***	2.92	5
412021	Counter and Rental Clerks	420	550	31.0	2.73	30
251199	Postsecondary Teachers, All Other	***	***	***	2.69	25
251032	Engineering Teachers, Postsecondary	***	***	***	2.66	5
291123	Physical Therapists	100	130	30.0	2.66	5
414011	Sales Reps., Wholesale & Manuf., Techn. & Scientific Products	100	130	30.0	2.66	10
292032	Diagnostic Medical Sonographers	***	***	***	2.54	5

Selection Criteria: Annual growth rate of at least 2.5%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### REGION 3

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
516031	Sewing Machine Operators**	290	230	-60
435071	Shipping, Receiving, and Traffic Clerks	550	490	-60
537063	Machine Feeders and Offbearers**	260	210	-50
517041	Sawing Machine Setters, Operators, and Tenders, Wood	190	150	-40
439011	Computer Operators**	100	70	-30
434071	File Clerks**	120	90	-30
519199	Production Workers, All Other	240	210	-30
439051	Mail Clerks and Mail Machine Operators, Except Postal Service**	60	40	-20
452093	Farmworkers, Farm and Ranch Animals	140	120	-20
452092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse**	170	150	-20
514194	Tool Grinders, Filers, and Sharpeners	30	20	-10
454011	Forest and Conservation Workers	40	30	-10
454023	Log Graders and Scalers	60	50	-10
434151	Order Clerks**	70	60	-10
434061	Eligibility Interviewers, Government Programs	80	70	-10
453011	Fishers and Related Fishing Workers	80	70	-10
516091	Extruding & Forming Machine Setters, Oper. & Tend., Synthetic and Glass Fibers	***	***	***
519196	Paper Goods Machine Setters, Operators, and Tenders	***	***	***
435041	Meter Readers, Utilities**	***	***	***
516099	Textile, Apparel, and Furnishings Workers, All Other	***	***	***
475081	Helpers--Extraction Workers	***	***	***
475061	Roof Bolters, Mining	***	***	***
492092	Electric Motor, Power Tool, and Related Repairers	***	***	***
516063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders**	***	***	***
536021	Parking Lot Attendants**	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10 and a 12% drop over the period.

Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

**Top 20 Occupations by Avg. Hourly Wage<sup>1</sup>**

Associate Degree and Under  
WIA Region 3<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
11-3051	Industrial Production Managers	150	180	30	1.84	10	8	35.58	26.11	40.31
41-4011	Sales Representatives, Wholesale & Manuf., Technical & Scientific Products	100	130	30	2.66	10	10	34.86	14.16	45.21
11-9199	Managers, All Other	620	650	30	0.47	15	8	30.24	21.30	34.70
11-3071	Transportation, Storage, & Distribution Managers	70	80	10	1.34	0	8	29.01	20.80	33.12
29-1124	Radiation Therapists	30	40	10	2.92	0	6	26.88	18.20	31.21
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	280	290	10	0.35	5	8	25.85	12.61	32.47
45-1011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers	140	140	0	0.00	5	8	24.36	22.99	25.05
11-9131	Postmasters & Mail Superintendents	50	50	0	0.00	0	8	24.24	19.75	26.48
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	440	480	40	0.87	15	8	24.03	16.66	27.71
17-3023	Electrical & Electronic Engineering Technicians	60	60	0	0.00	0	6	23.78	20.95	25.19
17-3029	Engineering Technicians, Except Drafters, All Other	20	30	10	4.14	0	6	23.00	14.47	27.26
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	870	990	120	1.30	35	8	22.78	15.08	26.64
47-1011	First-Line Supervisors/Managers of Construction Trades & Extraction Workers	1,070	1,190	120	1.07	30	8	22.32	14.44	26.26
41-4012	Sales Representatives, Wholesale & Manuf., Except Technical & Scientific Products	760	890	130	1.59	35	10	21.80	11.77	26.82
43-5051	Postal Service Clerks	70	70	0	0.00	0	11	21.67	17.16	23.92
49-3021	Automotive Body and Related Repairers	150	160	10	0.65	5	9	21.46	13.97	25.20
33-1099	First-Line Supervisors/Managers, Protective Service Workers, All Other	20	20	0	0.00	0	8	21.36	12.60	25.74
13-1031	Claims Adjusters, Examiners, & Investigators	40	50	10	2.26	0	9	\$21.02	\$13.15	\$24.95
53-1031	First-Line Supervisors/Managers of Transp. & Material-Moving Machine & Vehicle Operators	210	260	50	2.16	10	8	\$21.00	\$12.58	\$25.21
51-8013	Power Plant Operators	20	20	0	0.00	0	9	\$20.95	\$15.96	\$23.44

<sup>1</sup>This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup>The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup>Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup>Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training; 10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup>Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Job Openings<sup>1</sup>

Associate Degree and Under

WIA Region 3<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
51-2092	Team Assemblers	3,370	4,940	1,570	3.90	240	10	12.87	8.97	14.82
41-2031	Retail Salespersons	3,040	3,650	610	1.85	170	11	10.31	6.57	12.18
41-2011	Cashiers	3,190	3,350	160	0.49	170	11	7.08	5.88	7.69
35-3021	Combined Food Preparation & Serving Workers, Including Fast Food	2,690	3,190	500	1.72	165	11	6.40	5.89	6.66
35-3031	Waiters and Waitresses	1,600	1,900	300	1.73	110	11	5.98	5.91	6.02
53-3032	Truck Drivers, Heavy & Tractor-Trailer	2,770	3,370	600	1.98	105	10	13.79	9.44	15.97
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	1,670	1,860	190	1.08	75	11	9.20	6.59	10.50
43-9061	Office Clerks, General	2,170	2,370	200	0.89	70	11	9.45	6.16	11.10
37-2011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	1,850	2,200	350	1.75	70	11	8.42	6.08	9.59
29-2061	Licensed Practical and Licensed Vocational Nurses	1,440	1,670	230	1.49	55	7	13.62	11.46	14.70
49-9042	Maintenance & Repair Workers, General	1,200	1,490	290	2.19	55	10	13.54	8.47	16.08
25-9041	Teacher Assistants	1,300	1,540	240	1.71	50	11	***	***	***
43-6014	Secretaries, Except Legal, Medical, & Executive	2,280	2,340	60	0.26	50	10	11.24	8.11	12.80
43-5081	Stock Clerks and Order Fillers	1,360	1,300	(60)	-0.45	50	11	9.35	6.20	10.92
31-1012	Nursing Aides, Orderlies, & Attendants	1,530	1,810	280	1.69	50	7	8.79	7.10	9.63
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	1,770	1,910	140	0.76	45	8	16.04	8.44	19.83
43-3031	Bookkeeping, Accounting, & Auditing Clerks	1,670	1,830	160	0.92	45	10	12.83	8.94	14.77
37-2012	Maids and Housekeeping Cleaners	1,100	1,290	190	1.61	45	11	\$6.80	\$5.93	\$7.24
47-2061	Construction Laborers	1,730	1,880	150	0.83	40	10	\$10.59	\$7.72	\$12.03
39-9011	Child Care Workers	870	1,040	170	1.80	40	11	\$6.60	\$5.96	\$6.92

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training  
10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi) or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Growth Rate<sup>1</sup>

Associate Degree and Under

WIA Region 3<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
51-9071	Jewelers & Precious Stone & Metal Workers	10	20	10	7.18	0	7	***	***	***
27-3091	Interpreters and Translators	10	20	10	7.18	0	9	19.01	10.64	23.19
39-5094	Skin Care Specialists	10	20	10	7.18	0	7	6.04	5.79	6.17
43-9031	Desktop Publishers	40	70	30	5.76	0	7	***	***	***
31-9092	Medical Assistants	90	140	50	4.52	5	10	10.74	9.36	11.43
17-3026	Industrial Engineering Technicians	20	30	10	4.14	0	6	***	***	***
35-9099	Food Preparation and Serving Related Workers, All Other	20	30	10	4.14	0	11	***	***	***
17-3029	Engineering Technicians, Except Drafters, All Other	20	30	10	4.14	0	6	23.00	14.47	27.26
29-9099	Healthcare Practitioners and Technical Workers, All Other	20	30	10	4.14	0	7	14.09	10.55	15.87
53-3041	Taxi Drivers and Chauffeurs	150	220	70	3.90	5	11	***	***	***
51-2092	Team Assemblers	3,370	4,940	1,570	3.90	240	10	12.87	8.97	14.82
31-9091	Dental Assistants	200	290	90	3.79	15	10	10.69	8.75	11.66
43-3011	Bill and Account Collectors	350	500	150	3.63	20	11	10.27	8.42	11.20
29-2021	Dental Hygienists	70	100	30	3.63	5	6	18.09	14.11	20.07
31-1011	Home Health Aides	590	830	240	3.47	35	11	8.04	6.00	9.05
31-2021	Physical Therapist Assistants	50	70	20	3.42	0	6	18.30	11.41	21.74
39-3091	Amusement and Recreation Attendants	50	70	20	3.42	0	11	6.32	5.81	6.58
29-2071	Medical Records and Health Information Technicians	160	220	60	3.24	5	6	\$12.38	\$8.18	\$14.48
25-2011	Preschool Teachers, Except Special Education	310	420	110	3.08	15	7	\$7.13	\$5.79	\$7.80
39-9099	Personal Care & Service Workers, All Other	60	80	20	2.92	0	11	***	***	***

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

<sup>3</sup> In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>4</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>5</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/limi](http://www.dir.alabama.gov/limi) or by calling 334-242-8855.

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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**REGION 4**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	114,070	146,630	32,560	28.54	2.54	6,070
110000	Management Occupations	6,580	8,200	1,620	24.62	2.23	285
130000	Business and Financial Operations Occupations	3,310	4,300	990	29.91	2.65	160
150000	Computer and Mathematical Science Occupations	1,300	2,070	770	59.23	4.76	95
170000	Architecture and Engineering Occupations	1,310	1,530	220	16.79	1.56	50
190000	Life, Physical, and Social Services Occupations	410	470	60	14.63	1.38	15
210000	Community and Social Services Occupaitons	1,470	2,130	660	44.90	3.78	95
230000	Legal Occupations	990	1,250	260	26.26	2.36	35
250000	Education, Training, and Library Occupations	5,800	8,020	2,220	38.28	3.29	340
270000	Art, Design, Entertainment, Sports, and Media Occ.	1,250	1,570	320	25.60	2.31	55
290000	Healthcare Practitioner and Technical Occ.	5,810	8,610	2,800	48.19	4.01	395
310000	Healthcare Support Occupations	2,290	3,340	1,050	45.85	3.85	140
330000	Protective Service Occupations	1,720	2,180	460	26.74	2.40	90
350000	Food Preparation and Serving Related Occ.	8,300	11,540	3,240	39.04	3.35	650
370000	Building & Grounds Cleaning & Maintenance Occ.	3,950	5,400	1,450	36.71	3.18	225
390000	Personal Care and Service Occupations	3,240	4,650	1,410	43.52	3.68	220
410000	Sales and Related Occupations	14,280	17,690	3,410	23.88	2.16	805
430000	Office and Administrative Support Occupations	17,060	20,410	3,350	19.64	1.81	765
450000	Farming, Fishing, and Forestry Occupations	1,240	1,200	-40	-3.23	-0.33	30
470000	Construction and Extraction Occupations	8,210	10,360	2,150	26.19	2.35	385
490000	Installation, Maint., and Repair Occupations	6,520	8,420	1,900	29.14	2.59	335
510000	Production Occupations	10,680	13,030	2,350	22.00	2.01	515
530000	Transportation and Mat. Moving Occupations	8,370	10,260	1,890	22.58	2.06	380

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.



**Top 40 High Demand Occupations**  
**WORKFORCE INVESTMENT ADVISORY AREA 4**

SOC	Occupation	Employment <sup>1</sup>		Avg	Avg Annual	10-YR	Annual Mean
		2004	2014	Annual	Openings <sup>2</sup>	Change (%)	Salary (\$)
				Growth (%)			
512092	Team Assemblers	2,290	3,930	5.55	225	72	22,367
291111	Registered Nurses	1,830	2,850	4.53	140	56	50,482
399011	Child Care Workers	1,220	1,880	4.42	100	54	15,406
353021	Combined Food Preparation & Serving Workers, Including Fast Food	2,040	2,850	3.40	170	40	13,173
353031	Waiters and Waitresses	1,490	2,110	3.54	135	42	13,396
111021	General and Operations Managers	1,920	2,620	3.16	105	36	92,385
292052	Pharmacy Technicians	440	690	4.60	30	57	20,892
412031	Retail Salespersons	3,420	4,570	2.94	240	34	20,876
252021	Elementary School Teachers, Except Special Education	1,210	1,710	3.52	75	41	37,908
259041	Teacher Assistants	1,370	1,910	3.38	80	39	14,554
434051	Customer Service Representatives	1,100	1,550	3.49	60	41	26,343
499021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	830	1,240	4.10	50	49	26,705
311011	Home Health Aides	470	780	5.20	35	66	15,345
372011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,710	2,300	3.01	90	35	17,403
372012	Maids and Housekeeping Cleaners	970	1,360	3.44	60	40	14,667
151031	Computer Software Engineers, Applications	330	650	7.01	35	97	74,549
352011	Cooks, Fast Food	860	1,210	3.47	60	41	13,196
212011	Clergy	410	650	4.72	35	59	33,437
291051	Pharmacists	370	640	5.63	30	73	82,889
352014	Cooks, Restaurant	620	900	3.80	50	45	16,665
319094	Medical Transcriptionists	210	350	5.24	20	67	24,542
434171	Receptionists and Information Clerks	870	1,210	3.35	55	39	20,108
252031	Secondary School Teachers, Except Special & Vocational Education	860	1,190	3.30	60	38	39,851
351012	First-Line Supervisors/Mngrs. of Food Preparation & Serving Workers	790	1,110	3.46	50	41	24,565
131111	Management Analysts	270	450	5.24	25	67	58,582
433011	Bill and Account Collectors	270	440	5.00	20	63	27,310
352021	Food Preparation Workers	460	670	3.83	35	46	15,708
373011	Landscaping and Groundskeeping Workers	810	1,130	3.39	50	40	20,393
311012	Nursing Aides, Orderlies, and Attendants	860	1,150	2.95	40	34	17,855
399021	Personal and Home Care Aides	240	380	4.70	20	58	14,661
493023	Automotive Service Technicians and Mechanics	930	1,220	2.75	55	31	29,640
252022	Middle School Teachers, Except Special and Vocational Education	650	880	3.08	40	35	43,643
412011	Cashiers	3,490	4,210	1.89	240	21	15,300
414012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	1,460	1,830	2.28	75	25	45,496
499042	Maintenance and Repair Workers, General	1,100	1,450	2.80	55	32	30,081
292061	Licensed Practical and Licensed Vocational Nurses	850	1,160	3.16	50	36	28,255
353022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	410	560	3.17	40	37	14,902
392021	Nonfarm Animal Caretakers	250	380	4.28	20	52	16,172
292041	Emergency Medical Technicians and Paramedics	190	330	5.68	15	74	24,582
252011	Preschool Teachers, Except Special Education	210	330	4.62	15	57	20,724

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Unit, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

<sup>1</sup> Employment is rounded to the nearest 10.

<sup>2</sup> Average Annual Openings are rounded to the nearest 5.

## Selected Fast-Growing Occupations

### REGION 4

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2004	2014			
151032	Computer Software Engineers, Systems Software	100	210	110.0	7.70	10
151031	Computer Software Engineers, Applications	330	650	97.0	7.01	35
151081	Network Systems and Data Communications Analysts	90	170	88.9	6.57	10
151071	Network and Computer Systems Administrators	80	140	75.0	5.76	5
211014	Mental Health Counselors	80	140	75.0	5.76	5
533011	Ambul. Drivers & Attendants, Exc. Emerg. Med. Techn.	***	***	***	5.76	5
292041	Emergency Medical Technicians and Paramedics	190	330	73.7	5.68	15
291051	Pharmacists	370	640	73.0	5.63	30
512092	Team Assemblers	2,290	3,930	71.6	5.55	225
292021	Dental Hygienists	***	***	***	5.45	5
131111	Management Analysts	270	450	66.7	5.24	25
212021	Directors, Religious Activities and Education	120	200	66.7	5.24	10
319092	Medical Assistants	***	***	***	5.24	5
319094	Medical Transcriptionists	210	350	66.7	5.24	20
311011	Home Health Aides	470	780	66.0	5.20	35
319091	Dental Assistants	***	***	***	5.02	15
433011	Bill and Account Collectors	270	440	63.0	5.00	20
439031	Desktop Publishers	50	80	60.0	4.81	5
212011	Clergy	410	650	58.5	4.72	35
399021	Personal and Home Care Aides	240	380	58.3	4.70	20
112031	Public Relations Managers	70	110	57.1	4.62	5
252011	Preschool Teachers, Except Special Education	210	330	57.1	4.62	15
252041	Special Educ. Teachers, Presch., Kinder., & Elem. School	***	***	***	4.62	15
292056	Veterinary Technologists and Technicians	70	110	57.1	4.62	5
292052	Pharmacy Technicians	440	690	56.8	4.60	30
291111	Registered Nurses	1,830	2,850	55.7	4.53	140
399011	Child Care Workers	1,220	1,880	54.1	4.42	100

Selection Criteria: Annual growth rate of at least 4.40%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

**Top 20 Occupations by Avg. Hourly Wage**  
Associate Degree and Under  
WIA Region 4<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
11-9199	Managers, All Other	620	700	80	1.22	20	8	\$39.84	\$24.92	\$47.29
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	880	1,010	130	1.39	30	8	\$37.71	\$20.87	\$46.13
33-1099	First-Line Supervisors/Managers, Protective Service Workers, All Other	40	40	0	0.00	0	8	\$37.27	\$12.63	\$49.60
41-4011	Sales Representatives, Wholesale & Manuf., Technical & Scientific Products	280	370	90	2.83	15	10	\$34.34	\$19.05	\$41.98
11-3071	Transportation, Storage, & Distribution Managers	30	30	0	0.00	0	8	\$28.39	\$20.42	\$32.38
11-3051	Industrial Production Managers	130	150	20	1.44	5	8	\$27.45	\$19.21	\$31.56
11-9131	Postmasters and Mail Superintendents	50	50	0	0.00	0	8	\$26.44	\$21.29	\$29.02
11-9081	Lodging Managers	40	50	10	2.26	0	8	\$25.25	\$22.48	\$26.63
17-3023	Electrical & Electronic Engineering Technicians	120	130	10	0.80	5	6	\$25.14	\$19.27	\$28.08
47-1011	First-Line Supervisors/Managers of Constr. Trades & Extraction Workers	1,090	1,360	270	2.24	50	8	\$24.67	\$16.57	\$28.72
49-9051	Electrical Power-Line Installers & Repairers	420	410	(10)	-0.24	15	9	\$24.37	\$20.17	\$26.48
33-1012	First-Line Supervisors/Managers of Police and Detectives	40	60	20	4.14	0	8	\$24.29	\$17.08	\$27.90
29-1111	Registered Nurses	1,830	2,850	1,020	4.53	140	6	\$24.27	\$18.11	\$27.35
33-1011	First-Line Supervisors/Managers of Correctional Officers	20	20	0	0.00	0	8	\$24.17	\$19.08	\$26.71
17-3012	Electrical and Electronics Drafters	20	20	0	0.00	0	7	\$23.81	\$22.73	\$24.35
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	180	210	30	1.55	10	8	\$23.78	\$15.11	\$28.11
13-1051	Cost Estimators	110	140	30	2.44	5	8	\$23.72	\$15.26	\$27.95
41-3099	Sales Representatives, Services, All Other	130	180	50	3.31	10	10	\$23.65	\$9.87	\$30.54
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	650	860	210	2.84	35	8	\$22.84	\$15.42	\$26.55
53-1031	First-Line Supervisors/Managers of Transp. & Material-Moving Machine & Vehicle Operators	160	230	70	3.70	10	8	\$22.54	\$14.93	\$26.34

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training; 10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/limi](http://www.dir.alabama.gov/limi), or by calling 334-242-8855

# Top 20 Occupations by Avg. Annual Job Openings<sup>1</sup>

Associate Degree and Under

WIA Region 3<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
51-2092	Team Assemblers	3,370	4,940	1,570	3.90	240	10	12.87	8.97	14.82
41-2031	Retail Salespersons	3,040	3,650	610	1.85	170	11	10.31	6.57	12.18
41-2011	Cashiers	3,190	3,350	160	0.49	170	11	7.08	5.88	7.69
35-3021	Combined Food Preparation & Serving Workers, Including Fast Food	2,690	3,190	500	1.72	165	11	6.40	5.89	6.66
35-3031	Waiters and Waitresses	1,600	1,900	300	1.73	110	11	5.98	5.91	6.02
53-3032	Truck Drivers, Heavy & Tractor-Trailer	2,770	3,370	600	1.98	105	10	13.79	9.44	15.97
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	1,670	1,860	190	1.08	75	11	9.20	6.59	10.50
43-9061	Office Clerks, General	2,170	2,370	200	0.89	70	11	9.45	6.16	11.10
37-2011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	1,850	2,200	350	1.75	70	11	8.42	6.08	9.59
29-2061	Licensed Practical and Licensed Vocational Nurses	1,440	1,670	230	1.49	55	7	13.62	11.46	14.70
49-9042	Maintenance & Repair Workers, General	1,200	1,490	290	2.19	55	10	13.54	8.47	16.08
25-9041	Teacher Assistants	1,300	1,540	240	1.71	50	11	***	***	***
43-6014	Secretaries, Except Legal, Medical, & Executive	2,280	2,340	60	0.26	50	10	11.24	8.11	12.80
43-5081	Stock Clerks and Order Fillers	1,360	1,300	(60)	-0.45	50	11	9.35	6.20	10.92
31-1012	Nursing Aides, Orderlies, & Attendants	1,530	1,810	280	1.69	50	7	8.79	7.10	9.63
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	1,770	1,910	140	0.76	45	8	16.04	8.44	19.83
43-3031	Bookkeeping, Accounting, & Auditing Clerks	1,670	1,830	160	0.92	45	10	12.83	8.94	14.77
37-2012	Maids and Housekeeping Cleaners	1,100	1,290	190	1.61	45	11	\$6.80	\$5.93	\$7.24
47-2061	Construction Laborers	1,730	1,880	150	0.83	40	10	\$10.59	\$7.72	\$12.03
39-9011	Child Care Workers	870	1,040	170	1.80	40	11	\$6.60	\$5.96	\$6.92

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training  
10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi) or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Growth Rate<sup>1</sup>

Associate Degree and Under

WIA Region 3<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
51-9071	Jewelers & Precious Stone & Metal Workers	10	20	10	7.18	0	7	***	***	***
27-3091	Interpreters and Translators	10	20	10	7.18	0	9	19.01	10.64	23.19
39-5094	Skin Care Specialists	10	20	10	7.18	0	7	6.04	5.79	6.17
43-9031	Desktop Publishers	40	70	30	5.76	0	7	***	***	***
31-9092	Medical Assistants	90	140	50	4.52	5	10	10.74	9.36	11.43
17-3026	Industrial Engineering Technicians	20	30	10	4.14	0	6	***	***	***
35-9099	Food Preparation and Serving Related Workers, All Other	20	30	10	4.14	0	11	***	***	***
17-3029	Engineering Technicians, Except Drafters, All Other	20	30	10	4.14	0	6	23.00	14.47	27.26
29-9099	Healthcare Practitioners and Technical Workers, All Other	20	30	10	4.14	0	7	14.09	10.55	15.87
53-3041	Taxi Drivers and Chauffeurs	150	220	70	3.90	5	11	***	***	***
51-2092	Team Assemblers	3,370	4,940	1,570	3.90	240	10	12.87	8.97	14.82
31-9091	Dental Assistants	200	290	90	3.79	15	10	10.69	8.75	11.66
43-3011	Bill and Account Collectors	350	500	150	3.63	20	11	10.27	8.42	11.20
29-2021	Dental Hygienists	70	100	30	3.63	5	6	18.09	14.11	20.07
31-1011	Home Health Aides	590	830	240	3.47	35	11	8.04	6.00	9.05
31-2021	Physical Therapist Assistants	50	70	20	3.42	0	6	18.30	11.41	21.74
39-3091	Amusement and Recreation Attendants	50	70	20	3.42	0	11	6.32	5.81	6.58
29-2071	Medical Records and Health Information Technicians	160	220	60	3.24	5	6	\$12.38	\$8.18	\$14.48
25-2011	Preschool Teachers, Except Special Education	310	420	110	3.08	15	7	\$7.13	\$5.79	\$7.80
39-9099	Personal Care & Service Workers, All Other	60	80	20	2.92	0	11	***	***	***

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

<sup>3</sup> In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>4</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>5</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/limi](http://www.dir.alabama.gov/limi) or by calling 334-242-8855.

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# Region 5



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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**REGION 5**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	169,860	187,020	17,160	10.10	1.00	6,180
110000	Management Occupations	8,590	9,410	820	9.55	0.92	235
130000	Business and Financial Operations Occupations	3,460	4,070	610	17.63	1.64	125
150000	Computer and Mathematical Science Occupations	950	1,250	300	31.58	2.78	45
170000	Architecture and Engineering Occupations	1,890	2,200	310	16.40	1.53	75
190000	Life, Physical, and Social Services Occupations	690	760	70	10.14	0.97	20
210000	Community and Social Services Occupaitons	2,350	2,780	430	18.30	1.69	90
230000	Legal Occupations	600	680	80	13.33	1.26	15
250000	Education, Training, and Library Occupations	9,820	11,440	1,620	16.50	1.54	370
270000	Art, Design, Entertainment, Sports, and Media Occ.	1,890	2,130	240	12.70	1.20	60
290000	Healthcare Practitioner and Technical Occ.	8,250	10,120	1,870	22.67	2.06	340
310000	Healthcare Support Occupations	3,560	4,390	830	23.31	2.12	140
330000	Protective Service Occupations	3,480	4,030	550	15.80	1.48	150
350000	Food Preparation and Serving Related Occ.	13,240	14,810	1,570	11.86	1.13	675
370000	Building & Grounds Cleaning & Maintenance Occ.	5,770	6,660	890	15.42	1.44	205
390000	Personal Care and Service Occupations	4,340	5,190	850	19.59	1.80	190
410000	Sales and Related Occupations	15,690	17,430	1,740	11.09	1.06	710
430000	Office and Administrative Support Occupations	22,770	23,920	1,150	5.05	0.49	705
450000	Farming, Fishing, and Forestry Occupations	2,150	2,010	-140	-6.51	-0.67	50
470000	Construction and Extraction Occupations	8,470	9,510	1,040	12.28	1.16	265
490000	Installation, Maint., and Repair Occupations	9,150	10,170	1,020	11.15	1.06	325
510000	Production Occupations	27,550	26,480	-1,070	-3.88	-0.40	795
530000	Transportation and Mat. Moving Occupations	15,200	17,580	2,380	15.66	1.47	600

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.

**Top 40 High Demand Occupations  
WORKFORCE INVESTMENT ADVISORY AREA 5**

SOC	Titles	Employment <sup>1</sup>		Avg Annual Growth (%)	Avg Annual Openings <sup>2</sup>	10-YR Change (%)	Mean Annual Salary (\$)
		2,004	2,014				
537062	Laborers and Freight, Stock, and Material Movers, Hand	5,080	6,170	1.96	275	21	21,335
291111	Registered Nurses	2,680	3,410	2.44	130	27	49,485
412031	Retail Salespersons	4,900	5,760	1.63	265	18	18,646
311011	Home Health Aides	610	880	3.73	35	44	15,783
533032	Truck Drivers, Heavy and Tractor-Trailer	3,100	3,620	1.56	100	17	31,683
434051	Customer Service Representatives	1,270	1,550	2.01	50	22	24,241
399011	Child Care Workers	1,580	1,890	1.81	75	20	14,268
111021	General and Operations Managers	1,960	2,300	1.61	70	17	77,468
372011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	2,510	2,920	1.52	90	16	17,926
399021	Personal and Home Care Aides <sup>3</sup>	*	*	3.96	25	*	17,393
353021	Combined Food Preparation and Serving Workers, Including Fast Food	4,190	4,750	1.26	235	13	13,070
252021	Elementary School Teachers, Except Special Education	1,890	2,200	1.53	70	16	37,576
131199	Business Operations Specialists, All Other	410	550	2.98	20	34	47,849
319092	Medical Assistants	320	460	3.70	20	44	19,638
493042	Mobile Heavy Equipment Mechanics, Except Engines	970	1,160	1.80	40	20	39,287
436011	Executive Secretaries and Administrative Assistants	860	1,040	1.92	35	21	36,463
434171	Receptionists and Information Clerks	810	980	1.92	35	21	19,661
259041	Teacher Assistants	2,210	2,530	1.36	75	14	15,748
292052	Pharmacy Technicians	490	630	2.54	20	29	20,137
332011	Fire Fighters	480	600	2.26	25	25	21,773
472061	Construction Laborers	1,810	2,080	1.40	50	15	20,975
414012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	960	1,120	1.55	40	17	50,142
472031	Carpenters	1,280	1,490	1.53	40	16	29,119
292041	Emergency Medical Technicians and Paramedics	300	400	2.92	15	33	20,795
352021	Food Preparation Workers	550	660	1.84	30	20	14,697
311012	Nursing Aides, Orderlies, and Attendants	1,780	2,040	1.37	50	15	17,672
353031	Waiters and Waitresses	2,570	2,870	1.11	160	12	12,524
212011	Clergy	580	710	2.04	20	22	31,656
252031	Secondary School Teachers, Except Special and Vocational Education	1,320	1,510	1.35	55	14	36,980
372012	Maids and Housekeeping Cleaners	1,520	1,740	1.36	50	14	14,815
373011	Landscaping and Groundskeeping Workers	1,000	1,160	1.50	35	16	18,211
493023	Automotive Service Technicians and Mechanics	1,060	1,220	1.42	45	15	26,152
512092	Team Assemblers	4,200	4,610	0.94	150	10	35,155
514121	Welders, Cutters, Solderers, and Brazers	1,000	1,150	1.41	45	15	30,817
292021	Dental Hygienists	260	350	3.02	10	35	35,367
412021	Counter and Rental Clerks	500	590	1.67	30	18	16,420
172141	Mechanical Engineers	310	380	2.06	20	23	53,901
492022	Telecommunications Equipment Installers and Repairers, Except Line Installers	330	410	2.19	15	24	40,365
291051	Pharmacists	350	430	2.08	15	23	85,352
333051	Police and Sheriff's Patrol Officers	960	1,100	1.37	40	15	29,398
351012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	1,240	1,410	1.29	45	14	23,097

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Units, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

1 Employment is rounded to the nearest 10.

2 Average Annual Openings are rounded to the nearest 5.

3 Data is suppressed due to confidentiality standards.



## Selected Fast-Growing Occupations

### REGION 5

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2004	2014			
151061	Database Administrators	60	100	66.7	5.24	5
512091	Fiberglass Laminators and Fabricators	***	***	***	4.91	15
291071	Physician Assistants	90	140	55.6	4.52	5
151071	Network and Computer Systems Administrators	140	210	50.0	4.14	5
399021	Personal and Home Care Aides	***	***	***	3.96	25
151081	Network Systems and Data Communications Analysts	110	160	45.5	3.82	5
311011	Home Health Aides	610	880	44.3	3.73	35
319092	Medical Assistants	320	460	43.8	3.70	20
291122	Occupational Therapists	***	***	***	3.23	5
339092	Lifeguards, Ski Patrol, & Oth. Recrea. Protect. Svc. Workers	***	***	***	3.15	15
291123	Physical Therapists	140	190	35.7	3.10	5
292021	Dental Hygienists	260	350	34.6	3.02	10
131199	Business Operations Specialists, All Other	410	550	34.1	2.98	20
292041	Emergency Medical Technicians and Paramedics	300	400	33.3	2.92	15
533011	Ambulance Drivers & Attendants, Except Emerg. Med. Techn.	90	120	33.3	2.92	5
151041	Computer Support Specialists	220	290	31.8	2.80	10
251194	Vocational Education Teachers, Postsecondary	160	210	31.3	2.76	10
172112	Industrial Engineers	230	300	30.4	2.69	10
251072	Nursing Instructors and Teachers, Postsecondary	100	130	30.0	2.66	5
319091	Dental Assistants	200	260	30.0	2.66	10
211014	Mental Health Counselors	***	***	***	2.66	5
212021	Directors, Religious Activities and Education	170	220	29.4	2.61	5
292052	Pharmacy Technicians	490	630	28.6	2.54	20
392021	Nonfarm Animal Caretakers	140	180	28.6	2.54	10
439031	Desktop Publishers	70	90	28.6	2.54	5
252041	Special Educ. Teachers, Presch., Kinderg., & Elem. School	220	280	27.3	2.44	10
291111	Registered Nurses	2,680	3,410	27.2	2.44	130
131073	Training and Development Specialists	190	240	26.3	2.36	10
131111	Management Analysts	280	350	25.0	2.26	10
332011	Fire Fighters	480	600	25.0	2.26	25

Selection Criteria: Annual growth rate of at least 2.25%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### REGION 5

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
516031	Sewing Machine Operators**	1,920	1,100	-820
516063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders**	950	360	-590
516064	Textile Winding, Twisting, and Drawing Out Machine Setters, Oper. & Tend.**	900	450	-450
519111	Packaging and Filling Machine Operators and Tenders	850	590	-260
499041	Industrial Machinery Mechanics	590	480	-110
516061	Textile Bleaching and Dyeing Machine Operators and Tenders	200	100	-100
434151	Order Clerks**	270	200	-70
434071	File Clerks**	130	80	-50
435041	Meter Readers, Utilities**	110	70	-40
439051	Mail Clerks and Mail Machine Operators, Except Postal Service**	110	70	-40
434041	Credit Authorizers, Checkers, and Clerks**	60	30	-30
516021	Pressers, Textile, Garment, and Related Materials	140	110	-30
439011	Computer Operators**	80	60	-20
271021	Commercial and Industrial Designers	30	20	-10
534013	Rail Yard Engineers, Dinkey Operators, and Hostlers	30	20	-10
435111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	40	30	-10
454011	Forest and Conservation Workers	60	50	-10
516051	Sewers, Hand	60	50	-10
516062	Textile Cutting Machine Setters, Operators, and Tenders	***	***	***
432021	Telephone Operators**	***	***	***
516091	Extruding & Forming Machine Setters, Oper. & Tend., Synthetic & Glass Fibers	***	***	***
517021	Furniture Finishers	***	***	***
519051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	***	***	***
439071	Office Machine Operators, Except Computer**	***	***	***
514032	Drilling and Boring Machine Tool Setters, Oper. & Tend., Metal and Plastic	***	***	***
516099	Textile, Apparel, and Furnishings Workers, All Other	***	***	***
519132	Photographic Processing Machine Operators**	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10, and a 16% decline over the period.

Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

**Top 20 Occupations by Avg. Hourly Wage**  
Associate Degree and Under  
WIA Region 5<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
11-9199	Managers, All Other	940	1,020	80	0.82	30	9	\$40.18	\$22.44	\$49.05
11-3071	Transp., Storage, & Distribution Managers	90	100	10	1.06	0	11	\$30.50	\$19.63	\$35.93
13-1031	Claims Adjusters, Examiners, & Investigators	80	90	10	1.18	0	11	\$28.59	\$17.08	\$34.35
29-1124	Radiation Therapists	20	20	0	0.00	0	7	\$27.87	\$24.36	\$29.63
11-3051	Industrial Production Managers	250	270	20	0.77	5	8	\$27.45	\$19.21	\$31.56
11-9131	Postmasters and Mail Superintendents	50	50	0	0.00	0	10	\$26.21	\$19.79	\$29.42
51-7042	Woodworking Machine Setters, Operators, & Tenders, Except Sawing	250	250	0	0.00	5	8	\$25.30	\$20.19	\$25.09
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	360	390	30	0.80	5	9	\$24.48	\$15.89	\$28.77
41-9099	Sales and Related Workers, All Other	70	80	10	1.34	0	8	\$24.12	\$9.23	\$31.56
41-4012	Sales Repres., Wholesale & Manuf., Except Technical & Scientific Products	960	1,120	160	1.55	40	11	\$24.11	\$13.16	\$29.58
49-9051	Electrical Power-Line Installers & Repairers	290	290	0	0.00	10	11	\$23.83	\$20.79	\$25.35
29-1111	Registered Nurses	2,680	3,410	730	2.44	130	11	\$23.79	\$17.95	\$26.71
17-3029	Engineering Technicians, Except Drafters, All Other	40	40	0	0.00	0	11	\$23.37	\$17.35	\$26.38
29-2033	Nuclear Medicine Technologists	30	30	0	0.00	0	11	\$23.24	\$18.40	\$25.65
33-1011	First-Line Supervisors/Managers of Correctional Officers	40	40	0	0.00	0	10	\$22.76	\$15.69	\$26.29
17-3023	Electrical & Electronic Engineering Technicians	120	130	10	0.80	5	10	\$22.68	\$16.58	\$25.73
53-1031	First-Line Supervisors/Managers of Transp. & Material-Moving Machine & Vehicle Operators	340	380	40	1.12	15	10	\$22.44	\$15.78	\$25.77
17-3013	Mechanical Drafters	40	40	0	0.00	0	11	\$22.38	\$13.88	\$26.62
13-1051	Cost Estimators	170	200	30	1.64	10	11	\$21.49	\$13.60	\$25.44
43-5051	Postal Service Clerks	90	90	0	0.00	0	6	\$21.44	\$17.85	\$23.24

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training;

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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**Top 20 Occupations by Avg. Annual Job Openings<sup>1</sup>**  
**Associate Degree and Under**  
**WIA Region 5<sup>2</sup>**

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	5,080	6,170	1,090	1.96	275	11	\$10.26	\$7.00	\$11.88
41-2031	Retail Salespersons	4,900	5,760	860	1.63	265	11	\$8.96	\$6.01	\$10.44
41-2011	Cashiers	4,410	4,640	230	0.51	240	8	\$6.96	\$5.88	\$7.50
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	4,190	4,750	560	1.26	235	8	\$6.28	\$5.90	\$6.47
35-3031	Waiters and Waitresses	2,570	2,870	300	1.11	160	10	\$6.02	\$5.92	\$6.07
51-2092	Team Assemblers	4,200	4,610	410	0.94	150	11	\$16.90	\$10.77	\$19.97
29-1111	Registered Nurses	2,680	3,410	730	2.44	130	11	\$23.79	\$17.95	\$26.71
53-3032	Truck Drivers, Heavy & Tractor-Trailer	3,100	3,620	520	1.56	100	10	\$15.23	\$9.89	\$17.90
37-2011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	2,510	2,920	410	1.52	90	11	\$8.62	\$5.99	\$9.93
43-9061	Office Clerks, General	3,020	3,190	170	0.55	80	11	\$10.08	\$6.95	\$11.65
25-9041	Teacher Assistants	2,210	2,530	320	1.36	75	11	***	***	***
39-9011	Child Care Workers	1,580	1,890	310	1.81	75	6	\$6.86	\$5.84	\$7.37
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	2,470	2,670	200	0.78	65	8	\$14.03	\$8.80	\$16.64
43-5081	Stock Clerks and Order Fillers	1,770	1,670	(100)	-0.58	65	7	\$9.62	\$6.51	\$11.18
49-9042	Maintenance & Repair Workers, General	1,960	2,170	210	1.02	60	7	\$14.66	\$9.24	\$17.38
51-9198	Helpers--Production Workers	1,890	1,930	40	0.21	60	10	\$9.40	\$7.50	\$10.36
43-3031	Bookkeeping, Accounting, & Auditing Clerks	2,020	2,180	160	0.77	55	11	\$11.92	\$8.69	\$13.54
43-6014	Secretaries, Except Legal, Medical, & Executive	2,860	2,860	0	0.00	55	11	\$11.73	\$8.55	\$13.32
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	1,790	1,870	80	0.44	50	10	\$20.85	\$13.62	\$24.47
43-1011	First-Line Supervisors/Managers of Office & Admin. Support Workers	1,670	1,830	160	0.92	50	6	\$20.41	\$11.45	\$24.89

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

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<sup>4</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>5</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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or by calling 334-242-8855.

**Top 20 Occupations by Avg. Annual Growth Rate<sup>1</sup>**  
Associate Degree and Under  
WIA Region 5<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
51-9194	Etchers and Engravers	10	20	10	7.18	0	11	\$9.15	\$8.05	\$9.70
39-5092	Manicurists and Pedicurists	20	30	10	4.14	0	11	***	***	***
27-2042	Musicians and Singers	20	30	10	4.14	0	11	***	***	***
33-9011	Animal Control Workers	20	30	10	4.14	0	11	\$11.00	\$7.84	\$12.57
31-1011	Home Health Aides	610	880	270	3.73	35	11	\$7.59	\$6.30	\$8.23
31-9092	Medical Assistants	320	460	140	3.70	20	6	\$9.44	\$7.50	\$10.41
29-2021	Dental Hygienists	260	350	90	3.02	10	11	\$17.00	\$10.88	\$20.06
29-2041	Paramedics	300	400	100	2.92	15	11	\$10.00	\$7.15	\$11.42
53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	90	120	30	2.92	5	10	\$6.30	\$5.94	\$6.48
51-4035	Operators, and Tenders, Metal and Plastic	30	40	10	2.92	0	8	\$17.26	\$13.59	\$19.09
19-4093	Forest and Conservation Technicians	30	40	10	2.92	0	10	\$14.39	\$10.20	\$16.48
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	30	40	10	2.92	0	11	\$12.87	\$9.32	\$14.65
29-2056	Technicians	30	40	10	2.92	0	11	\$11.20	\$7.74	\$12.92
15-1041	Computer Support Specialists	220	290	70	2.80	10	11	\$14.68	\$10.02	\$17.00
31-9091	Dental Assistants	200	260	60	2.66	10	10	\$12.64	\$8.08	\$14.91
29-2052	Pharmacy Technicians	490	630	140	2.54	20	10	\$9.68	\$7.16	\$10.94
39-2021	Nonfarm Animal Caretakers	140	180	40	2.54	10	11	\$6.95	\$5.93	\$7.47
43-9031	Desktop Publishers	70	90	20	2.54	5	10	***	***	***
39-9099	Personal Care and Service Workers, All Other	70	90	20	2.54	0	11	\$11.33	\$6.40	\$13.80
29-1111	Registered Nurses	2,680	3,410	730	2.44	130	11	\$23.79	\$17.95	\$26.71

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**REGION 6**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	43,590	42,310	-1,280	-2.94	-0.30	1,145
110000	Management Occupations	2,650	2,670	20	0.75	0.08	50
130000	Business and Financial Operations Occupations	700	680	-20	-2.86	-0.29	15
150000	Computer and Mathematical Science Occupations	150	150	0	0.00	0.00	0
170000	Architecture and Engineering Occupations	290	280	-10	-3.45	-0.35	5
190000	Life, Physical, and Social Services Occupations	210	200	-10	-4.76	-0.49	5
210000	Community and Social Services Occupaitons	710	760	50	7.04	0.68	20
230000	Legal Occupations	190	190	0	0.00	0.00	0
250000	Education, Training, and Library Occupations	3,020	3,010	-10	-0.33	-0.03	70
270000	Art, Design, Entertainment, Sports, and Media Occ.	370	350	-20	-5.41	-0.55	5
290000	Healthcare Practitioner and Technical Occ.	1,970	2,130	160	8.12	0.78	55
310000	Healthcare Support Occupations	960	1,010	50	5.21	0.51	20
330000	Protective Service Occupations	1,070	1,060	-10	-0.93	-0.09	30
350000	Food Preparation and Serving Related Occ.	2,340	2,300	-40	-1.71	-0.17	95
370000	Building & Grounds Cleaning & Maintenance Occ.	1,540	1,520	-20	-1.30	-0.13	30
390000	Personal Care and Service Occupations	910	930	20	2.20	0.22	25
410000	Sales and Related Occupations	3,770	3,580	-190	-5.04	-0.52	135
430000	Office and Administrative Support Occupations	5,680	5,260	-420	-7.39	-0.77	140
450000	Farming, Fishing, and Forestry Occupations	1,540	1,460	-80	-5.19	-0.53	35
470000	Construction and Extraction Occupations	2,420	2,280	-140	-5.79	-0.59	50
490000	Installation, Maint., and Repair Occupations	2,300	2,270	-30	-1.30	-0.13	55
510000	Production Occupations	7,220	6,700	-520	-7.20	-0.74	205
530000	Transportation and Mat. Moving Occupations	3,600	3,520	-80	-2.22	-0.22	85

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.

**Top 30 High Demand Occupations**  
**WORKFORCE INVESTMENT ADVISORY AREA 6**

SOC	Occupation	Employment <sup>1</sup>		Avg Annual Growth (%)	Avg Annual Openings <sup>2</sup>	10-YR Change (%)	Avg Annual Salary (\$)
		2004	2014				
291111	Registered Nurses	670	770	1.4	25	15	47,261
111021	General and Operations Managers	360	440	2.03	15	22	76,367
512092	Team Assemblers	460	520	1.23	15	13	19,988
511011	First-Line Supervisors/Managers of Production & Operating Workers	470	520	1.02	15	11	50,140
412031	Retail Salespersons	750	770	0.26	25	3	18,763
519121	Coating, Painting, & Spraying Machine Setters, Oper., & Tenders <sup>3</sup>	*	*	2.26	10	*	*
353021	Combined Food Preparation & Serving Workers, Including Fast Food	600	630	0.49	30	5	12,858
311012	Nursing Aides, Orderlies, and Attendants	600	640	0.65	15	7	17,122
514031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	80	250	12.07	15	213	25,088
433031	Bookkeeping, Accounting, and Auditing Clerks	670	680	0.15	15	1	24,143
259041	Teacher Assistants	710	710	0	15	0	14,433
533032	Truck Drivers, Heavy and Tractor-Trailer	730	730	0	10	0	28,450
399011	Child Care Workers	400	420	0.49	10	5	13,709
372011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	580	590	0.17	10	2	16,085
292061	Licensed Practical and Licensed Vocational Nurses	380	390	0.26	10	3	26,909
435071	Shipping, Receiving, and Traffic Clerks	160	180	1.18	5	13	29,914
436011	Executive Secretaries and Administrative Assistants	210	230	0.91	5	10	35,768
252021	Elementary School Teachers, Except Special Education	560	560	0	10	0	36,853
454022	Logging Equipment Operators	300	320	0.65	5	7	21,384
537064	Packers and Packagers, Hand	340	360	0.57	5	6	14,731
434051	Customer Service Representatives	380	400	0.51	5	5	23,570
412021	Counter and Rental Clerks	130	140	0.74	5	8	16,437
352011	Cooks, Fast Food	230	240	0.43	5	4	12,792
332011	Fire Fighters	150	160	0.65	5	7	34,041
493031	Bus and Truck Mechanics and Diesel Engine Specialists	170	180	0.57	5	6	32,068
119011	Farm, Ranch, and Other Agricultural Managers	200	210	0.49	5	5	*
537063	Machine Feeders and Offbearers <sup>3</sup>	*	*	0.74	5	*	*
373011	Landscaping and Groundskeeping Workers	270	270	0	5	0	19,288
351012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	230	230	0	5	0	18,830
493023	Automotive Service Technicians and Mechanics	220	220	0	5	0	28,653
491011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	200	200	0	5	0	56,170

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Units, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

1 Employment is rounded to the nearest 10.

2 Average Annual Openings are rounded to the nearest 5.

3 Data is suppressed due to confidentiality standards.



## Selected Fast-Growing Occupations

### REGION 6

Soc	Occupation	Employment		Percent Change	Annual Growth	Total
		2004	2014			Annual Average Job Openings
516093	Upholsterers	***	***	***	19.60	5
514031	Cutting, Punching, & Press Machine Setters, Oper. & Tend.	80	250	212.5	12.10	15
517011	Cabinetmakers and Bench Carpenters	30	80	166.7	10.31	5
499043	Maintenance Workers, Machinery	30	70	133.3	8.84	5
519121	Coating, Painting, and Spraying Machine Setters, Oper. & Tend.	***	***	***	2.26	10
111021	General and Operations Managers	360	440	22.2	2.03	15
291111	Registered Nurses	670	770	14.9	1.40	25
512092	Team Assemblers	460	520	13.0	1.23	15
435071	Shipping, Receiving, and Traffic Clerks	160	180	12.5	1.18	5
511011	First-Line Supervisors/Mngrs. of Produc. & Operating Workers	470	520	10.6	1.02	15
436011	Executive Secretaries and Administrative Assistants	210	230	9.5	0.91	5

Selection Criteria: Annual growth rate of at least 0.9%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### REGION 6

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
499052	Telecommunications Line Installers and Repairers	30	10	-20
434071	File Clerks**	40	20	-20
434151	Order Clerks**	40	20	-20
433021	Billing and Posting Clerks and Machine Operators	90	70	-20
151021	Computer Programmers	30	20	-10
373013	Tree Trimmers and Pruners	30	20	-10
472021	Brickmasons and Blockmasons	30	20	-10
132072	Loan Officers	40	30	-10
274021	Photographers	40	30	-10
111031	Legislators	50	40	-10
119131	Postmasters and Mail Superintendents	50	40	-10
131111	Management Analysts	50	40	-10
419041	Telemarketers**	50	40	-10
435032	Dispatchers, Except Police, Fire, and Ambulance	50	40	-10
514041	Machinists	50	40	-10
516031	Sewing Machine Operators**	***	***	***
517041	Sawing Machine Setters, Operators, and Tenders, Wood	***	***	***
517099	Woodworkers, All Other	***	***	***
519199	Production Workers, All Other	***	***	***
435041	Meter Readers, Utilities**	***	***	***
439011	Computer Operators**	***	***	***
353041	Food Servers, Nonrestaurant	***	***	***
439021	Data Entry Keyers	***	***	***
516021	Pressers, Textile, Garment, and Related Materials	***	***	***
518021	Stationary Engineers and Boiler Operators	***	***	***
516062	Textile Cutting Machine Setters, Operators, and Tenders	***	***	***
518091	Chemical Plant and System Operators**	***	***	***
519022	Grinding and Polishing Workers, Hand	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10, and a 20% drop over the period.

Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

**Top 20 Occupations by Avg. Hourly Wage**<sup>1</sup>  
Associate Degree and Under  
WIA Region 6<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
11-3051	Industrial Production Managers	90	100	10	1.06	0	8	\$36.70	\$24.27	\$42.92
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	80	70	(10)	-1.33	0	8	\$30.18	\$23.88	\$33.33
11-3071	Transp., Storage, & Distribution Managers	30	30	0	0.00	0	8	\$29.38	\$21.18	\$33.48
13-1021	Purchasing Agents & Buyers, Farm Products	10	10	0	0.00	0	8	\$28.71	\$22.26	\$31.94
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, & Repairers	200	200	0	0.00	5	8	\$27.00	\$17.18	\$31.91
11-9199	Managers, All Other	210	190	(20)	-1.00	5	8	\$26.57	\$12.38	\$33.67
51-1011	First-Line Supervisors/Managers of Production & Operating Workers	470	520	50	1.02	15	8	\$24.11	\$13.75	\$29.28
11-9131	Postmasters & Mail Superintendents	50	40	(10)	-2.21	0	8	\$23.75	\$18.87	\$26.19
45-1011	First-Line Supervisors/Managers of Farming, Fishing, & Forestry Workers	90	100	10	1.06	0	8	\$23.68	\$17.60	\$26.72
33-1012	First-Line Supervisors/Managers of Police & Detectives	30	30	0	0.00	0	8	\$22.92	\$16.75	\$26.01
29-1111	Registered Nurses	670	770	100	1.40	25	6	\$22.72	\$18.61	\$24.78
47-2111	Electricians	310	280	(30)	-1.01	5	9	\$22.70	\$12.49	\$27.80
53-1031	& Material-Moving Machine & Vehicle Operators	70	70	0	0.00	0	8	\$22.44	\$17.27	\$25.02
13-1051	Cost Estimators	30	30	0	0.00	0	8	\$22.16	\$19.41	\$23.53
43-5051	Postal Service Clerks	20	20	0	0.00	0	11	\$21.88	\$19.06	\$23.29
43-5052	Postal Service Mail Carriers	130	120	(10)	-0.80	5	11	\$21.88	\$19.06	\$23.29
49-9042	Maintenance & Repair Workers, General	780	770	(10)	-0.13	15	10	\$21.56	\$12.87	\$25.90
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	90	90	0	0.00	0	8	\$20.98	\$13.98	\$24.48
41-4011	Sales Representatives, Wholesale & Manuf., Technical & Scientific Products	30	30	0	0.00	0	10	\$20.02	\$15.13	\$22.47
43-5061	Production, Planning, & Expediting Clerks	60	60	0	0.00	0	11	\$20.02	\$11.55	\$24.26

<sup>1</sup>This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

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10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>6</sup>Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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**Top 20 Occupations by Avg. Annual Job Openings**<sup>1</sup>  
Associate Degree and Under  
WIA Region 6<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
412011	Cashiers	1,430	1,310	(120)	-0.87	70	11	\$6.63	\$5.90	\$6.99
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	600	630	30	0.49	30	11	\$6.18	\$5.90	\$6.32
29-1111	Registered Nurses	670	770	100	1.40	25	6	\$22.72	\$18.61	\$24.78
41-2031	Retail Salespersons	750	770	20	0.26	25	11	\$9.02	\$6.38	\$10.34
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	750	690	(60)	-0.83	25	11	\$8.96	\$5.90	\$10.49
35-3031	Waiters and Waitresses	360	340	(20)	-0.57	20	11	\$5.89	\$5.89	\$5.90
25-9041	Teacher Assistants	710	710	0	0.00	15	11	***	***	***
51-1011	First-Line Supervisors/Managers of Production & Operating Workers	470	520	50	1.02	15	8	\$24.11	\$13.75	\$29.28
49-9042	Maintenance & Repair Workers, General	780	770	(10)	-0.13	15	10	\$21.56	\$12.87	\$25.90
51-4031	Cutting, Punching, & Press Machine Setters, Oper., & Tend., Metal & Plastic	80	250	170	12.07	15	10	\$12.06	\$9.54	\$13.32
43-3031	Bookkeeping, Accounting, & Auditing Clerks	670	680	10	0.15	15	10	\$11.61	\$7.93	\$13.45
43-6014	Secretaries, Except Legal, Medical, & Executive	860	730	(130)	-1.63	15	10	\$10.13	\$7.51	\$11.45
43-9061	Office Clerks, General	730	690	(40)	-0.56	15	11	\$9.67	\$6.86	\$11.08
51-2092	Team Assemblers	460	520	60	1.23	15	10	\$9.61	\$7.17	\$10.83
43-5081	Stock Clerks and Order Fillers	370	310	(60)	-1.75	15	11	\$9.33	\$6.02	\$10.99
31-1012	Nursing Aides, Orderlies, & Attendants	600	640	40	0.65	15	7	\$8.23	\$7.33	\$8.68
45-2099	Agricultural Workers, All Other	390	370	(20)	-0.53	10	11	***	***	***
43-1011	First-Line Supervisors/Managers of Office & Administ. Support Workers	420	390	(30)	-0.74	10	8	\$17.70	\$10.72	\$21.20
53-7051	Industrial Truck and Tractor Operators	400	380	(20)	-0.51	10	11	\$15.49	\$8.79	\$18.84
33-3051	Police and Sheriff's Patrol Officers	330	320	(10)	-0.31	10	9	\$14.83	\$10.00	\$17.24

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associate Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training;

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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**Top 20 Occupations by Avg. Annual Growth Rate**<sup>1</sup>  
Associate Degree and Under  
WIA Region 6<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
51-4031	Cutting, Punching, & Press Machine Setters, Oper., & Tend., Metal & Plastic	80	250	170	12.07	15	10	\$12.06	\$9.54	\$13.32
51-7011	Cabinetmakers & Bench Carpenters	30	80	50	10.31	5	9	***	***	***
49-9043	Maintenance Workers, Machinery Paving, Surfacing, and Tamping Equipment Operators	30	70	40	8.84	5	11	\$14.28	\$9.15	\$16.84
47-2071	Conveyor Operators and Tenders	20	30	10	4.14	0	10	***	***	***
53-7011	Protective Service Workers, All Other	20	30	10	4.14	0	11	\$10.25	\$6.71	\$12.01
33-9099	Floral Designers	30	40	10	2.92	0	11	\$13.21	\$6.62	\$16.50
27-1023	Home Health Aides	40	50	10	2.26	0	10	***	***	***
31-1011	Registered Nurses	110	130	20	1.68	0	11	\$7.59	\$5.84	\$8.47
29-1111	Team Assemblers	670	770	100	1.40	25	6	\$22.72	\$18.61	\$24.78
51-2092	Shipping, Receiving, & Traffic Clerks	460	520	60	1.23	15	10	\$9.61	\$7.17	\$10.83
43-5071	Industrial Production Managers	160	180	20	1.18	5	11	\$14.38	\$10.43	\$16.36
11-3051	First-Line Supervisors/Managers of Farming, Fishing, & Forestry Workers	90	100	10	1.06	0	8	\$36.70	\$24.27	\$42.92
45-1011	Emergency Medical Technicians & Paramedics	90	100	10	1.06	0	8	\$23.68	\$17.60	\$26.72
29-2041	First-Line Supervisors/Managers of Production & Operating Workers	470	520	50	1.02	15	8	\$24.11	\$13.75	\$29.28
51-1011	Executive Secretaries & Administrative Assistants	210	230	20	0.91	5	10	\$17.20	\$14.24	\$18.67
47-4051	Highway Maintenance Workers	110	120	10	0.87	0	10	\$11.01	\$7.65	\$12.68
29-2052	Pharmacy Technicians	110	120	10	0.87	0	10	\$9.79	\$8.31	\$10.53
41-2021	Counter and Rental Clerks	130	140	10	0.74	5	11	\$7.90	\$5.83	\$8.94
31-1012	Nursing Aides, Orderlies, & Attendants	600	640	40	0.65	15	7	\$8.23	\$7.33	\$8.68

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training;

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**REGION 7**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	192,690	227,530	34,840	18.08	1.68	8,205
110000	Management Occupations	11,670	13,460	1,790	15.34	1.44	400
130000	Business and Financial Operations Occupations	7,570	8,720	1,150	15.19	1.42	255
150000	Computer and Mathematical Science Occupations	3,310	4,180	870	26.28	2.36	135
170000	Architecture and Engineering Occupations	2,700	3,440	740	27.41	2.45	135
190000	Life, Physical, and Social Services Occupations	1,690	1,940	250	14.79	1.39	65
210000	Community and Social Services Occupaitons	3,160	4,110	950	30.06	2.66	155
230000	Legal Occupations	1,840	2,260	420	22.83	2.08	60
250000	Education, Training, and Library Occupations	9,810	12,040	2,230	22.73	2.07	420
270000	Art, Design, Entertainment, Sports, and Media Occ.	2,490	2,870	380	15.26	1.43	85
290000	Healthcare Practitioner and Technical Occ.	9,650	12,380	2,730	28.29	2.52	460
310000	Healthcare Support Occupations	4,130	5,620	1,490	36.08	3.13	215
330000	Protective Service Occupations	5,070	5,810	740	14.60	1.37	210
350000	Food Preparation and Serving Related Occ.	13,420	16,190	2,770	20.64	1.89	795
370000	Building & Grounds Cleaning & Maintenance Occ.	7,300	8,970	1,670	22.88	2.08	310
390000	Personal Care and Service Occupations	5,010	6,220	1,210	24.15	2.19	245
410000	Sales and Related Occupations	18,570	21,250	2,680	14.43	1.36	885
430000	Office and Administrative Support Occupations	35,500	38,880	3,380	9.52	0.91	1,230
450000	Farming, Fishing, and Forestry Occupations	1,810	1,670	-140	-7.73	-0.80	45
470000	Construction and Extraction Occupations	10,630	12,310	1,680	15.80	1.48	390
490000	Installation, Maint., and Repair Occupations	8,500	10,000	1,500	17.65	1.64	350
510000	Production Occupations	14,440	18,250	3,810	26.39	2.37	775
530000	Transportation and Mat. Moving Occupations	14,420	16,990	2,570	17.82	1.65	595

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.

**Top 40 High Demand Occupations  
WORKFORCE INVESTMENT ADVISORY AREA 7**

SOC	Occupation	Employment <sup>1</sup>		Avg Annual Growth (%)	Avg Annual Openings <sup>2</sup>	10-YR Change (%)	Avg Mean Salary (\$)
		2,004	2,014				
512092	Team Assemblers	2,120	4,760	8.42	320	124.53	22,367
291111	Registered Nurses	3,210	4,180	2.68	160	30.22	50,482
434051	Customer Service Representatives	2,320	3,000	2.60	105	29.31	26,343
499042	Maintenance and Repair Workers, General	1,670	2,190	2.75	80	31.14	30,081
399011	Child Care Workers	1,590	2,060	2.62	90	29.56	15,406
311011	Home Health Aides	600	970	4.92	45	61.67	15,345
372011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	3,230	4,010	2.19	140	24.15	17,403
353021	Combined Food Preparation and Serving Workers, Including Fast Food	2,400	2,980	2.19	165	24.17	13,173
414012	Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	1,740	2,180	2.28	90	25.29	45,496
412031	Retail Salespersons	5,040	6,090	1.91	290	20.83	20,876
319092	Medical Assistants	430	710	5.14	40	65.12	19,895
353031	Waiters and Waitresses	2,870	3,500	2.00	215	21.95	13,396
111021	General and Operations Managers	2,350	2,910	2.16	100	23.83	92,385
435061	Production, Planning, and Expediting Clerks	400	640	4.81	35	60.00	38,083
533032	Truck Drivers, Heavy and Tractor-Trailer	3,040	3,700	1.98	115	21.71	30,991
434171	Receptionists and Information Clerks	1,140	1,430	2.29	60	25.44	20,108
412021	Counter and Rental Clerks	580	780	3.01	40	34.48	18,799
231011	Lawyers	1,130	1,430	2.38	45	26.55	101,584
511011	First-Line Supervisors/Managers of Production & Operating Workers	1,060	1,330	2.30	50	25.47	42,197
212011	Clergy	680	900	2.84	35	32.35	33,437
259041	Teacher Assistants	1,890	2,310	2.03	75	22.22	14,554
311012	Nursing Aides, Orderlies, and Attendants	1,830	2,250	2.09	65	22.95	17,855
211093	Social and Human Service Assistants	490	670	3.18	30	36.73	26,295
352011	Cooks, Fast Food	1,050	1,310	2.24	55	24.76	13,196
519199	Production Workers, All Other <sup>3</sup>	610	790	2.62	35	29.51	*
252011	Preschool Teachers, Except Special Education	420	600	3.63	25	42.86	20,724
372012	Maids and Housekeeping Cleaners	1,840	2,220	1.90	80	20.65	14,667
351012	First-Line Supervisors/Managers of Food Preparation & Serving Workers	1,080	1,330	2.10	50	23.15	24,565
292061	Licensed Practical and Licensed Vocational Nurses	1,590	1,930	1.96	70	21.38	28,255
319091	Dental Assistants	370	540	3.85	25	45.95	20,837
252021	Education	1,470	1,790	1.99	65	21.77	37,908
211021	Child, Family, and School Social Workers	540	710	2.77	25	31.48	38,493
436012	Legal Secretaries	660	830	2.32	35	25.76	33,188
537062	Hand	4,150	4,810	1.49	200	15.90	18,645
373011	Landscaping and Groundskeeping Workers	1,270	1,540	1.95	55	21.26	20,393
352014	Cooks, Restaurant	750	930	2.17	45	24.00	16,665
433011	Bill and Account Collectors	610	780	2.49	25	27.87	27,310
352021	Food Preparation Workers	570	720	2.36	35	26.32	15,708
151071	Network and Computer Systems Administrators	320	470	3.92	20	46.88	48,326
292041	Emergency Medical Technicians and Paramedics	260	400	4.40	20	53.85	24,582

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Units, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

<sup>1</sup> Employment is rounded to the nearest 10.

<sup>2</sup> Average Annual Openings are rounded to the nearest 5.

<sup>3</sup> Wage data is not available for title due to the variety of jobs in the classification.



## Selected Fast-Growing Occupations

### REGION 7

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2004	2014			
512099	Assemblers and Fabricators, All Other	90	310	244.4	13.16	20
172141	Mechanical Engineers	100	230	130.0	8.69	20
512092	Team Assemblers	2,120	4,760	124.5	8.42	320
514011	Computer-Controlled Machine Tool Oper., Metal & Plast.	60	120	100.0	7.18	5
373019	Grounds Maintenance Workers, All Other	***	***	***	6.25	5
519122	Painters, Transportation Equipment	80	140	75.0	5.76	5
172112	Industrial Engineers	160	270	68.8	5.37	15
319092	Medical Assistants	430	710	65.1	5.14	40
151081	Network Systems and Data Communications Analysts	210	340	61.9	4.94	20
311011	Home Health Aides	600	970	61.7	4.92	45
435061	Production, Planning, and Expediting Clerks	400	640	60.0	4.81	35
172071	Electrical Engineers	90	140	55.6	4.52	5
399041	Residential Advisors	***	***	***	4.52	5
512011	Aircraft Structure, Surfaces, Rigging, & Syst. Assemblers	***	***	***	4.52	20
292041	Emergency Medical Technicians and Paramedics	260	400	53.8	4.40	20
119031	Education Admins., Preschool & Child Care Ctr./Program	60	90	50.0	4.14	5
151031	Computer Software Engineers, Applications	200	300	50.0	4.14	10
151061	Database Administrators	60	90	50.0	4.14	5
151071	Network and Computer Systems Administrators	320	470	46.9	3.92	20
292071	Medical Records and Health Information Technicians	300	440	46.7	3.90	20
291123	Physical Therapists	130	190	46.2	3.87	5
319091	Dental Assistants	370	540	45.9	3.85	25
151032	Computer Software Engineers, Systems Software	110	160	45.5	3.82	5
399021	Personal and Home Care Aides	***	***	***	3.82	15
292056	Veterinary Technologists and Technicians	90	130	44.4	3.75	5
252011	Preschool Teachers, Except Special Education	420	600	42.9	3.63	25
312022	Physical Therapist Aides	70	100	42.9	3.63	5
131079	Human Resources, Training, & Labor Rel. Spec., All Other	170	240	41.2	3.51	10

Selection Criteria: Annual growth rate of at least 3.5%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### REGION 7

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
516031	Sewing Machine Operators**	570	370	-200
434071	File Clerks**	430	280	-150
119012	Farmers and Ranchers**	880	770	-110
439011	Computer Operators**	260	170	-90
439051	Mail Clerks and Mail Machine Operators, Except Postal Service**	200	130	-70
452099	Agricultural Workers, All Other	520	450	-70
434151	Order Clerks**	290	230	-60
434199	Information and Record Clerks, All Other	440	380	-60
439022	Word Processors and Typists**	310	260	-50
434041	Credit Authorizers, Checkers, and Clerks**	80	50	-30
452093	Farmworkers, Farm and Ranch Animals	160	130	-30
453011	Fishers and Related Fishing Workers	100	80	-20
537063	Machine Feeders and Offbearers**	150	130	-20
516093	Upholsterers	50	40	-10
519132	Photographic Processing Machine Operators**	50	40	-10
516099	Textile, Apparel, and Furnishings Workers, All Other	***	***	***
435041	Meter Readers, Utilities**	***	***	***
519011	Chemical Equipment Operators and Tenders	***	***	***
516061	Textile Bleaching and Dyeing Machine Operators and Tenders	***	***	***
516064	Textile Winding, Twisting, and Drawing Out Machine Setters, Oper. & Tend.**	***	***	***
516063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders**	***	***	***
512023	Electromechanical Equipment Assemblers	***	***	***
519131	Photographic Process Workers	***	***	***
534021	Railroad Brake, Signal, and Switch Operators	***	***	***
514052	Pourers and Casters, Metal	***	***	***
518021	Stationary Engineers and Boiler Operators	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10 and a 15% drop over the period.

Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

# Top 20 Occupations by Avg. Hourly Wage <sup>1</sup>

## Associate Degree and Under WIA Region 7 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
11-9199	Managers, All Other	1,410	1,530	120	0.82	40	8	\$33.98	\$20.56	\$40.69
11-3051	Industrial Production Managers	250	280	30	1.14	10	8	\$31.12	\$20.46	\$36.45
41-4011	Sales Representatives, Wholesale & Manuf., Technical & Scientific Products	190	220	30	1.48	10	10	\$29.41	\$20.10	\$34.06
11-3071	Transp., Storage, & Distribution Managers	210	250	40	1.76	10	8	\$28.63	\$20.73	\$32.58
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	630	690	60	0.91	15	8	\$27.43	\$16.51	\$32.89
53-6051	Transportation Inspectors	30	30	0	0.00	0	8	\$26.13	\$15.88	\$31.26
11-9131	Postmasters & Mail Superintendents	40	40	0	0.00	0	8	\$25.45	\$20.53	\$27.91
29-1111	Registered Nurses	3,210	4,180	970	2.68	160	6	\$24.60	\$17.39	\$28.21
33-1012	First-Line Supervisors/Managers of Police and Detectives	180	220	40	2.03	10	8	\$24.57	\$14.92	\$29.40
41-4012	Sales Repres., Wholesale & Manuf., Except Technical & Scientific Products	1,740	2,180	440	2.28	90	10	\$24.54	\$13.27	\$30.17
15-1099	Computer Specialists, All Other	80	90	10	1.18	0	6	\$23.81	\$11.80	\$29.81
33-1011	First-Line Supervisors/Managers of Correctional Officers	100	110	10	0.96	5	8	\$23.70	\$17.08	\$27.01
13-2021	Appraisers & Assessors of Real Estate	160	180	20	1.18	10	7	\$23.61	\$14.54	\$28.14
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	370	430	60	1.51	15	8	\$23.50	\$15.71	\$27.40
33-1021	First-Line Supervisors/Managers of Fire Fighting & Prevention Workers	60	70	10	1.55	0	8	\$23.25	\$19.36	\$25.20
29-2032	Diagnostic Medical Sonographers	50	70	20	3.42	0	6	\$23.18	\$20.52	\$24.50
17-3023	Electrical and Electronic Engineering Technicians	190	200	10	0.51	5	6	\$22.82	\$16.68	\$25.90
41-9021	Real Estate Brokers	100	110	10	0.96	0	8	\$22.76	\$18.79	\$24.75
49-9051	Electrical Power-Line Installers and Repairers	340	340	0	0.00	10	9	\$22.60	\$18.75	\$24.53
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, & Repairers	840	970	130	1.45	35	8	\$22.12	\$14.47	\$25.94

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training; 10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Job Openings <sup>1</sup>

## Associate Degree and Under WIA Region 7 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
51-2092	Team Assemblers	2,120	4,760	2,640	8.42	320	10	\$10.25	\$7.99	\$11.38
41-2031	Retail Salespersons	5,040	6,090	1,050	1.91	290	11	\$11.61	\$6.84	\$13.99
41-2011	Cashiers	4,930	5,310	380	0.75	280	11	\$7.02	\$5.91	\$7.58
35-3031	Waiters and Waitresses	2,870	3,500	630	2.00	215	11	\$6.22	\$5.91	\$6.37
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	4,150	4,810	660	1.49	200	11	\$9.73	\$7.25	\$10.97
43-9061	Office Clerks, General	6,100	6,640	540	0.85	190	11	\$10.23	\$7.01	\$11.84
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	2,400	2,980	580	2.19	165	11	\$6.45	\$5.88	\$6.74
29-1111	Registered Nurses	3,210	4,180	970	2.68	160	6	\$24.60	\$17.39	\$28.21
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	3,230	4,010	780	2.19	140	11	\$7.38	\$5.92	\$8.11
53-3032	Truck Drivers, Heavy & Tractor-Trailer	3,040	3,700	660	1.98	115	10	\$15.88	\$10.62	\$18.52
43-4051	Customer Service Representatives	2,320	3,000	680	2.60	105	10	\$11.97	\$8.13	\$13.89
43-3031	Bookkeeping, Accounting, & Auditing Clerks	3,260	3,660	400	1.16	100	10	\$12.84	\$9.10	\$14.71
41-4012	Sales Repres., Wholesale & Manuf., Except Technical & Scientific Products	1,740	2,180	440	2.28	90	10	\$24.54	\$13.27	\$30.17
43-5081	Stock Clerks and Order Fillers	2,410	2,300	(110)	-0.47	90	11	\$10.25	\$6.68	\$12.03
39-9011	Child Care Workers	1,590	2,060	470	2.62	90	11	\$7.10	\$5.91	\$7.69
43-1011	First-Line Supervisors/Managers of Office & Admin. Support Workers	2,610	2,930	320	1.16	85	8	\$18.95	\$12.22	\$22.31
49-9042	Maintenance & Repair Workers, General	1,670	2,190	520	2.75	80	10	\$13.81	\$9.33	\$16.05
37-2012	Maids and Housekeeping Cleaners	1,840	2,220	380	1.90	80	11	\$6.66	\$5.90	\$7.05
25-9041	Teacher Assistants	1,890	2,310	420	2.03	75	11	***	***	***
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, & Repairers	840	970	130	1.45	35	8	\$22.12	\$14.47	\$25.94

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

<sup>3</sup> In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>4</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>5</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>6</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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# Top 20 Occupations by Avg. Annual Growth Rate <sup>1</sup>

## Associate Degree and Under WIA Region 7 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
51-2099	Assemblers & Fabricators, All Other	90	310	220	13.16	20	10	\$11.37	\$8.10	\$13.00
51-2092	Team Assemblers	2,120	4,760	2,640	8.42	320	10	\$10.25	\$7.99	\$11.38
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	60	120	60	7.18	5	10	\$15.73	\$11.86	\$17.66
17-3025	Environmental Engineering Technicians	10	20	10	7.18	0	6	***	***	***
47-2142	Paperhangers	10	20	10	7.18	0	10	***	***	***
51-9122	Painters, Transportation Equipment	80	140	60	5.76	5	9	\$15.94	\$12.08	\$17.87
31-9092	Medical Assistants	430	710	280	5.14	40	10	\$10.74	\$9.20	\$11.51
31-1011	Home Health Aides	600	970	370	4.92	45	11	\$7.42	\$5.90	\$8.18
43-5061	Clerks	400	640	240	4.81	35	11	\$17.49	\$11.65	\$20.41
29-2041	Emergency Medical Technicians & Paramedics	260	400	140	4.40	20	7	\$12.47	\$8.71	\$14.35
19-4031	Chemical Technicians	20	30	10	4.14	0	6	***	***	***
29-2099	Health Technologists & Technicians, All Other	40	60	20	4.14	0	7	***	***	***
39-4021	Funeral Attendants	20	30	10	4.14	0	11	***	***	***
19-4093	Forest and Conservation Technicians	20	30	10	4.14	0	6	\$15.03	\$10.16	\$17.46
49-9062	Medical Equipment Repairers	20	30	10	4.14	0	6	\$14.54	\$11.33	\$16.14
51-9195	Molders, Shapers, & Casters, Except Metal & Plastic	20	30	10	4.14	0	10	\$12.30	\$9.89	\$13.50
53-3011	Ambulance Drivers & Attendants, Except Emergency Medical Technicians	40	60	20	4.14	0	10	\$6.51	\$5.87	\$6.83
29-2071	Medical Records & Health Information Technicians	300	440	140	3.90	20	6	\$10.21	\$7.26	\$11.69
31-9091	Dental Assistants	370	540	170	3.85	25	10	\$10.52	\$7.62	\$11.97
29-2056	Veterinary Technologists & Technicians	90	130	40	3.75	5	6	\$11.14	\$7.98	\$12.72

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi) or by calling 334-242-8855.

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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**REGION 8**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	87,090	98,550	11,460	13.16	1.24	3,385
110000	Management Occupations	4,670	5,250	580	12.42	1.18	150
130000	Business and Financial Operations Occupations	1,420	1,640	220	15.49	1.45	45
150000	Computer and Mathematical Science Occupations	580	690	110	18.97	1.75	20
170000	Architecture and Engineering Occupations	760	910	150	19.74	1.82	35
190000	Life, Physical, and Social Services Occupations	650	740	90	13.85	1.31	25
210000	Community and Social Services Occupaitons	1,230	1,460	230	18.70	1.73	50
230000	Legal Occupations	300	330	30	10.00	0.96	10
250000	Education, Training, and Library Occupations	7,250	8,720	1,470	20.28	1.86	295
270000	Art, Design, Entertainment, Sports, and Media Occ.	970	1,090	120	12.37	1.17	30
290000	Healthcare Practitioner and Technical Occ.	4,140	4,980	840	20.29	1.86	160
310000	Healthcare Support Occupations	2,300	2,840	540	23.48	2.13	90
330000	Protective Service Occupations	1,850	2,130	280	15.14	1.42	80
350000	Food Preparation and Serving Related Occ.	7,720	9,010	1,290	16.71	1.56	435
370000	Building & Grounds Cleaning & Maintenance Occ.	3,210	3,740	530	16.51	1.54	120
390000	Personal Care and Service Occupations	2,260	2,640	380	16.81	1.57	100
410000	Sales and Related Occupations	8,110	9,160	1,050	12.95	1.22	385
430000	Office and Administrative Support Occupations	11,800	12,660	860	7.29	0.71	380
450000	Farming, Fishing, and Forestry Occupations	1,020	950	-70	-6.86	-0.71	25
470000	Construction and Extraction Occupations	5,210	5,810	600	11.52	1.10	160
490000	Installation, Maint., and Repair Occupations	3,830	4,200	370	9.66	0.93	130
510000	Production Occupations	11,140	11,980	840	7.54	0.73	420
530000	Transportation and Mat. Moving Occupations	6,690	7,630	940	14.05	1.32	250

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.

**Top 40 High Demand Occupations**  
**WORKFORCE INVESTMENT ADVISORY AREA 8**

SOC	Occupation	Employment		Avg Annual Growth (%)	Avg Annual Openings <sup>2</sup>	10-YR Change (%)	Mean Annual Salary (\$)
		2004	2014				
512092	Team Assemblers	1,290	1,660	2.55	70	29	20,266
412031	Retail Salespersons	2,190	2,640	1.89	125	21	20,564
537062	Laborers and Freight, Stock, and Material Movers, Hand	1,770	2,150	1.96	100	21	22,057
291111	Registered Nurses <sup>3</sup>	*	*	2.17	65	*	*
353031	Waiters and Waitresses	1,850	2,200	1.75	130	19	12,608
111021	General and Operations Managers	920	1,140	2.17	40	24	77,047
434051	Customer Service Representatives <sup>3</sup>	*	*	1.98	40	*	*
353021	Combined Food Preparation and Serving Workers, Including Fast Food	1,890	2,220	1.62	115	17	13,157
252011	Preschool Teachers, Except Special Education	380	510	2.99	20	34	23,906
311011	Home Health Aides	290	430	4.02	20	48	14,026
414012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	480	600	2.26	25	25	42,674
399011	Child Care Workers	640	770	1.87	35	20	13,895
372011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,610	1,890	1.62	60	17	17,403
499042	Maintenance and Repair Workers, General	1,030	1,230	1.79	40	19	28,924
434171	Receptionists and Information Clerks	510	620	1.97	25	22	18,942
252021	Elementary School Teachers, Except Special Education	850	1,000	1.64	35	18	37,307
259041	Teacher Assistants	1,220	1,420	1.53	45	16	16,582
519198	Helpers--Production Workers	900	1,050	1.55	40	17	21,234
352021	Food Preparation Workers	390	480	2.10	25	23	13,674
514081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic <sup>3</sup>	*	*	5.40	15	*	*
311012	Nursing Aides, Orderlies, and Attendants	1,220	1,420	1.53	35	16	18,356
351012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	670	790	1.66	25	18	22,942
412011	Cashiers	2,580	2,830	0.93	150	10	14,964
512099	Assemblers and Fabricators, All Other	140	210	4.14	10	50	19,955
412021	Counter and Rental Clerks	290	360	2.19	15	24	16,795
352014	Cooks, Restaurant	550	650	1.68	25	18	17,300
514031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic <sup>3</sup>	150	210	3.42	10	40	20,590
212011	Clergy	280	350	2.26	10	25	36,650
251071	Health Specialties Teachers, Postsecondary <sup>3</sup>	*	*	2.44	10	*	*
359011	Dining Room and Cafeteria Attendants and Bartender Helpers	150	200	2.92	10	33	14,862
319099	Healthcare Support Workers, All Other	200	260	2.66	10	30	21,077
393091	Amusement and Recreation Attendants	260	320	2.10	15	23	13,390
251199	Postsecondary Teachers, All Other	220	280	2.44	10	27	57,822
352011	Cooks, Fast Food	630	730	1.48	30	16	13,466
194011	Agricultural and Food Science Technicians <sup>3</sup>	*	*	2.26	10	*	*
372012	Maids and Housekeeping Cleaners	700	810	1.47	25	16	14,309
514121	Welders, Cutters, Solderers, and Brazers <sup>3</sup>	170	220	2.61	10	29	26,103
373011	Landscaping and Groundskeeping Workers	520	610	1.61	20	17	17,255
291051	Pharmacists	200	250	2.26	10	25	91,698
533032	Truck Drivers, Heavy and Tractor-Trailer	1,210	1,360	1.18	35	12	29,944

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Units, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

1 Employment is rounded to the nearest 10.

2 Average Annual Openings are rounded to the nearest 5.

3 Data is suppressed due to confidentiality standards.



## Selected Fast-Growing Occupations

### REGION 8

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2004	2014			
512022	Electrical and Electronic Equipment Assemblers	40	140	250.0	13.35	10
172041	Chemical Engineers	20	60	200.0	11.61	5
514033	Grinding, Lapping, Polishing, & Buffing Mach/ Tool Setters, Oper. & Tend.	***	***	***	9.60	5
514072	Molding, Coremaking, and Casting Machine Setters, Oper. & Tend.,	***	***	***	8.04	5
514081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	***	***	***	5.40	15
514122	Welding, Soldering, and Brazing Machine Setters, Operators & Tenders	***	***	***	4.62	5
172141	Mechanical Engineers	60	90	50.0	4.14	5
319092	Medical Assistants	80	120	50.0	4.14	5
512099	Assemblers and Fabricators, All Other	140	210	50.0	4.14	10
311011	Home Health Aides	290	430	48.3	4.02	20
514031	Cutting, Punching, & Press Machine Setters, Oper. & Tend., Metal & Plastic	150	210	40.0	3.42	10
212021	Directors, Religious Activities and Education	80	110	37.5	3.24	5
533041	Taxi Drivers and Chauffeurs	***	***	***	3.15	5
252011	Preschool Teachers, Except Special Education	380	510	34.2	2.99	20
172112	Industrial Engineers	120	160	33.3	2.92	10
319091	Dental Assistants	90	120	33.3	2.92	5
359011	Dining Room and Cafeteria Attendants and Bartender Helpers	150	200	33.3	2.92	10
292021	Dental Hygienists	160	210	31.3	2.76	5
252041	Special Education Teachers, Preschool, Kindergarten, & Elemen. School	100	130	30.0	2.66	5
319099	Healthcare Support Workers, All Other	200	260	30.0	2.66	10
519121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	100	130	30.0	2.66	10
514121	Welders, Cutters, Solderers, and Brazers	170	220	29.4	2.61	10
512092	Team Assemblers	1,290	1,660	28.7	2.55	70
399021	Personal and Home Care Aides	140	180	28.6	2.54	5
251199	Postsecondary Teachers, All Other	220	280	27.3	2.44	10
292056	Veterinary Technologists and Technicians	110	140	27.3	2.44	5
353022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	110	140	27.3	2.44	10
251071	Health Specialties Teachers, Postsecondary	***	***	***	2.44	10
251081	Education Teachers, Postsecondary	***	***	***	2.44	10

Selection Criteria: Annual growth rate of at least 2.4%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### REGION 8

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
516063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders**	450	270	-180
434071	File Clerks**	100	60	-40
515023	Printing Machine Operators	170	130	-40
439051	Mail Clerks and Mail Machine Operators, Except Postal Service**	50	30	-20
435041	Meter Readers, Utilities**	60	40	-20
515022	Prepress Technicians and Workers	60	40	-20
439011	Computer Operators**	70	50	-20
537063	Machine Feeders and Offbearers**	70	50	-20
434151	Order Clerks**	100	80	-20
517042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	120	100	-20
435053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	30	20	-10
194031	Chemical Technicians	40	30	-10
435021	Couriers and Messengers**	50	40	-10
516064	Textile Winding, Twisting, & Drawing Out Machine Setters, Oper. & Tend.**	***	***	***
516031	Sewing Machine Operators**	***	***	***
516099	Textile, Apparel, and Furnishings Workers, All Other	***	***	***
516061	Textile Bleaching and Dyeing Machine Operators and Tenders	***	***	***
516062	Textile Cutting Machine Setters, Operators, and Tenders	***	***	***
518091	Chemical Plant and System Operators**	***	***	***
519132	Photographic Processing Machine Operators**	***	***	***
519032	Cutting and Slicing Machine Setters, Operators, and Tenders	***	***	***
454023	Log Graders and Scalars	***	***	***
516092	Fabric and Apparel Patternmakers	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10, and at least a 14% drop over the period.

Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

**Top 20 Occupations by Avg. Hourly Wage <sup>1</sup>**

Associate Degree and Under  
WIA Region 8 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
45-1011	First-Line Supervisors/Managers of Farming, Fishing, & Forestry Workers	50	50	0	0.00	0	8	\$37.51	\$34.88	\$38.83
11-3071	Transportation, Storage, and Distribution Managers	40	50	10	2.26	0	8	\$36.64	\$21.97	\$43.97
11-9199	Managers, All Other	410	430	20	0.48	10	8	\$33.73	\$21.60	\$39.79
11-3051	Industrial Production Managers	110	130	20	1.68	0	8	\$33.61	\$23.16	\$38.84
41-4011	Sales Representatives, Wholesale & Manuf., Technical & Scientific Products	90	100	10	1.06	0	10	\$27.18	\$20.76	\$30.39
11-9131	Postmasters & Mail Superintendents	30	30	0	0.00	0	8	\$26.99	\$21.66	\$29.65
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	160	160	0	0.00	5	8	\$26.10	\$18.52	\$29.89
33-1021	First-Line Supervisors/Managers of Fire Fighting & Prevention Workers	20	30	10	4.14	0	8	\$25.28	\$17.05	\$29.39
13-1051	Cost Estimators	70	80	10	1.34	0	8	\$24.57	\$16.13	\$28.79
41-3099	Sales Representatives, Services, All Other	150	180	30	1.84	10	10	\$23.30	\$11.92	\$29.00
413011	Advertising Sales Agents	40	50	10	2.26	0	10	\$23.07	\$9.67	\$29.76
33-1012	First-Line Supervisors/Managers of Police and Detectives	50	60	10	1.84	0	8	\$22.81	\$17.18	\$25.62
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, & Repairers	300	340	40	1.26	15	8	\$22.24	\$15.34	\$25.70
51-1011	First-Line Supervisors/Managers of Production & Operating Workers	600	650	50	0.80	20	8	\$21.77	\$14.22	\$25.55
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	80	80	0	0.00	0	9	\$21.70	\$14.06	\$25.53
17-3029	Engineering Technicians, Except Drafters, All Other	10	10	0	0.00	0	6	\$21.41	\$15.90	\$24.17
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	90	100	10	1.06	0	8	\$21.02	\$14.93	\$24.06
17-3023	Electrical and Electronic Engineering Technicians	100	90	(10)	-1.05	0	6	\$20.90	\$13.90	\$24.40
53-1031	First-Line Supervisors/Managers of Transp. & Material-Moving Machine & Vehicle Operators	150	190	40	2.39	10	8	\$20.89	\$14.48	\$24.10
43-5051	Postal Service Clerks	30	30	0	0.00	0	11	\$20.83	\$17.41	\$22.53

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training;

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Job Openings <sup>1</sup>

## Associate Degree and Under WIA Region 8 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
41-2011	Cashiers	2,580	2,830	250	0.93	150	11	\$7.19	\$5.90	\$7.84
35-3031	Waiters and Waitresses	1,850	2,200	350	1.75	130	11	\$6.06	\$5.89	\$6.15
41-2031	Retail Salespersons	2,190	2,640	450	1.89	125	11	\$9.89	\$5.93	\$11.86
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	1,890	2,220	330	1.62	115	11	\$6.33	\$5.89	\$6.54
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	1,770	2,150	380	1.96	100	11	\$10.60	\$7.33	\$12.24
51-2092	Team Assemblers	1,290	1,660	370	2.55	70	10	\$9.74	\$8.01	\$10.61
37-2011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	1,610	1,890	280	1.62	60	11	\$8.37	\$5.97	\$9.57
43-9061	Office Clerks, General	1,500	1,620	120	0.77	50	11	\$9.40	\$6.50	\$10.86
25-9041	Teacher Assistants	1,220	1,420	200	1.53	45	11	***	***	***
49-9042	Maintenance & Repair Workers, General	1,030	1,230	200	1.79	40	10	\$13.91	\$9.30	\$16.21
519198	Helpers--Production Workers	900	1,050	150	1.55	40	11	\$10.21	\$7.12	\$11.75
53-3032	Truck Drivers, Heavy & Tractor-Trailer	1,210	1,360	150	1.18	35	10	\$14.40	\$10.03	\$16.58
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	1,300	1,390	90	0.67	35	8	\$14.20	\$9.34	\$16.63
43-5081	Stock Clerks and Order Fillers	980	930	(50)	-0.52	35	11	\$9.21	\$6.17	\$10.74
31-1012	Nursing Aides, Orderlies, & Attendants	1,220	1,420	200	1.53	35	7	\$8.82	\$6.99	\$9.74
39-9011	Child Care Workers	640	770	130	1.87	35	11	\$6.68	\$6.00	\$7.02
43-1011	First-Line Supervisors/Managers of Office & Admin. Support Workers	970	1,060	90	0.89	30	8	\$17.01	\$10.88	\$20.08
43-3031	Bookkeeping, Accounting, & Auditing Clerks	980	1,070	90	0.88	30	10	\$12.40	\$8.71	\$14.24
43-6014	Secretaries, Except Legal, Medical, & Executive	1,660	1,660	0	0.00	30	10	\$11.99	\$8.81	\$13.58
35-2011	Cooks, Fast Food	630	730	100	1.48	30	11	\$6.47	\$5.93	\$6.75

<sup>1</sup>This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup>The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

<sup>3</sup>In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>4</sup>Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>5</sup>Codes are standard education & training classification codes:

6, Associate Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup>Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi) or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Growth Rate <sup>1</sup>

## Associate Degree and Under WIA Region 8 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
51-2022	Electrical & Electronic Equipment Assemblers	40	140	100	13.35	10	11	\$9.31	\$7.69	\$10.13
53-6099	Transportation Workers, All Other	10	20	10	7.18	0	11	\$7.50	\$6.02	\$8.23
51-2099	Assemblers and Fabricators, All Other	140	210	70	4.14	10	10	\$9.59	\$8.20	\$10.29
31-9092	Medical Assistants	80	120	40	4.14	5	10	\$9.66	\$7.58	\$10.70
27-1025	Interior Designers	20	30	10	4.14	0	6	***	***	***
41-9099	Sales and Related Workers, All Other	20	30	10	4.14	0	10	***	***	***
33-1021	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers	20	30	10	4.14	0	8	\$25.28	\$17.05	\$29.39
53-7021	Crane and Tower Operators	20	30	10	4.14	0	9	\$20.52	\$16.57	\$22.50
47-4071	Septic Tank Servicers & Sewer Pipe Cleaners	40	60	20	4.14	0	10	\$14.37	\$11.99	\$15.56
31-1011	Home Health Aides	290	430	140	4.02	20	11	\$6.74	\$5.87	\$7.18
51-4031	Cutting, Punching, & Press Machine Setters, Oper. & Tend., Metal & Plastic	150	210	60	3.42	10	10	\$9.90	\$7.84	\$10.93
25-2011	Preschool Teachers, Except Special Education	380	510	130	2.99	20	7	\$11.49	\$8.21	\$13.14
35-9011	Dining Room & Cafeteria Attendants & Bartender Helpers	150	200	50	2.92	10	11	\$7.15	\$5.91	\$7.76
31-9091	Dental Assistants	90	120	30	2.92	5	10	\$11.74	\$9.09	\$13.06
43-9031	Desktop Publishers	60	80	20	2.92	0	7	***	***	***
17-3026	Industrial Engineering Technicians	30	40	10	2.92	0	6	\$18.28	\$12.74	\$21.06
53-7032	Excavating & Loading Machine & Dragline Operators	30	40	10	2.92	0	10	\$11.95	\$9.80	\$13.02
43-6013	Medical Secretaries	60	80	20	2.92	0	7	\$11.36	\$9.39	\$12.34
29-2021	Dental Hygienists	160	210	50	2.76	5	6	\$17.10	\$14.99	\$18.15
51-9121	Coating, Painting, & Spraying Machine Setters, Operators, & Tenders	100	130	30	2.66	10	10	\$10.94	\$7.94	\$12.44

<sup>1</sup>This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup>The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup>Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup>Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup>Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**REGION 9**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	106,250	124,830	18,580	17.49	1.62	4,605
110000	Management Occupations	6,240	7,270	1,030	16.51	1.54	215
130000	Business and Financial Operations Occupations	2,030	2,400	370	18.23	1.69	70
150000	Computer and Mathematical Science Occupations	560	920	360	64.29	5.09	45
170000	Architecture and Engineering Occupations	880	1,000	120	13.64	1.29	30
190000	Life, Physical, and Social Services Occupations	410	490	80	19.51	1.80	20
210000	Community and Social Services Occupaitons	1,380	1,850	470	34.06	2.97	75
230000	Legal Occupations	390	460	70	17.95	1.66	15
250000	Education, Training, and Library Occupations	5,510	6,700	1,190	21.60	1.97	235
270000	Art, Design, Entertainment, Sports, and Media Occ.	910	1,080	170	18.68	1.73	30
290000	Healthcare Practitioner and Technical Occ.	4,970	6,440	1,470	29.58	2.62	235
310000	Healthcare Support Occupations	2,080	2,850	770	37.02	3.20	105
330000	Protective Service Occupations	2,370	2,840	470	19.83	1.83	110
350000	Food Preparation and Serving Related Occ.	9,740	12,100	2,360	24.23	2.19	615
370000	Building & Grounds Cleaning & Maintenance Occ.	4,720	6,200	1,480	31.36	2.76	245
390000	Personal Care and Service Occupations	2,940	3,900	960	32.65	2.87	170
410000	Sales and Related Occupations	12,410	14,430	2,020	16.28	1.52	615
430000	Office and Administrative Support Occupations	15,620	17,610	1,990	12.74	1.21	585
450000	Farming, Fishing, and Forestry Occupations	2,350	2,280	-70	-2.98	-0.30	60
470000	Construction and Extraction Occupations	6,350	7,460	1,110	17.48	1.62	240
490000	Installation, Maint., and Repair Occupations	4,990	5,820	830	16.63	1.55	205
510000	Production Occupations	10,500	10,380	-120	-1.14	-0.11	335
530000	Transportation and Mat. Moving Occupations	8,910	10,320	1,410	15.82	1.48	340

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.

**Top 40 High Demand Occupations**  
**WORKFORCE INVESTMENT ADVISORY AREA 9**

SOC	Occupations	Employment		Avg Annual Growth (%)	Avg Annual Openings <sup>2</sup>	10-YR Change (%)	Mean Annual Salary (\$)
		2004	2014				
291111	Registered Nurses	1,490	2,020	3.09	85	36	45,084
399011	Child Care Workers	1,070	1,430	2.94	65	34	13,233
372011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	1,780	2,340	2.77	90	31	17,454
353031	Waiters and Waitresses	2,250	2,880	2.50	180	28	13,213
537062	Hand	2,050	2,660	2.64	125	30	18,339
373011	Landscaping and Groundskeeping Workers	850	1,160	3.16	50	36	19,477
353021	Combined Food Preparation and Serving Workers, Including Fast Food	1,900	2,410	2.41	135	27	13,181
412031	Retail Salespersons	4,030	5,000	2.18	240	24	19,743
372012	Maids and Housekeeping Cleaners	1,510	1,950	2.59	75	29	16,709
111021	General and Operations Managers	1,400	1,760	2.31	60	26	84,698
512092	Team Assemblers	1,190	1,500	2.34	60	26	24,231
212011	Clergy	420	620	3.97	30	0	32,523
311011	Home Health Aides	290	490	5.39	25	69	14,995
311012	Nursing Aides, Orderlies, and Attendants	1,110	1,390	2.27	45	25	17,261
412021	Counter and Rental Clerks	380	510	2.99	30	34	18,047
352011	Cooks, Fast Food	1,070	1,330	2.20	60	24	14,358
434171	Receptionists and Information Clerks	610	780	2.49	30	28	19,392
332011	Fire Fighters	310	420	3.08	20	35	32,251
393091	Amusement and Recreation Attendants	280	400	3.63	20	43	13,995
352014	Cooks, Restaurant	800	990	2.15	45	24	18,971
499042	Maintenance and Repair Workers, General	1,030	1,260	2.04	40	22	28,492
433031	Bookkeeping, Accounting, and Auditing Clerks	1,740	2,080	1.80	70	20	24,012
252021	Elemen. School Teachers, Except Special Educ. <sup>3</sup>	*	*	1.92	45	*	37,146
434051	Customer Service Representatives	1,210	1,450	1.83	45	20	25,141
395012	Hairdressers, Hairstylists, and Cosmetologists	530	670	2.37	25	26	13,770
292052	Pharmacy Technicians	290	390	3.01	15	34	22,049
259021	Farm and Home Management Advisors <sup>3</sup>	*	*	4.88	15	*	37,909
351012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	710	880	2.17	30	24	23,809
352021	Food Preparation Workers	380	490	2.57	25	29	14,624
292041	Emergency Medical Technicians & Paramedics <sup>3</sup>	*	*	3.12	15	*	*
319091	Dental Assistants	170	260	4.34	15	53	17,991
259041	Teacher Assistants	1,180	1,400	1.72	45	19	14,018
399032	Recreation Workers	270	360	2.92	15	33	19,437
439061	Office Clerks, General	2,170	2,510	1.47	85	16	18,976
392021	Nonfarm Animal Caretakers	150	240	4.81	15	1	17,077
151021	Computer Programmers	140	240	5.54	15	71	46,919
493023	Automotive Service Technicians and Mechanics	550	680	2.14	30	24	32,323
333051	Police and Sheriff's Patrol Officers	640	780	2.00	30	22	31,890
412011	Cashiers	3,130	3,440	0.95	180	10	15,447
472211	Sheet Metal Workers <sup>3</sup>	*	*	2.44	20	*	26,370

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Projections Unit, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

1 Employment is rounded to the nearest 10.

2 Average Annual Openings are rounded to the nearest 5.

3 Data is suppressed due to confidentiality standards.



## Selected Fast-Growing Occupations

### REGION 9

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2004	2014			
151051	Computer Systems Analysts	80	190	137.5	9.04	10
194091	Environmental Science & Prot. Technicians, Incl. Health	***	***	***	7.18	5
292056	Veterinary Technologists and Technicians	***	***	***	7.18	5
259099	Education, Training, and Library Workers, All Other	***	***	***	6.05	5
151071	Network and Computer Systems Administrators	***	***	***	5.76	5
151021	Computer Programmers	140	240	71.4	5.54	15
311011	Home Health Aides	290	490	69.0	5.39	25
151081	Network Systems and Data Communications Analysts	60	100	66.7	5.24	5
172081	Environmental Engineers	***	***	***	5.24	5
259021	Farm and Home Management Advisors	***	***	***	4.88	15
392021	Nonfarm Animal Caretakers	150	240	60.0	4.81	15
439031	Desktop Publishers	50	80	60.0	4.81	5
212021	Directors, Religious Activities and Education	120	190	58.3	4.70	5
113021	Computer and Information Systems Managers	70	110	57.1	4.62	5
319091	Dental Assistants	170	260	52.9	4.34	15
112031	Public Relations Managers	60	90	50.0	4.14	5
131071	Employment, Recruitment, and Placement Specialists	60	90	50.0	4.14	5
312021	Physical Therapist Assistants	60	90	50.0	4.14	5
413099	Sales Representatives, Services, All Other	140	210	50.0	4.14	10
292021	Dental Hygienists	***	***	***	4.14	10
212011	Clergy	420	620	47.6	3.97	30
291123	Physical Therapists	***	***	***	3.93	10
319092	Medical Assistants	110	160	45.5	3.82	5
251194	Vocational Education Teachers, Postsecondary	70	100	42.9	3.63	5
393091	Amusement and Recreation Attendants	280	400	42.9	3.63	20
211021	Child, Family, and School Social Workers	100	140	40.0	3.42	5
373011	Landscaping and Groundskeeping Workers	850	1,160	36.5	3.16	50
292041	Emergency Medical Technicians and Paramedics	***	***	***	3.12	15
399031	Fitness Trainers and Aerobics Instructors	140	190	35.7	3.10	10
291111	Registered Nurses	1,490	2,020	35.6	3.09	85
332011	Fire Fighters	310	420	35.5	3.08	20
292052	Pharmacy Technicians	290	390	34.5	3.01	15

Selection Criteria: Annual growth rate of at least 3.0%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### REGION 9

soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
516031	Sewing Machine Operators**	910	340	-570
434151	Order Clerks**	200	160	-40
435041	Meter Readers, Utilities**	70	40	-30
452093	Farmworkers, Farm and Ranch Animals	140	120	-20
516021	Pressers, Textile, Garment, and Related Materials	150	130	-20
517042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	160	140	-20
452021	Animal Breeders	20	10	-10
435111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	30	20	-10
516063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders**	30	20	-10
439011	Computer Operators**	40	30	-10
454011	Forest and Conservation Workers	50	40	-10
119131	Postmasters and Mail Superintendents	60	50	-10
435051	Postal Service Clerks	80	70	-10
519031	Cutters and Trimmers, Hand	***	***	***
519196	Paper Goods Machine Setters, Operators, and Tenders	***	***	***
516062	Textile Cutting Machine Setters, Operators, and Tenders	***	***	***
434071	File Clerks**	***	***	***
516091	Extruding & Forming Mach. Setters, Oper. & Tend., Synth. & Glass Fibers	***	***	***
499043	Maintenance Workers, Machinery	***	***	***
518091	Chemical Plant and System Operators**	***	***	***
516092	Fabric and Apparel Patternmakers	***	***	***
439071	Office Machine Operators, Except Computer**	***	***	***
537073	Wellhead Pumpers	***	***	***
519012	Separating, Filtering, Clarifying, Precipitating, & Still Machine Setters	***	***	***
434061	Eligibility Interviewers, Government Programs	***	***	***
518013	Power Plant Operators	***	***	***
512022	Electrical and Electronic Equipment Assemblers**	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10, and a 12% drop over the period.

Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

# Top 20 Occupations by Avg. Hourly Wage <sup>1</sup>

Associate Degree and Under

WIA Region 9 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
11-9199	Managers, All Other	580	640	60	0.99	15	8	\$36.65	\$24.30	\$42.82
11-3051	Industrial Production Managers	210	220	10	0.47	5	8	\$34.50	\$22.34	\$40.57
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	300	310	10	0.33	5	8	\$29.43	\$18.97	\$34.66
11-3071	Transp., Storage, & Distribution Managers	40	40	0	0.00	0	8	\$27.54	\$19.90	\$31.36
11-9061	Funeral Directors	40	50	10	2.26	0	6	\$26.40	\$15.35	\$31.93
11-9131	Postmasters and Mail Superintendents	60	50	(10)	-1.81	0	8	\$25.34	\$18.59	\$28.71
33-1012	First-Line Supervisors/Managers of Police and Detectives	60	70	10	1.55	0	8	\$25.32	\$18.32	\$28.82
41-4011	Sales Representatives, Wholesale & Manuf., Technical & Scientific Products	180	200	20	1.06	10	10	\$25.06	\$13.10	\$31.03
33-1021	First-Line Supervisors/Managers of Fire Fighting & Prevention Workers	30	40	10	2.92	0	8	\$24.54	\$16.67	\$28.48
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, & Repairers	450	530	80	1.65	20	8	\$23.67	\$14.93	\$28.04
41-4012	Sales Repres., Wholesale & Manuf., Except Technical & Scientific Products	750	880	130	1.61	35	10	\$23.04	\$12.43	\$28.35
47-4011	Construction & Building Inspectors	60	70	10	1.55	0	8	\$22.95	\$18.42	\$25.22
51-1011	First-Line Supervisors/Managers of Production & Operating Workers	730	800	70	0.92	25	8	\$22.52	\$12.93	\$27.31
15-1099	Computer Specialists, All Other	30	40	10	2.92	0	6	\$22.42	\$12.57	\$27.35
41-9022	Real Estate Sales Agents	310	360	50	1.51	10	7	\$22.31	\$11.29	\$27.82
45-1011	First-Line Supervisors/Managers of Farming, Fishing, & Forestry Workers	100	110	10	0.96	0	8	\$22.27	\$15.45	\$25.68
49-2022	Telecommunications Equip. Installers & Repairers, Except Line Installers	110	100	(10)	-0.95	0	9	\$21.80	\$17.66	\$23.87
13-1051	Cost Estimators	100	130	30	2.66	5	8	\$21.71	\$15.15	\$24.99
29-1111	Registered Nurses	1,490	2,020	530	3.09	85	6	\$21.68	\$17.40	\$23.81
43-5051	Postal Service Clerks	80	70	(10)	-1.33	0	11	\$20.92	\$17.47	\$22.64

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training;

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Job Openings <sup>1</sup>

## Associate Degree and Under WIA Region 9 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
41-2031	Retail Salespersons	4,030	5,000	970	2.18	240	11	\$9.49	\$6.15	\$11.16
41-2011	Cashiers	3,130	3,440	310	0.95	180	11	\$7.43	\$6.01	\$8.14
35-3031	Waiters and Waitresses	2,250	2,880	630	2.50	180	11	\$6.35	\$5.88	\$6.59
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	1,900	2,410	510	2.41	135	11	\$6.34	\$5.88	\$6.56
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	2,050	2,660	610	2.64	125	11	\$8.82	\$6.14	\$10.15
37-2011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	1,780	2,340	560	2.77	90	11	\$8.39	\$5.96	\$9.61
29-1111	Registered Nurses	1,490	2,020	530	3.09	85	6	\$21.68	\$17.40	\$23.81
43-9061	Office Clerks, General	2,170	2,510	340	1.47	85	11	\$9.12	\$6.53	\$10.42
53-3032	Truck Drivers, Heavy & Tractor-Trailer	3,070	3,390	320	1.00	80	10	\$16.02	\$10.30	\$18.88
37-2012	Maids & Housekeeping Cleaners	1,510	1,950	440	2.59	75	11	\$8.03	\$5.97	\$9.06
43-3031	Bookkeeping, Accounting, & Auditing Clerks	1,740	2,080	340	1.80	70	10	\$11.54	\$7.99	\$13.32
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	2,280	2,540	260	1.09	65	8	\$14.09	\$9.27	\$16.50
43-6014	Secretaries, Except Legal, Medical, & Executive	2,010	2,240	230	1.09	65	10	\$10.84	\$8.30	\$12.10
39-9011	Child Care Workers	1,070	1,430	360	2.94	65	11	\$6.36	\$6.05	\$6.52
51-2092	Team Assemblers	1,190	1,500	310	2.34	60	10	\$11.65	\$6.90	\$14.02
35-2011	Cooks, Fast Food	1,070	1,330	260	2.20	60	11	\$6.90	\$5.97	\$7.37
37-3011	Landscaping & Groundskeeping Workers	850	1,160	310	3.16	50	11	\$9.36	\$7.44	\$10.33
25-9041	Teacher Assistants	1,180	1,400	220	1.72	45	11	***	***	***
43-4051	Customer Service Representatives	1,210	1,450	240	1.83	45	10	\$12.09	\$8.99	\$13.64
35-2014	Cooks, Restaurant	800	990	190	2.15	45	9	\$9.12	\$6.99	\$10.18

<sup>1</sup>This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup>The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup>Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup>Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup>Wage and employment estimates are provided by the OES program and represent "unenanced" wage data.

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# Top 20 Occupations by Avg. Annual Growth Rate <sup>1</sup>

## Associate Degree and Under WIA Region 9 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
41-9011	Demonstrators & Product Promoters	10	20	10	7.18	0	10	***	***	***
47-4099	Construction & Related Workers, All Other	10	20	10	7.18	0	10	***	***	***
31-1011	Home Health Aides	290	490	200	5.39	25	11	\$7.21	\$5.89	\$7.87
39-2021	Nonfarm Animal Caretakers	150	240	90	4.81	15	11	\$8.21	\$5.89	\$9.37
43-9031	Desktop Publishers	50	80	30	4.81	5	7	***	***	***
31-9091	Dental Assistants	170	260	90	4.34	15	10	\$8.65	\$7.53	\$9.21
41-3099	Other	140	210	70	4.14	10	10	\$19.17	\$8.50	\$24.51
31-2021	Physical Therapist Assistants	60	90	30	4.14	5	6	\$17.82	\$15.72	\$18.87
53-7021	Crane and Tower Operators	20	30	10	4.14	0	9	***	***	***
47-2042	Floor Layers, Except Carpet, Wood, & Hard Tiles	20	30	10	4.14	0	10	***	***	***
47-2043	Floor Sanders and Finishers	20	30	10	4.14	0	10	***	***	***
39-5093	Shampooers	20	30	10	4.14	0	11	***	***	***
53-3041	Taxi Drivers and Chauffeurs	20	30	10	4.14	0	11	***	***	***
49-3052	Motorcycle Mechanics	20	30	10	4.14	0	9	\$11.66	\$9.65	\$12.66
51-4194	Tool Grinders, Filers, and Sharpeners	20	30	10	4.14	0	10	\$11.49	\$9.11	\$12.69
47-3016	Helpers--Roofers	20	30	10	4.14	0	11	\$7.78	\$6.54	\$8.40
31-9092	Medical Assistants	110	160	50	3.82	5	10	\$10.38	\$8.58	\$11.28
39-3091	Amusement and Recreation Attendants	280	400	120	3.63	20	11	\$6.73	\$5.88	\$7.15
31-2022	Physical Therapist Aides	50	70	20	3.42	0	11	\$8.72	\$7.77	\$9.19
37-3011	Landscaping & Groundskeeping Workers	850	1,160	310	3.16	50	11	\$9.36	\$7.44	\$10.33

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

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# Region 10



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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**REGION 10**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	146,740	160,080	13,340	9.09	0.87	5,130
110000	Management Occupations	8,550	9,190	640	7.49	0.72	220
130000	Business and Financial Operations Occupations	3,800	4,320	520	13.68	1.29	120
150000	Computer and Mathematical Science Occupations	900	1,040	140	15.56	1.46	25
170000	Architecture and Engineering Occupations	2,240	2,460	220	9.82	0.94	75
190000	Life, Physical, and Social Services Occupations	680	730	50	7.35	0.71	20
210000	Community and Social Services Occupaitons	1,830	2,160	330	18.03	1.67	70
230000	Legal Occupations	520	590	70	13.46	1.27	10
250000	Education, Training, and Library Occupations	7,360	8,490	1,130	15.35	1.44	270
270000	Art, Design, Entertainment, Sports, and Media Occ.	1,570	1,730	160	10.19	0.98	45
290000	Healthcare Practitioner and Technical Occ.	8,090	9,660	1,570	19.41	1.79	315
310000	Healthcare Support Occupations	3,530	4,290	760	21.53	1.97	130
330000	Protective Service Occupations	3,310	3,710	400	12.08	1.15	135
350000	Food Preparation and Serving Related Occ.	10,710	12,290	1,580	14.75	1.39	585
370000	Building & Grounds Cleaning & Maintenance Occ.	4,400	4,950	550	12.50	1.18	140
390000	Personal Care and Service Occupations	3,200	3,690	490	15.31	1.43	130
410000	Sales and Related Occupations	15,680	17,030	1,350	8.61	0.83	660
430000	Office and Administrative Support Occupations	20,280	20,950	670	3.30	0.33	600
450000	Farming, Fishing, and Forestry Occupations	2,790	2,650	-140	-5.02	-0.51	75
470000	Construction and Extraction Occupations	7,640	8,280	640	8.38	0.81	220
490000	Installation, Maint., and Repair Occupations	7,840	9,080	1,240	15.82	1.48	315
510000	Production Occupations	18,210	17,720	-490	-2.69	-0.27	520
530000	Transportation and Mat. Moving Occupations	13,630	15,080	1,450	10.64	1.02	455

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.

**Top 40 High Demand Occupations**  
**WORKFORCE INVESTMENT ADVISORY AREA 10**

SOC	Occupation	Employment <sup>1</sup>		Avg Annual Growth (%)	Avg Annual Openings <sup>2</sup>	10-YR Change (%)	Mean Annual Salary (\$)
		2004	2014				
291111	Registered Nurses <sup>3</sup>	*	*	2.24	110	*	48,455
493011	Aircraft Mechanics and Service Technicians	580	1,010	5.70	60	74	36,074
533032	Truck Drivers, Heavy and Tractor-Trailer	4,000	4,650	1.52	130	16	33,833
412031	Retail Salespersons	4,040	4,650	1.42	205	15	20,112
493023	Automotive Service Technicians and Mechanics	890	1,130	2.42	50	27	32,267
	Combined Food Prep. & Serving Workers, Including						
353021	Fast Food	3,140	3,650	1.52	185	16	12,927
352021	Food Preparation Workers	660	840	2.44	45	27	15,073
514121	Welders, Cutters, Solderers, and Brazers	700	890	2.43	40	27	26,219
	Sales Representatives, Wholesale & Manuf., Except						
414012	Technical & Scientific Products	1,140	1,360	1.78	50	19	43,441
399011	Child Care Workers	1,310	1,540	1.63	60	18	13,504
412021	Counter and Rental Clerks	750	910	1.95	45	21	17,297
533033	Truck Drivers, Light or Delivery Services	1,200	1,420	1.70	35	18	25,194
111021	General and Operations Managers	1,750	2,020	1.45	60	15	78,107
353031	Waiters and Waitresses	2,300	2,600	1.23	150	13	13,186
251199	Postsecondary Teachers, All Other <sup>3</sup>	*	*	2.34	25	*	*
319092	Medical Assistants	350	520	4.04	20	49	22,090
434051	Customer Service Representatives	960	1,130	1.64	30	18	22,575
	Janitors & Cleaners, Except Maids & Housekeeping						
372011	Cleaners	1,730	1,980	1.36	60	14	17,089
311011	Home Health Aides	340	480	3.51	20	41	15,696
132011	Accountants and Auditors	900	1,050	1.55	30	17	48,681
434171	Receptionists and Information Clerks	740	870	1.63	35	18	18,661
311012	Nursing Aides, Orderlies, and Attendants	1,910	2,170	1.28	50	14	17,428
	First-Line Supervisors/Managers of Food Preparation						
351012	and Serving Workers	940	1,090	1.49	35	16	24,193
251194	Vocational Education Teachers, Postsecondary <sup>3</sup>	*	*	2.21	20	*	*
252021	Elementary School Teachers, Except Special Educ.	1,150	1,320	1.39	40	15	37,856
352014	Cooks, Restaurant	840	970	1.45	40	15	15,002
259041	Teacher Assistants	1,460	1,650	1.23	50	13	15,050
492091	Avionics Technicians	260	350	3.02	15	35	34,481
131199	Business Operations Specialists, All Other	310	400	2.58	15	29	52,421
212011	Clergy	480	570	1.73	20	19	31,810
332011	Fire Fighters	540	630	1.55	25	17	30,008
433011	Bill and Account Collectors	500	590	1.67	20	18	23,604
292052	Pharmacy Technicians	370	450	1.98	15	22	20,963
472152	Plumbers, Pipefitters, and Steamfitters	460	540	1.62	20	17	27,468
499042	Maintenance and Repair Workers, General	1,500	1,670	1.08	45	11	29,385
513022	Meat, Poultry, and Fish Cutters and Trimmers	2,060	2,250	0.89	65	9	16,642
	First-Line Supervisors/Managers of Mechanics,						
491011	Installers, and Repairers	660	760	1.42	25	15	39,421
372012	Maids and Housekeeping Cleaners	1,330	1,470	1.01	45	11	14,063
499098	Helpers--Installation, Maintenance, & Repair Workers	300	360	1.84	15	20	19,879
333051	Police and Sheriff's Patrol Officers	760	860	1.24	30	13	28,569

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Unit, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

1 Employment is rounded to the nearest 10.

2 Average Annual Openings are rounded to the nearest 5.

3 Data is suppressed due to confidentiality standards.



## Selected Fast-Growing Occupations

### REGION 10

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2004	2014			
493011	Aircraft Mechanics and Service Technicians	580	1,010	74.1	5.70	60
319092	Medical Assistants	350	520	48.6	4.04	20
292056	Veterinary Technologists and Technicians	***	***	***	3.75	5
311011	Home Health Aides	340	480	41.2	3.51	20
312021	Physical Therapist Assistants	80	110	37.5	3.24	5
151071	Network and Computer Systems Administrators	110	150	36.4	3.15	5
492091	Avionics Technicians	260	350	34.6	3.02	15
151081	Network Systems and Data Communications Analysts	90	120	33.3	2.92	5
292021	Dental Hygienists	210	280	33.3	2.92	5
473019	Helpers, Construction Trades, All Other	***	***	***	2.92	10
339099	Protective Service Workers, All Other	160	210	31.3	2.76	15
399021	Personal and Home Care Aides	100	130	30.0	2.66	5
131199	Business Operations Specialists, All Other	310	400	29.0	2.58	15
292041	Emergency Medical Technicians and Paramedics	210	270	28.6	2.54	5
292071	Medical Records and Health Information Technicians	210	270	28.6	2.54	10
319091	Dental Assistants	250	320	28.0	2.50	10
352021	Food Preparation Workers	660	840	27.3	2.44	45
399099	Personal Care and Service Workers, All Other	110	140	27.3	2.44	5
514121	Welders, Cutters, Solderers, and Brazers	700	890	27.1	2.43	40
493023	Automotive Service Technicians and Mechanics	890	1,130	27.0	2.42	50
252041	Special Educ. Teachers, Preschool, Kinder., & Elem. School	150	190	26.7	2.39	10
292012	Medical and Clinical Laboratory Technicians	190	240	26.3	2.36	10
251199	Postsecondary Teachers, All Other	***	***	***	2.34	25
259031	Instructional Coordinators	200	250	25.0	2.26	10
339092	Lifeguards, Ski Patrol, & Oth. Recre. Protective Svc. Workers	***	***	***	2.26	5
291111	Registered Nurses	***	***	***	2.24	110
251194	Vocational Education Teachers, Postsecondary	***	***	***	2.21	20

Selection Criteria: Annual growth rate of at least 2.2%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### REGION 10

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
516031	Sewing Machine Operators**	1,410	830	-580
434071	File Clerks**	190	120	-70
434151	Order Clerks**	340	280	-60
434041	Credit Authorizers, Checkers, and Clerks**	80	50	-30
439011	Computer Operators**	100	70	-30
439051	Mail Clerks and Mail Machine Operators, Except Postal Service**	50	30	-20
537063	Machine Feeders and Offbearers**	140	120	-20
435111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	50	40	-10
516052	Tailors, Dressmakers, and Custom Sewers	70	60	-10
516063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders**	***	***	***
516064	Textile Winding, Twisting, & Drawing Out Machine Setters, Oper. & Tend.**	***	***	***
516091	Extruding & Forming Machine Setters, Oper. & Tend., Synthetic & Glass Fibers	***	***	***
516061	Textile Bleaching and Dyeing Machine Operators and Tenders	***	***	***
435041	Meter Readers, Utilities**	***	***	***
516062	Textile Cutting Machine Setters, Operators, and Tenders	***	***	***
519132	Photographic Processing Machine Operators**	***	***	***
512022	Electrical and Electronic Equipment Assemblers**	***	***	***
516092	Fabric and Apparel Patternmakers	***	***	***
516099	Textile, Apparel, and Furnishings Workers, All Other	***	***	***
454029	Logging Workers, All Other	***	***	***
194091	Environmental Science and Protection Technicians, Including Health	***	***	***
512021	Coil Winders, Tapers, and Finishers	***	***	***
516093	Upholsterers	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10 and a 14% drop over the period.

Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

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# Top 20 Occupations by Avg. Hourly Wage <sup>1</sup>

Associate Degree and Under

WIA Region 10 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
41-4011	Sales Representatives, Wholesale & Manuf., Technical & Scientific Products	140	150	10	0.69	5	10	\$39.93	\$18.85	\$50.47
11-9199	Managers, All Other	800	840	40	0.49	20	8	\$31.25	\$18.14	\$37.80
41-9022	Real Estate Sales Agents	270	290	20	0.72	5	7	\$28.91	\$16.38	\$35.17
11-3071	Transp., Storage, & Distribution Managers	110	130	20	1.68	0	8	\$28.00	\$20.79	\$31.60
11-3051	Industrial Production Managers	150	160	10	0.65	5	8	\$27.31	\$17.82	\$32.05
	Engineering Technicians, Except Drafters, All Other	40	40	0	0.00	0	6	\$26.94	\$20.15	\$30.33
17-3029	Industrial Engineering Technicians	40	40	0	0.00	0	6	\$26.78	\$16.35	\$31.99
17-3026	Postmasters & Mail Superintendents	50	50	0	0.00	0	8	\$26.75	\$22.69	\$28.79
11-9131	Claims Adjusters, Examiners, and Investigators	50	50	0	0.00	0	9	\$26.31	\$16.42	\$31.26
13-1031	First-Line Supervisors/Managers of Non-Retail Sales Workers	390	420	30	0.74	10	8	\$25.67	\$16.15	\$30.43
41-1012	Advertising Sales Agents	150	170	20	1.26	5	10	\$25.00	\$10.91	\$32.05
29-2033	Nuclear Medicine Technologists	30	40	10	2.92	0	6	\$24.36	\$17.83	\$27.62
45-1011	First-Line Supervisors/Managers of Farming, Fishing, & Forestry Workers	160	170	10	0.61	5	8	\$23.78	\$14.08	\$28.63
13-1051	Cost Estimators	120	140	20	1.55	10	8	\$23.69	\$11.91	\$29.58
33-1011	First-Line Supervisors/Managers of Correctional Officers	30	40	10	2.92	0	8	\$23.35	\$17.91	\$26.07
33-1021	First-Line Supervisors/Managers of Fire Fighting & Prevention Workers	50	50	0	0.00	0	8	\$22.60	\$14.20	\$26.80
51-1011	First-Line Supervisors/Managers of Production & Operating Workers	1,130	1,180	50	0.43	30	8	\$22.13	\$13.23	\$26.58
13-2021	Appraisers & Assessors of Real Estate	80	90	10	1.18	0	7	\$21.76	\$12.01	\$26.64
19-4031	Chemical Technicians	90	100	10	1.06	0	6	\$21.55	\$14.09	\$25.28
29-2032	Diagnostic Medical Sonographers	70	80	10	1.34	0	6	\$21.29	\$18.40	\$22.73

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## Associate Degree and Under WIA Region 10 <sup>2</sup>

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41-2011	Cashiers	4,190	4,280	90	0.21	215	11	\$6.95	\$5.89	\$7.48
41-2031	Retail Salespersons	4,040	4,650	610	1.42	205	11	\$9.67	\$6.08	\$11.46
35-3021	Combined Food Preparation & Serving Workers, Including Fast Food	3,140	3,650	510	1.52	185	11	\$6.21	\$5.89	\$6.38
35-3031	Waiters and Waitresses	2,300	2,600	300	1.23	150	11	\$6.34	\$5.91	\$6.55
53-3032	Truck Drivers, Heavy & Tractor-Trailer	4,000	4,650	650	1.52	130	10	\$16.27	\$9.72	\$19.54
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	3,020	3,220	200	0.64	120	11	\$8.45	\$6.00	\$9.67
43-9061	Office Clerks, General	2,680	2,870	190	0.69	80	11	\$8.94	\$6.16	\$10.34
51-3022	Meat, Poultry, & Fish Cutters & Trimmers	2,060	2,250	190	0.89	65	11	\$8.00	\$6.16	\$8.92
49-3011	Aircraft Mechanics & Service Technicians	580	1,010	430	5.70	60	7	\$17.34	\$12.94	\$19.54
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	2,640	2,790	150	0.55	60	8	\$14.48	\$9.63	\$16.91
43-5081	Stock Clerks and Order Fillers	1,560	1,430	(130)	-0.87	60	11	\$8.73	\$5.94	\$10.13
37-2011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	1,730	1,980	250	1.36	60	11	\$8.22	\$6.16	\$9.24
39-9011	Child Care Workers	1,310	1,540	230	1.63	60	11	\$6.49	\$5.87	\$6.80
25-9041	Teacher Assistants	1,460	1,650	190	1.23	50	11	***	***	***
41-4012	Sales Repres., Wholesale & Manuf., Except Technical & Scientific Products	1,140	1,360	220	1.78	50	10	\$20.89	\$12.85	\$24.90
49-3023	Automotive Service Technicians & Mechanics	890	1,130	240	2.42	50	7	\$15.51	\$9.25	\$18.64
43-6014	Secretaries, Except Legal, Medical, & Executive	2,700	2,600	(100)	-0.38	50	10	\$11.06	\$7.55	\$12.82
31-1012	Nursing Aides, Orderlies, & Attendants	1,910	2,170	260	1.28	50	7	\$8.38	\$6.87	\$9.13
43-1011	First-Line Supervisors/Managers of Office & Administrative Support Workers	1,520	1,620	100	0.64	45	8	\$17.77	\$10.50	\$21.40
49-9042	Maintenance & Repair Workers, General	1,500	1,670	170	1.08	45	10	\$14.13	\$8.99	\$16.69

<sup>1</sup>This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup>The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

<sup>3</sup>In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>4</sup>Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>5</sup>Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training;

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>6</sup>Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Growth Rate <sup>1</sup>

## Associate Degree and Under WIA Region 10 <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
31-2011	Occupational Therapist Assistants	10	20	10	7.18	0	6	***	***	***
49-3011	Aircraft Mechanics & Service Technicians	580	1,010	430	5.70	60	7	\$17.34	\$12.94	\$19.54
17-3013	Mechanical Drafters	20	30	10	4.14	0	7	\$19.71	\$13.42	\$22.85
51-5021	Job Printers	20	30	10	4.14	0	9	\$10.76	\$8.91	\$11.68
31-9092	Medical Assistants	350	520	170	4.04	20	10	\$10.62	\$8.45	\$11.70
47-2044	Tile and Marble Setters	70	100	30	3.63	0	9	\$10.44	\$8.26	\$11.53
31-1011	Home Health Aides	340	480	140	3.51	20	11	\$7.55	\$5.94	\$8.35
43-9031	Desktop Publishers	50	70	20	3.42	0	7	***	***	***
31-2021	Physical Therapist Assistants	80	110	30	3.24	5	6	\$17.75	\$10.37	\$21.43
49-2091	Avionics Technicians	260	350	90	3.02	15	7	\$16.58	\$12.20	\$18.77
29-2021	Dental Hygienists	210	280	70	2.92	5	6	\$17.82	\$15.05	\$19.20
53-3041	Taxi Drivers and Chauffeurs	30	40	10	2.92	0	11	***	***	***
29-2033	Nuclear Medicine Technologists	30	40	10	2.92	0	6	\$24.36	\$17.83	\$27.62
33-1011	First-Line Supervisors/Managers of Correctional Officers	30	40	10	2.92	0	8	\$23.35	\$17.91	\$26.07
13-1021	Purchasing Agents & Buyers, Farm Products	30	40	10	2.92	0	8	\$19.32	\$13.07	\$22.45
53-6041	Traffic Technicians	30	40	10	2.92	0	11	\$18.60	\$14.59	\$20.61
33-9099	Protective Service Workers, All Other	160	210	50	2.76	15	11	\$10.52	\$7.23	\$12.16
39-9021	Personal and Home Care Aides	100	130	30	2.66	5	11	\$6.43	\$5.84	\$6.72
29-2071	Medical Records & Health Information Technicians	210	270	60	2.54	10	6	\$10.41	\$7.08	\$12.07
29-2041	Emergency Medical Technicians & Paramedics	210	270	60	2.54	5	7	\$10.31	\$7.57	\$11.68

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855.

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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**JEFFERSON COUNTY**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	422,000	478,150	56,150	13.31	1.26	15,730
110000	Management Occupations	24,620	28,100	3,480	14.13	1.33	825
130000	Business and Financial Operations Occupations	15,620	18,310	2,690	17.22	1.60	545
150000	Computer and Mathematical Science Occupations	9,240	11,380	2,140	23.16	2.11	335
170000	Architecture and Engineering Occupations	7,180	8,330	1,150	16.02	1.50	275
190000	Life, Physical, and Social Services Occupations	2,690	3,500	810	30.11	2.67	140
210000	Community and Social Services Occupaitons	6,290	7,840	1,550	24.64	2.23	275
230000	Legal Occupations	4,970	5,810	840	16.90	1.57	145
250000	Education, Training, and Library Occupations	19,350	22,650	3,300	17.05	1.59	725
270000	Art, Design, Entertainment, Sports, and Media Occ.	5,880	6,760	880	14.97	1.40	210
290000	Healthcare Practitioner and Technical Occ.	28,960	36,060	7,100	24.52	2.22	1,270
310000	Healthcare Support Occupations	9,960	13,470	3,510	35.24	3.06	500
330000	Protective Service Occupations	9,350	10,740	1,390	14.87	1.40	390
350000	Food Preparation and Serving Related Occ.	27,040	30,670	3,630	13.42	1.27	1,425
370000	Building & Grounds Cleaning & Maintenance Occ.	13,530	15,430	1,900	14.04	1.32	455
390000	Personal Care and Service Occupations	8,510	10,130	1,620	19.04	1.76	365
410000	Sales and Related Occupations	50,350	55,420	5,070	10.07	0.96	2,125
430000	Office and Administrative Support Occupations	79,300	83,630	4,330	5.46	0.53	2,395
450000	Farming, Fishing, and Forestry Occupations	690	620	-70	-10.14	-1.06	20
470000	Construction and Extraction Occupations	25,020	27,580	2,560	10.23	0.98	755
490000	Installation, Maint., and Repair Occupations	19,040	21,250	2,210	11.61	1.10	665
510000	Production Occupations	22,760	24,870	2,110	9.27	0.89	785
530000	Transportation and Mat. Moving Occupations	31,660	35,600	3,940	12.44	1.18	1,125

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.

**Top 40 High Demand Occupations**  
**JEFFERSON COUNTY WORKFORCE INVESTMENT AREA**

SOC	Occupation	Employment		Avg Annual Growth <sup>2</sup>	Avg Annual Openings	10-YR Change (%)	Mean Annual Salary (\$)
		2,004	2,014				
291111	Registered Nurses	10,490	13,500	2.55	520	29	50,069
311011	Home Health Aides	2,240	3,550	4.71	160	58	17,029
132011	Accountants and Auditors	3,720	4,790	2.56	175	29	57,464
311012	Nursing Aides, Orderlies, and Attendants	4,230	5,290	2.26	160	25	18,917
512092	Team Assemblers	1,980	2,540	2.52	105	28	31,387
319092	Medical Assistants	960	1,410	3.92	65	47	25,436
252011	Preschool Teachers, Except Special Education	1,270	1,700	2.96	55	34	22,117
434051	Customer Service Representatives	7,160	8,590	1.84	250	20	28,911
151081	Network Systems and Data Communications Analysts	940	1,400	4.06	55	49	54,278
533032	Truck Drivers, Heavy and Tractor-Trailer	6,570	7,870	1.82	235	20	35,418
352021	Food Preparation Workers	2,080	2,580	2.18	125	24	16,695
212011	Clergy	2,060	2,550	2.16	90	24	49,318
434171	Receptionists and Information Clerks	4,060	4,850	1.79	180	19	21,509
399021	Personal and Home Care Aides	670	1,010	4.19	45	51	16,761
151032	Computer Software Engineers, Systems Software	850	1,160	3.16	40	36	75,393
151031	Computer Software Engineers, Applications	940	1,240	2.81	40	32	62,046
111021	General and Operations Managers	6,050	7,130	1.66	225	18	95,139
372012	Maids and Housekeeping Cleaners	4,010	4,780	1.77	160	19	15,297
412031	Retail Salespersons	14,460	16,660	1.43	745	15	23,913
292021	Dental Hygienists	800	1,100	3.24	35	38	44,534
231011	Lawyers	2,710	3,250	1.83	90	20	108,236
211093	Social and Human Service Assistants	740	990	2.95	40	34	24,373
412021	Counter and Rental Clerks	1,460	1,780	2	85	22	21,557
151051	Computer Systems Analysts	1,800	2,180	1.93	60	21	60,030
151071	Network and Computer Systems Administrators	940	1,200	2.47	35	28	56,560
414012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	5,650	6,500	1.41	235	15	53,611
519198	Helpers--Production Workers	1,070	1,320	2.12	55	23	24,708
292061	Licensed Practical and Licensed Vocational Nurses	3,410	3,970	1.53	130	16	30,927
232011	Paralegals and Legal Assistants	730	970	2.88	30	33	41,948
339032	Security Guards	4,280	4,940	1.44	160	15	18,129
131199	Business Operations Specialists, All Other	1,920	2,270	1.69	70	18	63,033
353021	Combined Food Preparation and Serving Workers, Including Fast Food	6,950	7,910	1.3	395	14	14,167
291129	Therapists, All Other <sup>3</sup>	*	*	2.63	35	*	*
436012	Legal Secretaries	1,100	1,330	1.92	45	21	36,883
499021	Heating, Air Conditioning, & Refrigeration Mechanics & Installers	1,100	1,340	1.99	40	22	31,221
399031	Fitness Trainers and Aerobics Instructors	680	870	2.49	35	28	27,970
332011	Fire Fighters <sup>3</sup>	*	*	2.14	45	*	*
292034	Radiologic Technologists and Technicians	940	1,150	2.04	40	22	39,379
292052	Pharmacy Technicians	1,090	1,320	1.93	40	21	22,430
292071	Medical Records and Health Information Technicians	720	920	2.48	30	28	25,908
493023	Automotive Service Technicians and Mechanics	1,900	2,210	1.52	80	16	34,612
111011	Chief Executives	1,300	1,540	1.71	50	18	156,264
533033	Truck Drivers, Light or Delivery Services	3,160	3,620	1.37	75	15	27,339

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Units, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

1 Employment is rounded to the nearest 10.

2 Average Annual Openings are rounded to the nearest 5.

3 Data is suppressed due to confidentiality standards.



## Selected Fast-Growing Occupations

### JEFFERSON COUNTY

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2004	2014			
191042	Medical Scientists, Except Epidemiologists	***	***	***	9.28	10
191029	Biological Scientists, All Other	***	***	***	8.84	5
173029	Engineering Technicians, Except Drafters, All Other	140	320	128.6	8.62	25
172131	Materials Engineers	160	280	75.0	5.76	15
194021	Biological Technicians	210	360	71.4	5.54	20
194091	Environmental Science & Protection Techn., Including Health	60	100	66.7	5.24	5
291071	Physician Assistants	290	460	58.6	4.72	20
311011	Home Health Aides	2,240	3,550	58.5	4.71	160
399021	Personal and Home Care Aides	670	1,010	50.7	4.19	45
151081	Network Systems and Data Communications Analysts	940	1,400	48.9	4.06	55
319092	Medical Assistants	960	1,410	46.9	3.92	65
291122	Occupational Therapists	390	570	46.2	3.87	25
312021	Physical Therapist Assistants	290	420	44.8	3.77	15
399041	Residential Advisors	70	100	42.9	3.63	5
194031	Chemical Technicians	120	170	41.7	3.54	10
211013	Marriage and Family Therapists	120	170	41.7	3.54	10
312011	Occupational Therapist Assistants	120	170	41.7	3.54	5
194099	Life, Physical, and Social Science Technicians, All Other	170	240	41.2	3.51	10
211015	Rehabilitation Counselors	100	140	40.0	3.42	5
251194	Vocational Education Teachers, Postsecondary	***	***	***	3.33	15
251072	Nursing Instructors and Teachers, Postsecondary	130	180	38.5	3.31	10
312022	Physical Therapist Aides	130	180	38.5	3.31	5
439031	Desktop Publishers	260	360	38.5	3.31	15
292021	Dental Hygienists	800	1,100	37.5	3.24	35
291123	Physical Therapists	430	590	37.2	3.21	20
151032	Computer Software Engineers, Systems Software	850	1,160	36.5	3.16	40
251122	Communications Teachers, Postsecondary	***	***	***	3.15	10
252011	Preschool Teachers, Except Special Education	1,270	1,700	33.9	2.96	55
211093	Social and Human Service Assistants	740	990	33.8	2.95	40

Selection Criteria: Annual growth rate of at least 2.9%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### JEFFERSON COUNTY

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
439011	Computer Operators**	910	560	-350
439051	Mail Clerks and Mail Machine Operators, Except Postal Service**	690	430	-260
434071	File Clerks**	650	400	-250
419041	Telemarketers**	1,630	1,430	-200
434151	Order Clerks**	770	580	-190
435041	Meter Readers, Utilities**	320	170	-150
537063	Machine Feeders and Offbearers**	640	490	-150
119012	Farmers and Ranchers**	120	30	-90
434199	Information and Record Clerks, All Other	730	640	-90
434041	Credit Authorizers, Checkers, and Clerks**	150	90	-60
439071	Office Machine Operators, Except Computer**	240	180	-60
452099	Agricultural Workers, All Other	60	20	-40
519132	Photographic Processing Machine Operators**	120	90	-30
119011	Farm, Ranch, and Other Agricultural Managers	30	10	-20
452092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse**	30	10	-20
537111	Shuttle Car Operators	50	30	-20
152041	Statisticians	30	20	-10
518091	Chemical Plant and System Operators**	40	30	-10
434021	Correspondence Clerks	70	60	-10
515011	Bindery Workers	90	80	-10
534021	Railroad Brake, Signal, and Switch Operators	***	***	***
534099	Rail Transportation Workers, All Other	***	***	***
475061	Roof Bolters, Mining	***	***	***
536021	Parking Lot Attendants**	***	***	***
475081	Helpers--Extraction Workers	***	***	***
519193	Cooling and Freezing Equipment Operators and Tenders	***	***	***
474061	Rail-Track Laying and Maintenance Equipment Operators	***	***	***
512021	Coil Winders, Tapers, and Finishers	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10 and a drop of at least 10% over the period.  
Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

# Top 20 Occupations by Avg. Hourly Wage<sup>1</sup>

Associate Degree and Under  
WIA Jefferson County<sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
41-9022	Real Estate Sales Agents	730	790	60	0.79	20	7	\$40.70	\$18.27	\$51.91
11-9199	Managers, All Other	3,700	3,980	280	0.73	100	8	\$40.21	\$27.27	\$46.69
41-9099	Sales and Related Workers, All Other	900	980	80	0.86	25	10	\$37.31	\$13.02	\$49.46
53-6051	Transportation Inspectors	50	50	0	0.00	0	8	\$37.02	\$28.22	\$41.42
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	1,470	1,580	110	0.72	40	8	\$33.83	\$18.23	\$41.63
11-3071	Transp., Storage, & Distribution Managers	280	300	20	0.69	5	8	\$33.81	\$21.58	\$39.92
11-3051	Industrial Production Managers	280	290	10	0.35	5	8	\$31.62	\$21.21	\$36.83
41-4011	Sales Representatives, Wholesale & Manuf., Technical & Scientific Products	1,650	1,890	240	1.37	70	10	\$31.02	\$18.84	\$37.10
13-2021	Appraisers & Assessors of Real Estate	270	310	40	1.39	10	7	\$29.93	\$18.49	\$35.65
33-1012	First-Line Supervisors/Managers of Police and Detectives	170	200	30	1.64	5	8	\$29.36	\$11.65	\$38.21
49-9069	Precision Instrument and Equipment Repairers, All Other	220	240	20	0.87	5	10	\$28.14	\$15.25	\$34.59
33-3021	Detectives and Criminal Investigators	250	280	30	1.14	10	8	\$28.05	\$19.90	\$32.12
29-9012	Occupational Health & Safety Technicians	50	50	0	0.00	0	7	\$27.80	\$17.80	\$32.80
29-1124	Radiation Therapists	60	70	10	1.55	0	6	\$27.42	\$22.29	\$29.99
33-1021	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers	90	100	10	1.06	5	8	\$27.14	\$9.55	\$35.94
13-1061	Emergency Management Specialists	60	70	10	1.55	0	8	\$27.06	\$12.91	\$34.13
11-9131	Postmasters & Mail Superintendents	20	30	10	4.14	0	8	\$26.38	\$19.06	\$30.05
13-1041	Compliance Officers, Except Agriculture, Construction, Health & Safety, & Transp.	250	280	30	1.14	10	9	\$25.96	\$17.75	\$30.06
471011	First-Line Supervisors/Managers of Constr. Trades & Extraction Workers	3,390	3,740	350	0.99	95	8	\$25.94	\$17.79	\$30.01
41-4012	Sales Repres., Wholesale & Manuf., Except Technical & Scientific Products	5,650	6,500	850	1.41	235	10	\$25.77	\$14.75	\$31.29

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training;

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Job Openings <sup>1</sup>

## Associate Degree and Under WIA Jefferson County <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
41-2031	Retail Salespersons	14,460	16,660	2,200	1.43	745	11	\$11.50	\$6.78	\$13.85
41-2011	Cashiers	10,420	10,840	420	0.40	545	11	\$7.49	\$5.94	\$8.27
29-1111	Registered Nurses	10,490	13,500	3,010	2.55	520	6	\$24.07	\$16.63	\$27.79
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	6,950	7,910	960	1.30	395	11	\$6.81	\$5.91	\$7.26
35-3031	Waiters and Waitresses	5,900	6,600	700	1.13	375	11	\$6.82	\$5.93	\$7.27
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	7,860	8,760	900	1.09	345	11	\$10.38	\$6.94	\$12.11
43-3031	Bookkeeping, Accounting, & Auditing Clerks	8,580	9,570	990	1.10	260	10	\$14.71	\$10.49	\$16.82
43-4051	Customer Service Representatives	7,160	8,590	1,430	1.84	250	10	\$13.90	\$9.53	\$16.08
41-4012	Sales Repres., Wholesale & Manuf., Except Technical & Scientific Products	5,650	6,500	850	1.41	235	10	\$25.77	\$14.75	\$31.29
53-3032	Truck Drivers, Heavy & Tractor-Trailer	6,570	7,870	1,300	1.82	235	10	\$17.03	\$11.52	\$19.78
43-9061	Office Clerks, General	7,990	8,440	450	0.55	220	11	\$10.84	\$7.11	\$12.70
43-1011	First-Line Supervisors/Managers of Office & Administrative Support Workers	6,730	7,280	550	0.79	200	8	\$20.46	\$13.12	\$24.13
43-4171	Receptionists and Information Clerks	4,060	4,850	790	1.79	180	11	\$10.34	\$7.72	\$11.65
43-5081	Stock Clerks and Order Fillers	4,880	4,570	(310)	-0.65	180	11	\$9.46	\$6.53	\$10.93
37-2011	Janitors and Cleaners, Except Maids & Housekeeping Cleaners	5,480	6,140	660	1.14	170	11	\$8.52	\$6.05	\$9.75
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	6,260	6,750	490	0.76	165	8	\$16.86	\$10.10	\$20.24
43-6014	Secretaries, Except Legal, Medical, and Executive	8,510	8,490	(20)	-0.02	165	10	\$12.65	\$9.19	\$14.38
31-1012	Nursing Aides, Orderlies, & Attendants	4,230	5,290	1,060	2.26	160	7	\$9.09	\$7.45	\$9.92
339032	Security Guards	4,280	4,940	660	1.44	160	11	\$8.72	\$6.35	\$9.90
31-1011	Home Health Aides	2,240	3,550	1,310	4.71	160	11	\$8.19	\$6.60	\$8.98

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

<sup>3</sup> In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>4</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>5</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi) or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Growth Rate <sup>1</sup>

## Associate Degree and Under WIA Jefferson County <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
17-3029	Engineering Technicians, Except Drafters, All Other	140	320	180	8.62	25	6	\$19.55	\$10.99	\$23.83
39-4011	Embalmers	10	20	10	7.18	0	7	***	***	***
19-4021	Biological Technicians	210	360	150	5.54	20	6	\$13.85	\$10.36	\$15.59
19-4091	Environmental Science and Protection Technicians, Including Health	60	100	40	5.24	5	6	\$22.99	\$13.55	\$27.70
37-3019	Grounds Maintenance Workers, All Other	30	50	20	5.24	0	11	\$13.35	\$7.82	\$16.11
31-1011	Home Health Aides	2,240	3,550	1,310	4.71	160	11	\$8.19	\$6.60	\$8.98
39-9021	Personal and Home Care Aides	670	1,010	340	4.19	45	11	\$8.06	\$7.41	\$8.38
53-3011	Ambulance Drivers & Attendants, Except Emergency Medical Technicians	20	30	10	4.14	0	10	***	***	***
39-6032	Transportation Attendants, Except Flight Attendants and Baggage Porters	20	30	10	4.14	0	11	***	***	***
11-9131	Postmasters & Mail Superintendents	20	30	10	4.14	0	8	\$26.38	\$19.06	\$30.05
31-9092	Medical Assistants	960	1,410	450	3.92	65	10	\$12.23	\$8.68	\$14.00
31-2021	Physical Therapist Assistants	290	420	130	3.77	15	6	\$21.10	\$17.54	\$22.87
39-9041	Residential Advisors	70	100	30	3.63	5	10	\$9.10	\$6.09	\$10.61
19-4031	Chemical Technicians	120	170	50	3.54	10	6	\$19.11	\$13.69	\$21.83
31-2011	Occupational Therapist Assistants	120	170	50	3.54	5	6	\$18.99	\$16.01	\$20.48
19-4099	Life, Physical, & Social Science Technicians, All Other	170	240	70	3.51	10	6	\$25.04	\$17.26	\$28.92
43-9031	Desktop Publishers	260	360	100	3.31	15	7	\$21.46	\$11.00	\$26.69
31-2022	Physical Therapist Aides	130	180	50	3.31	5	11	\$9.35	\$7.51	\$10.27
29-2021	Dental Hygienists	800	1,100	300	3.24	35	6	\$21.41	\$17.14	\$23.54
25-2011	Preschool Teachers, Except Special Education	1,270	1,700	430	2.96	55	7	\$10.63	\$9.11	\$11.39

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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**Summary of Employment and Annual Average Job Openings  
by Major Occupational Category**

**MOBILE COUNTY**

Soc	Major Occupational Groups	Employment		Net Change	Percent Change	Annual Growth Rate	Annual Average Job Openings
		2004	2014				
000000	Total, All Occupations	186,470	215,210	28,740	15.41	1.44	7,525
110000	Management Occupations	10,300	11,750	1,450	14.08	1.33	345
130000	Business and Financial Operations Occupations	5,180	6,150	970	18.73	1.73	190
150000	Computer and Mathematical Science Occupations	2,090	2,810	720	34.45	3.00	100
170000	Architecture and Engineering Occupations	2,860	3,450	590	20.63	1.89	125
190000	Life, Physical, and Social Services Occupations	1,130	1,200	70	6.19	0.60	40
210000	Community and Social Services Occupaitons	3,110	3,870	760	24.44	2.21	135
230000	Legal Occupations	1,730	2,040	310	17.92	1.66	50
250000	Education, Training, and Library Occupations	9,240	11,110	1,870	20.24	1.86	380
270000	Art, Design, Entertainment, Sports, and Media Occ.	2,240	2,550	310	13.84	1.30	75
290000	Healthcare Practitioner and Technical Occ.	11,110	13,840	2,730	24.57	2.22	490
310000	Healthcare Support Occupations	4,370	5,640	1,270	29.06	2.58	190
330000	Protective Service Occupations	3,690	4,290	600	16.26	1.52	160
350000	Food Preparation and Serving Related Occ.	13,860	16,020	2,160	15.58	1.46	780
370000	Building & Grounds Cleaning & Maintenance Occ.	6,970	8,110	1,140	16.36	1.53	255
390000	Personal Care and Service Occupations	4,960	5,920	960	19.35	1.79	215
410000	Sales and Related Occupations	21,310	23,690	2,380	11.17	1.06	925
430000	Office and Administrative Support Occupations	29,950	32,640	2,690	8.98	0.86	1,030
450000	Farming, Fishing, and Forestry Occupations	1,110	1,090	-20	-1.80	-0.18	30
470000	Construction and Extraction Occupations	13,620	15,710	2,090	15.35	1.44	495
490000	Installation, Maint., and Repair Occupations	9,510	11,350	1,840	19.35	1.78	410
510000	Production Occupations	13,520	15,390	1,870	13.83	1.30	560
530000	Transportation and Mat. Moving Occupations	14,600	16,610	2,010	13.77	1.30	535

The employment data is rounded to the nearest 10.

The openings data is rounded to the nearest 5. Openings represent openings for growth and replacement.

Some components may not add due to rounding.

**Top 40 High Demand Occupations**  
**MOBILE COUNTY LOCAL WORKFORCE INVESTMENT AREA**

SOC	Occupation	Employment <sup>1</sup>		Avg Annual Growth <sup>2</sup>	Avg Annual Openings	10-YR Change (%)	Mean Annual Salary (\$)
		2004	2014				
512092	Team Assemblers <sup>3</sup>	*	*	3.45	105	*	22,104
493011	Aircraft Mechanics and Service Technicians <sup>3</sup>	*	*	5.36	80	*	34,180
311011	Home Health Aides	830	1,290	4.51	55	55	17,277
291111	Registered Nurses	4,120	5,290	2.53	200	28	47,519
433011	Bill and Account Collectors	910	1,310	3.71	55	44	22,531
434051	Customer Service Representatives	1,880	2,410	2.51	85	28	25,394
514121	Welders, Cutters, Solderers, and Brazers	1,030	1,360	2.82	65	32	34,079
399021	Personal and Home Care Aides	700	980	3.42	35	40	15,262
292061	Licensed Practical and Licensed Vocational Nurses	1,560	1,930	2.15	75	24	28,589
151051	Computer Systems Analysts	470	680	3.76	25	45	53,554
311012	Nursing Aides, Orderlies, and Attendants	2,110	2,550	1.91	75	21	18,356
132011	Accountants and Auditors	1,230	1,520	2.14	55	24	46,414
519198	Helpers--Production Workers <sup>3</sup>	*	*	2.13	55	*	18,894
434171	Receptionists and Information Clerks	1,300	1,590	2.03	60	22	18,336
111021	General and Operations Managers	3,000	3,580	1.78	115	19	85,512
252021	Elementary School Teachers, Except Special Educ.	1,680	2,030	1.91	70	21	39,565
472152	Plumbers, Pipefitters, and Steamfitters	1,120	1,380	2.11	50	23	32,976
514041	Machinists	420	570	3.10	25	36	33,894
212011	Clergy	790	990	2.28	35	25	28,247
353031	Waiters and Waitresses	3,430	4,040	1.65	235	18	12,528
319092	Medical Assistants	400	550	3.24	20	38	20,258
373011	Landscaping and Groundskeeping Workers	1,240	1,500	1.92	50	21	19,031
352021	Food Preparation Workers	550	690	2.29	35	25	16,773
131199	Business Operations Specialists, All Other	550	710	2.59	25	29	51,043
211093	Social and Human Service Assistants	510	660	2.61	25	29	24,438
519061	Inspectors, Testers, Sorters, Samplers, and Weighers	450	590	2.75	25	31	30,071
533032	Truck Drivers, Heavy and Tractor-Trailer	3,370	3,940	1.57	110	17	30,178
259041	Teacher Assistants <sup>3</sup>	*	*	1.75	70	*	15,273
151041	Computer Support Specialists	500	650	2.66	20	30	37,212
372011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	2,840	3,330	1.60	105	17	15,566
412031	Retail Salespersons	5,340	6,200	1.50	280	16	23,882
399011	Child Care Workers	1,520	1,810	1.76	70	19	13,449
414012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Product	2,280	2,660	1.55	100	17	44,313
232011	Paralegals and Legal Assistants	480	620	2.59	20	29	44,818
472111	Electricians	1,510	1,790	1.72	60	19	29,833
291199	Health Diagnosing & Treating Practitioners, All Other	610	750	2.09	30	23	121,223
353021	Combined Food Preparation and Serving Workers, Including Fast Food	4,270	4,900	1.39	250	15	13,360
512041	Structural Metal Fabricators and Fitters	300	410	3.17	15	37	31,718
472211	Sheet Metal Workers	420	530	2.35	20	26	30,463
439061	Office Clerks, General	3,370	3,890	1.45	130	15	20,312

**Source:** 2004-2014 projections were developed by the Alabama Department of Industrial Relations, Labor Market Information Division, Research & WIA Units, MicroMatrix System, June 2006.

**Note:** Occupations were selected based on the descending order of average rankings using base year employment, average annual growth and average annual openings. The annual growth rate is compounded. Wage estimates are based on the release of the May 2005

1 Employment is rounded to the nearest 10.

2 Average Annual Openings are rounded to the nearest 5.

3 Data is suppressed due to confidentiality standards.



## Selected Fast-Growing Occupations

### MOBILE COUNTY

Soc	Occupation	Employment		Percent Change	Annual Growth	Total Annual Average Job Openings
		2004	2014			
172011	Aerospace Engineers	***	***	***	17.46	10
512011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	***	***	***	9.60	5
514033	Grind., Lapping, Polish., & Buffing Mach. Tool Set., Oper. & Tend.	50	90	80.0	6.05	5
173029	Engineering Technicians, Except Drafters, All Other	80	140	75.0	5.76	5
493011	Aircraft Mechanics and Service Technicians	***	***	***	5.36	80
151071	Network and Computer Systems Administrators	180	290	61.1	4.88	10
311011	Home Health Aides	830	1,290	55.4	4.51	55
151032	Computer Software Engineers, Systems Software	80	120	50.0	4.14	5
172199	Engineers, All Other	160	240	50.0	4.14	15
151031	Computer Software Engineers, Applications	130	190	46.2	3.87	5
151081	Network Systems and Data Communications Analysts	110	160	45.5	3.82	5
439031	Desktop Publishers	110	160	45.5	3.82	10
151051	Computer Systems Analysts	470	680	44.7	3.76	25
312021	Physical Therapist Assistants	***	***	***	3.75	5
433011	Bill and Account Collectors	910	1,310	44.0	3.71	55
172141	Mechanical Engineers	210	300	42.9	3.63	15
499043	Maintenance Workers, Machinery	120	170	41.7	3.54	10
512092	Team Assemblers	***	***	***	3.45	105
292021	Dental Hygienists	***	***	***	3.42	10
319091	Dental Assistants	150	210	40.0	3.42	10
399021	Personal and Home Care Aides	700	980	40.0	3.42	35
536031	Service Station Attendants	***	***	***	3.42	10
319092	Medical Assistants	400	550	37.5	3.24	20
512041	Structural Metal Fabricators and Fitters	300	410	36.7	3.17	15
514041	Machinists	420	570	35.7	3.10	25
251199	Postsecondary Teachers, All Other	***	***	***	3.07	10
119041	Engineering Managers	230	310	34.8	3.03	15
252042	Special Education Teachers, Middle School	***	***	***	2.92	5
291122	Occupational Therapists	120	160	33.3	2.92	5
291123	Physical Therapists	210	280	33.3	2.92	5
339092	Lifeguards, Ski Patrol, & Oth. Recrea. Protective Svc. Workers	60	80	33.3	2.92	5

Selection Criteria: Annual growth rate of at least 2.9%.

Employment level data is rounded to the nearest 10. Openings data is rounded to the nearest 5

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

## Selected Declining Occupations

### MOBILE COUNTY

Soc	Occupation	Employment		Net Change
		2004	2014	2004 - 2014
434071	File Clerks**	470	330	-140
439051	Mail Clerks and Mail Machine Operators, Except Postal Service**	260	170	-90
119012	Farmers and Ranchers**	520	440	-80
434151	Order Clerks**	290	220	-70
518091	Chemical Plant and System Operators**	430	370	-60
439011	Computer Operators**	150	110	-40
452099	Agricultural Workers, All Other	280	240	-40
534021	Railroad Brake, Signal, and Switch Operators	50	30	-20
519131	Photographic Process Workers	60	40	-20
452093	Farmworkers, Farm and Ranch Animals	80	60	-20
519132	Photographic Processing Machine Operators**	80	60	-20
518093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	110	90	-20
454011	Forest and Conservation Workers	30	20	-10
453011	Fishers and Related Fishing Workers	60	50	-10
194021	Biological Technicians	70	60	-10
519196	Paper Goods Machine Setters, Operators, and Tenders	***	***	***
519032	Cutting and Slicing Machine Setters, Operators, and Tenders	***	***	***
435041	Meter Readers, Utilities**	***	***	***
536021	Parking Lot Attendants**	***	***	***
515011	Bindery Workers	***	***	***
517021	Furniture Finishers	***	***	***
514072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders**	***	***	***
536011	Bridge and Lock Tenders	***	***	***

Selection Criteria: Employment decline from 2004-2014 of at least 10 and a 13% drop over the period.

Data is rounded to nearest 10.

\*\* Qualify among the 30 occupations with the largest job decline in the 2004 - 2014 Bureau of Labor Statistics National Occupational Projections.

\*\*\* The data for these occupations are confidential using Bureau of Labor Statistics standards.

# Top 20 Occupations by Avg. Hourly Wages <sup>1</sup>

## Associate Degree and Under WIA Mobile County <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
11-3051	Industrial Production Managers	150	180	30	1.84	5	8	\$37.49	\$25.52	\$43.48
11-9199	Managers, All Other	1,020	1,080	60	0.57	25	8	\$35.09	\$21.52	\$41.88
11-3071	Transportation, Storage, and Distribution Managers	130	140	10	0.74	0	8	\$33.84	\$19.91	\$40.80
41-9022	Real Estate Sales Agents	490	540	50	0.98	15	7	\$32.43	\$23.32	\$36.98
41-3011	Advertising Sales Agents	100	120	20	1.84	0	10	\$30.71	\$21.82	\$35.15
11-9131	Postmasters and Mail Superintendents	20	20	0	0.00	0	8	\$30.70	\$25.16	\$33.46
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	210	240	30	1.34	10	10	\$30.61	\$17.74	\$37.05
17-3012	Electrical and Electronics Drafters	110	110	0	0.00	5	7	\$30.16	\$22.41	\$34.03
29-1124	Radiation Therapists	30	40	10	2.92	0	6	\$29.85	\$23.81	\$32.87
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	610	650	40	0.64	15	8	\$27.31	\$15.73	\$33.10
13-1031	Claims Adjusters, Examiners, and Investigators	230	260	30	1.23	10	9	\$26.84	\$17.88	\$31.32
29-2033	Nuclear Medicine Technologists	10	20	10	7.18	0	6	\$25.63	\$21.08	\$27.90
17-3029	Engineering Technicians, Except Drafters, All Other	80	140	60	5.76	5	6	\$25.61	\$14.00	\$31.41
53-5021	Captains, Mates, and Pilots of Water Vessels	130	160	30	2.10	10	8	\$25.59	\$18.22	\$29.27
15-1099	Computer Specialists, All Other	50	60	10	1.84	0	6	\$25.41	\$14.32	\$30.95
29-2032	Diagnostic Medical Sonographers	100	130	30	2.66	5	6	\$23.97	\$18.98	\$26.47
49-2022	Installers and Repairers, Except Line Installers	140	140	0	0.00	5	9	\$23.60	\$20.62	\$25.10
13-1051	Cost Estimators	210	260	50	2.16	10	8	\$23.47	\$16.56	\$26.92
435051	Postal Service Clerks	100	100	0	0.00	5	11	\$23.15	\$20.89	\$24.27
51-4041	Machinists	420	570	150	3.10	25	9	\$16.30	\$13.13	\$17.88

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855

# Top 20 Occupations by Avg. Annual Job Openings <sup>1</sup>

## Associate Degree and Under WIA Mobile County <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
41-2031	Retail Salespersons	5,340	6,200	860	1.50	280	11	\$11.48	\$6.54	\$13.95
41-2011	Cashiers	5,120	5,400	280	0.53	280	11	\$6.99	\$5.87	\$7.55
35-3021	Combined Food Preparation & Serving Workers, Including Fast Food	4,270	4,900	630	1.39	250	11	\$6.42	\$5.89	\$6.69
35-3031	Waiters and Waitresses	3,430	4,040	610	1.65	235	11	\$6.02	\$5.91	\$6.08
29-1111	Registered Nurses	4,120	5,290	1,170	2.53	200	6	\$22.85	\$18.71	\$24.91
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	3,300	3,790	490	1.39	160	11	\$8.76	\$6.11	\$10.08
43-9061	Office Clerks, General	3,370	3,890	520	1.45	130	11	\$9.77	\$6.86	\$11.22
53-3032	Truck Drivers, Heavy & Tractor-Trailer	3,370	3,940	570	1.57	110	10	\$14.51	\$9.70	\$16.91
37-2011	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	2,840	3,330	490	1.60	105	11	\$7.48	\$5.95	\$8.25
41-4012	Sales Repres., Wholesale & Manuf., Except Technical & Scientific Products	2,280	2,660	380	1.55	100	10	\$21.30	\$12.93	\$25.49
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	3,510	3,810	300	0.82	95	8	\$16.77	\$9.21	\$20.55
43-4051	Customer Service Representatives	1,880	2,410	530	2.51	85	10	\$12.21	\$8.93	\$13.85
43-5081	Stock Clerks & Order Fillers	2,340	2,190	(150)	-0.66	85	11	\$8.67	\$5.94	\$10.04
43-3031	Bookkeeping, Accounting, & Auditing Clerks	2,770	3,050	280	0.97	80	10	\$12.76	\$8.81	\$14.74
43-6014	Secretaries, Except Legal, Medical, & Executive	3,450	3,580	130	0.37	80	10	\$11.61	\$8.86	\$12.99
43-1011	First-Line Supervisors/Managers of Office & Administrative Support Workers	2,380	2,640	260	1.04	75	8	\$18.65	\$12.71	\$21.62
29-2061	Licensed Practical & Licensed Vocational Nurses	1,560	1,930	370	2.15	75	7	\$13.74	\$11.49	\$14.87
31-1012	Nursing Aides, Orderlies, & Attendants	2,110	2,550	440	1.91	75	7	\$8.82	\$7.26	\$9.61
372012	Maids and Housekeeping Cleaners	2,070	2,350	280	1.28	75	11	\$6.81	\$5.87	\$7.28
39-9011	Child Care Workers	1,520	1,810	290	1.76	70	11	\$6.47	\$5.88	\$6.76

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown.

In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6, Associates Degree; 7, Postsecondary vocational training; 8, Work experience in a related occupation; 9, Long-term on-the-job training

10, Moderate-term on-the-job training; 11, Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenanced" wage data.

Additional information relating to data in this table can be found on the Alabama Department of Industrial Relations Labor Market Information Website @ [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi), or by calling 334-242-8855.

# Top 20 Occupations by Avg. Annual Growth Rate <sup>1</sup>

## Associate Degree and Under WIA Mobile County <sup>2</sup>

SOC Code	Occupation Title	2004 Base Year Employment	2014 Projected Year Employment	Net Change	Annual Avg. Growth Rate (PERCENT)	Annual Avg. Openings <sup>3</sup>	Education & Training Code <sup>4</sup>	Average Hourly Wage <sup>5</sup>	Average Entry Hourly Wage <sup>5</sup>	Experienced Entry Hourly Wage <sup>5</sup>
27-2021	Athletes and Sports Competitors	10	20	10	7.18	0	9	***	***	***
27-3091	Interpreters and Translators	10	20	10	7.18	0	9	***	***	***
29-2033	Nuclear Medicine Technologists	10	20	10	7.18	0	6	\$25.63	\$21.08	\$27.90
51-4033	Grinding, Lapping, Polishing, & Buffing Machine Tool Setters, Oper., & Tend., Metal & Plastic	50	90	40	6.05	5	10	\$10.77	\$7.24	\$12.53
17-3029	Engineering Technicians, Except Drafters, All Other	80	140	60	5.76	5	6	\$25.61	\$14.00	\$31.41
31-1011	Home Health Aides	830	1,290	460	4.51	55	11	\$8.31	\$6.15	\$9.38
11-9061	Funeral Directors	20	30	10	4.14	0	6	***	***	***
27-1019	Artists and Related Workers, All Other	20	30	10	4.14	0	9	***	***	***
49-3022	Automotive Glass Installers & Repairers	20	30	10	4.14	0	9	***	***	***
51-8021	Stationary Engineers & Boiler Operators	20	30	10	4.14	0	9	***	***	***
51-4194	Tool Grinders, Filers, and Sharpeners	20	30	10	4.14	0	10	\$13.82	\$7.69	\$16.89
43-9031	Desktop Publishers	110	160	50	3.82	10	7	\$10.57	\$8.26	\$11.73
43-3011	Bill and Account Collectors	910	1,310	400	3.71	55	11	***	***	***
49-9043	Maintenance Workers, Machinery	120	170	50	3.54	10	11	\$12.94	\$9.06	\$14.88
39-9021	Personal and Home Care Aides	700	980	280	3.42	35	11	\$7.34	\$6.18	\$7.91
27-2032	Choreographers	100	140	40	3.42	10	8	\$14.29	\$6.11	\$18.38
31-9091	Dental Assistants	150	210	60	3.42	10	10	\$8.88	\$5.85	\$10.39
31-9092	Medical Assistants	400	550	150	3.24	20	10	\$9.74	\$8.14	\$10.54
51-2041	Structural Metal Fabricators & Fitters	300	410	110	3.17	15	10	\$15.25	\$12.27	\$16.74
51-4041	Machinists	420	570	150	3.10	25	9	\$16.30	\$13.13	\$17.88

<sup>1</sup> This table is a compilation of information developed under the Alabama Occupational Employment Statistics (OES) program and the Alabama Occupational Projections program.

<sup>2</sup> The information presented in this table has been screened to insure that no confidential data is released. Occupations where the employment information is confidential are not shown. In cases where the occupation's employment information is published but the wage data are confidential, the wage field contains asterisks.

<sup>3</sup> Openings data are rounded to the nearest five, therefore, occupations which are projected to have only one or two openings per year will show zero annual openings.

<sup>4</sup> Codes are standard education & training classification codes:

6. Associates Degree; 7. Postsecondary vocational training; 8. Work experience in a related occupation; 9. Long-term on-the-job training

10. Moderate-term on-the-job training; 11. Short-term on-the-job training.

<sup>5</sup> Wage and employment estimates are provided by the OES program and represent "unenhanced" wage data.

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# Skills *for* Tomorrow *in* Alabama 2002-2012



## Introduction

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability. A certain skill can be important in many different occupations. Likewise, most occupations require employees to possess various skills. In the late 90's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains information about knowledge aspects, skills, abilities, interests, general work activities, and work context in relation to occupations.

In the past, public officials, educators, economic developers, etc. have all asked the question: What industries or occupations will be in demand in the next two-, five-, or ten-year periods? Now this entity wants to know which skills will be in demand in the future and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the

Projections Partnership, sponsored by the U.S. Department Of Labor, Employment and Training Administration, developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered worker-oriented descriptors. Generalized work activities are typical activities which are performed across occupational groups and are classified as job-oriented descriptors. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

Managing Partnership, sponsored

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## **Introduction** (cont'd from pg. 1)

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the supply of projected training completers or dislocated workers. Reliable information to this extent does not yet exist.

The SBP system also allows one to examine possible critical skills for an area. Two types of analysis are available in the system to study this subject; skills gap index and replacement index. The skills gap index allows one to see the potential for gaps between supply and demand by measuring the difference between the current supply of a skill to its projected demand. The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. The replacement index measures the percentage of total openings which are due to replacement, leaving out those due to growth. The higher the index, the greater the proportion of openings will be due to replacement. Skills which score especially high both in skills gap and replacement are expected to be critical skills for the projected period.

This analysis will cover the state of Alabama. The occupational projection periods used will be the short-term period of 2004-2006 and the long-term period of 2002-2012. In some cases, statewide data will be compared to national data. Each of the three O\*NET descriptors will be covered individually for the periods, beginning with skills.



## SKILLS

**Current Supply** is base-year employment summed across all occupations that meet the importance and level criteria set for the job requirement.

**Projected Demand** is total projected openings, calculated as sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

O\*NET divides skills into six groups: basic skills, complex problem solving skills, resource management skills, social skills, systems skills, and technical skills. Of the top ten skills that are projected to be in greatest demand over the short term and the long term, seven are included in the basic skills group. The remaining three, coordination, instructing, and social perceptiveness, are in the social skills group. Learning Strategies, which also appears in the basic skills group, makes the top ten for demand over the long term, but falls

The **Skills Gap Index** allows one to see the potential for gaps between supply and demand...

Skills	2004-2006		2002-2012	
	Demand	Skills Gap Index	Demand	Skills Gap Index
Reading Comprehension	29,522	100.00	33,159	100.00
Active Listening	28,536	97.14	32,364	97.14
Speaking	24,686	94.29	28,283	94.29
Critical Thinking	21,826	91.43	23,926	88.57
Writing	21,865	88.57	24,630	91.43
Active Learning	19,671	85.71	21,875	85.71
Coordination	17,784	82.86	19,299	71.43
Instructing	17,386	80.00	19,913	82.86
Social Perceptiveness	17,437	77.14	19,810	80.00
Monitoring	17,328	74.29	19,613	77.14
Learning Strategies	16,554	71.43	19,310	74.29
Time Mgmt	15,710	68.57	17,334	68.57
Judgment and Decision Making	13,310	65.71	14,560	65.71
Mathematics	12,123	62.86	13,352	62.86
Complex Problem Identification	10,568	60.00	11,729	60.00
Persuasion	9,933	57.14	11,124	54.29
Service Orientation	10,147	54.29	11,500	57.14
Equipment Selection	7,091	51.43	7,277	48.57
Mgmt of Personnel Resources	8,112	48.57	8,679	51.43

short by one over the short-term demand and skills gap index, both long and short term (Table 1). It is noteworthy that Alabama projects a greater demand than the nation for occupations including social perceptiveness. The U.S. gap index for this skill long term is 71, while Alabama's score long term is 80. In further examination of occupations which require certain levels of training and/or education, most reflect very similar results to the total result above. The only evident exception is in occupations requiring long-term on-the-job training. Occupations which fall in this training group are expected to need people with installation and troubleshooting skills. Installation scored 97.14 on the skills gap index, both long term and short term.

Troubleshooting scored 94.29 on the skills gap index, both long term and short term (Table 2). The United States data produced the same score for

installation in this training category as Alabama. On the other hand, Alabama's skills gap index was substantially higher than the nation for troubleshooting, with the nation only scoring an 80. Occupations

**Table 2 Top Skills for Occupations Requiring Long-term on-the-job Training**

Skill	2004-2006	2002-2012
Reading Comprehension	100.00	100.00
Installation	97.14	97.14
Troubleshooting	94.29	94.29
Critical Thinking	91.43	91.43
Active Listening	88.57	88.57

which fall into this training category and require both installation and troubleshooting skills are Electrical Power-Line Installers and Repairers; Electricians; Elevator Installers and Repairers; Heating, Air Conditioning, and Refrigeration Mechanics and Installers; Machinists; Millwrights; and Water and Liquid Waste Treatment Plant and System Operators.

The **Replacement Index** for each job requirement is the proportion of total openings due to net replacements rather than growth. The higher the value, the greater the proportion of openings that are replacements, not new jobs.

As seen in Table 3, the skills with the highest replacement index vary by projection period.

Management of Financial Resources, Negotiation, and Operation Monitoring appear in the top five for replacement indexes in both projection periods. However, in the short term, occupations having active listening and

**Table 3 Top Replacement Index Data for Skills**

Alabama			
2004-2006		2002-2012	
Skill	Replacement Index	Skill	Replacement Index
Mgmt of Financial Resources	60.78	Negotiation	58.76
Active Listening	60.74	Repairing	58.72
Negotiation	59.12	Operation Monitoring	58.71
Science	58.91	Mgmt of Material Resources	57.76
Operation Monitoring	58.77	Mgmt of Financial Resources	57.61

science as important skills are expected to have more openings due to replacement. In the long term, occupations with

management of personnel resources and repairing skills are expected to have more openings due to replacement. Skills that will be in high demand due mostly to replacement needs appear in additional groups

**Skills Gap Index** For each job requirement, a standardized measure of the gap between the current supply and projected demand is calculated in four steps:

1. **Skill Weight:** The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
2. **Skill Weight Percent Change:** Employment change across the projection horizon, weighted by the percentage of total base-year employment.  $((\text{Projected Employment} - \text{Base Employment}) / \text{Base Employment}) * \text{Skill Weight}$
3. **Skill Weight Rank:** A rank score, of Skill Weight Percent Change, within a job requirement set.
4. **Skill Gap Index:** The Skill Weight Rank is standardized from 1 to 100.

like resource management and technical skills groups, whereas most skills which are projected to experience a gap in the future due to growth appear in the basic and social skills groups.

## KNOWLEDGE

**Table 4 Top Projected Knowledge Elements**

Knowledge	2004-2006		2002-2012	
	Demand	Skills Gap Index	Demand	Skills Gap Index
Customer and Personal Service	28,594	100.00	30,619	100.00
English Language	11,066	96.97	13,119	96.97
Education and Training	8,112	93.94	9,632	93.94
Mathematics	8,507	90.91	9,350	90.91
Mechanical	6,943	87.88	5,874	75.76
Administration and Management	6,057	84.85	6,330	78.79
Sales and Marketing	8,292	81.82	8,663	84.85
Psychology	5,354	78.79	5,940	81.82
Clerical	8,398	75.76	9,511	87.88
Computers and Electronics	4,716	72.73	5,444	72.73
Building and Construction	3,219	69.70	3,098	54.55
Medicine and Dentistry	3,292	66.67	3,712	69.70
Design	2,683	63.64	2,749	51.52
Public Safety and Security	3,544	60.61	3,676	57.58
Law, Government and Jurisprudence	3,323	57.58	3,557	60.61
Economics and Accounting	3,288	54.55	3,856	66.67
Therapy and Counseling	2,327	51.52	2,787	63.64
Personnel and Human Resources	2,792	48.48	3,018	48.48
Production and Processing	2,014	45.45	1,572	42.42
Engineering and Technology	1,647	42.42	1,763	45.45

Knowledge is a learned set of facts and principles that are required by many different occupations. Across the state of Alabama, knowledge levels such as Customer and Personal Service; English Language; Education and Training; and Mathematics are expected to be in high demand both over the short and long term. In Table 4 mechanical knowledge is expected to experience a larger skills gap in the near future than in the long term, with a skills gap index of 87.88 short term and 75.76 long term. On the other hand, clerical shows more of a gap in the long term than the short. Clerical produces a gap index of 75.76 in the short term and 87.88 in the long term. Remember also that clerical has a high replacement index in both periods with 69.41 through 2006 and 64.33 through 2012, so there will normally be openings in clerical jobs even if there is little growth.

**Table 5 Selected Knowledge Level Scores by Occupational Education Level**

Education Level	Mechanical		Building & Construction		Psychology	
	2004-2006	2002-2012	2004-2006	2002-2012	2004-2006	2002-2012
Short-term on-the-job training	91	85	76	76	70	70
Moderate-term on-the-job training	97	88	91	85	79	76
Long-term on-the-job training	100	97	97	100	88	79
Work experience in a related occupation	85	85	52	48	61	61
Postsecondary vocational training	91	88	61	52	94	94
Associate Degree	70	67	---	---	97	97
Bachelor's Degree	67	55	39	42	73	67

The expected skills gaps by training level produce similar knowledge levels in the top ten. Table 5 illustrates the slight differences in the projected skills gap for certain knowledge elements. Building and construction and mechanical knowledge are expected to experience a larger gap in occupations which do not require formal education after high school. These include mostly production occupations. Occupations requiring postsecondary vocational training or an associate degree look as if they will experience a gap in jobs requiring knowledge of psychology. This is a reflection of the expected demand for nurses, healthcare assistants, and various healthcare technologists and technicians.

## WORK ACTIVITIES

Whereas skills and knowledge requirements are worker characteristics, work activities involve occupational characteristics. O\*NET identifies generalized work activities which summarize tasks that may be performed within a group of occupations. The SBP system combines these work activities with occupational projections provided by the state. Table 6 lists 20 work activities which are projected to be in highest demand over the short term and long term for the state of Alabama. The five work activities projected to be in highest demand over both the short term and long term are fairly similar across

**Table 6 Top Projected Work Activities**

Work Activities	2004-2006		2002-2012	
	Demand	Skills Gap Index	Demand	Skills Gap Index
Establishing and maintaining interpersonal relationships	36,191	100.00	39,448	100.00
Handling and moving objects	24,177	95.12	22,513	85.37
Communicating with supervisors, peers or subordinates	22,206	97.56	24,401	95.12
Getting information needed to do the job	21,362	92.68	24,528	97.56
Organizing, planning and prioritizing work.	20,113	90.24	22,618	92.68
Updating and using job-relevant knowledge	19,563	87.80	22,010	90.24
Working directly with the public	18,172	75.61	18,863	78.05
Making decisions and solving problems	16,612	85.37	18,324	87.80
Performing general physical activities	16,533	78.05	16,109	73.17
Monitoring processes, materials or surroundings	14,747	82.93	15,797	80.49
Identifying objects, actions, and events	14,478	80.49	16,069	82.93
Processing information	12,620	73.17	14,301	75.61
Communicating with persons outside the organizations	11,300	65.85	13,184	70.73
Resolving conflicts and negotiating with others	11,071	70.73	12,238	68.29
Assisting and caring for others	9,320	68.29	10,476	65.85
Thinking creatively	7,203	63.41	8,004	63.41
Evaluating information for compliance to standards	7,159	56.10	7,610	51.22
Scheduling work and activities	7100	51.22	7761	53.66
Analyzing data or information	6,638	60.98	7,385	56.10
Judging the qualities of objects, services or persons	6,564	58.54	7,320	58.54

periods with a couple of exceptions. Over the short term, occupations which require handling and moving objects will be in greater demand, and produce a larger skills gap, than in the long term. The skills gap for this activity in the short term is 95.12 and only 85.37 in the long term. On the other hand, occupations requiring the work activity of getting information needed to do the job are expected to produce a greater skills gap in the long term than in the short term, a 97.56 index and a 92.68 index respectively.

It is notable that occupations requiring no postsecondary education have an extremely large skills gap in handling and moving objects both short term and long term. On the following page, Table 7 shows occupations requiring postsecondary education have the largest skills gap index in updating and using job-relevant knowledge both in the short term and long term. This trend exists at the national level also.

The replacement index produces similar results across time periods. Both have basically the same five work activities at the top of the replacement list. There are two which display noticeably different replacement indexes across time periods. The work activity entitled controlling machines and processes has only a score of 55 for the short term, and 64 for the long term. Also, establishing and maintaining interpersonal relationships scores 64 over the short term, and only 58 over the long term.

## APPLICATION OF SKILLS SETS

When people lose their jobs due to a plant closing or other circumstances it is quickly becoming the trend to examine the skills they currently possess that will transfer to other high demand occupations. To give you an example of this, the below table lists 6 occupations which are projected to be some of the fastest declining occupations through 2012 (Table 8). Included in the table are the importance scores found in the O\*NET database for the three descriptors included in the SBP application. The importance scores listed in the table happen to be close to the highest, if not the highest, score for that particular descriptor. Also notice that the skills listed in each of these descriptors are in the top of their respective skills demand lists. For people in occupations listed below, the likelihood of finding another job is good if their current applicable skills can be traced to openings in occupations which contain the same skill sets.

**Table 8 O\*NET Top Descriptor Scores for Selected Declining Occupations through 2012**

Occupation	Knowledge	Importance
Sewing Machine Operators	Mechanical	42
Word Processors and Typists	Clerical	92
Electrical & Electronic Equipment Assemblers	Mechanical	62
Extruding & Forming Mach. Setters, Oper. & Tend.	Mechanical	62
Railroad, Brake, Signal, and Switch Operators	Mechanical	55
Farmworkers, Farm and Ranch Animals	Mechanical	40

Occupation	Skill	Importance
Sewing Machine Operators	Monitoring	55
Word Processors and Typists	Writing	74
Electrical & Electronic Equipment Assemblers	Installation	80
Extruding & Forming Mach. Setters, Oper. & Tend.	Installation	54
Railroad, Brake, Signal, and Switch Operators	Coordination	50
Farmworkers, Farm and Ranch Animals	Writing	35

Occupation	Work Activity	Importance
Sewing Machine Operators	Handling and moving objects	88
Word Processors and Typists	Getting Information needed to do the job	85
Electrical & Electronic Equipment Assemblers	Getting Information needed to do the job	96
Extruding & Forming Mach. Setters, Oper. & Tend.	Handling and moving objects	88
Railroad, Brake, Signal, and Switch Operators	Getting Information needed to do the job	75
Farmworkers, Farm and Ranch Animals	Handling and moving objects	95

## ***Occupational Education and Training Requirement Categories***

The Bureau of Labor Statistics (BLS) identifies 11 education and training categories that describe the most significant post-secondary education or training pathway to an occupation. The following principles were used to assign a category to a specific occupation:

1. An occupation is placed into the category that reflects the manner in which most workers become proficient in that occupation.
2. Postsecondary Institutional education requirements leading to degrees and certificates are used to classify occupations in which completion of that program is the most common way of entering the occupation, even though additional on-the-job training and experience is used to classify occupations in which post-secondary training is generally not needed for entry.
3. The length of time it generally takes an average worker to achieve proficiency through a combination of on-the-job training and experience is used to classify occupations in which postsecondary training is generally not needed for entry.

**Short-term on-the-job training:** Occupations in which workers generally can develop the skills needed for average job performance after a short demonstration or up to one month of on-the-job experience or instruction.

**Moderate on-the-job training:** Occupations in which workers can develop the skills needed for average job performance after one to twelve months of combined on-the-job experience and informal training.

**Long-term on-the-job training:** Occupations that generally require more than twelve months of on-the-job training or combined work experience and formal classroom instruction for workers to develop the skills necessary for average job performance. This category includes formal and informal apprenticeships that may last up to four years and short-term intensive employer-sponsored training that workers must successfully complete. Individuals undergoing training are generally considered to be employed in the occupation. This category includes occupations in which workers may gain experience in nonwork activities, such as professional athletes who gain experience through participation in athletic programs in academic institutions.

**Work experience in a related occupation:** Occupations that generally require skills obtained through work experience in a related occupation. Some occupations requiring work experience are supervisory or managerial occupations.

**Postsecondary vocational training:** Occupations that generally require completion of vocational school training. Some programs last only a few weeks while others may last more than a year. In some occupations, a license is needed that requires passing an examination after completion of training.

**Associate degree:** Occupations that generally require an associate degree. Completion of the degree program usually requires at least 2 years of full-time equivalent academic work.

**Bachelor's degree:** Occupations that generally require a bachelor's degree. Completion of the degree program generally requires at least 4 years, but no more than 5 years, of full-time equivalent academic work.

**Work experience plus a bachelor's or higher or higher degree:** Occupations that generally require work experience in an occupation require a bachelor's degree or higher. Most occupations in this category are managerial occupations that require experience in a related nonmanagerial position.

**Master's degree:** Occupations that generally require a master's degree. Completion of the degree program usually requires 1 or 2 years of full-time equivalent study beyond the bachelor's degree.

**Doctoral degree:** Occupations that generally require a Ph.D. or other doctoral degree. Completion of the academic program usually requires at least 3 years of full-time equivalent academic work beyond the bachelor's degree.

**First professional degree:** Occupations that require a professional degree. Completion of the academic program usually requires at least 6 years of full-time equivalent academic work beyond the bachelor's degree.

## ***Appendix ii*** ***O\*NET Descriptors***

**SKILLS** – Developed capacities that facilitate learning or the more rapid acquisition of knowledge.

O\*NET Skills are divided into Basic Skills, Complex Problem-Solving Skills, Resource Management, Social, System, and Technical.

***Basic Skills*** – Developed capacities that facilitate learning or the more rapid acquisition of knowledge.

**Active Learning** – Understanding the implications of new information for both current and future problem-solving and decision-making.

**Active Listening** – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

**Critical Thinking** – Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

**Learning Strategies** – Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.

**Mathematics** – Using mathematics to solve problems.

**Monitoring** – Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

**Reading Comprehension** – Understanding written sentences and paragraphs in work related documents.

**Science** – Using scientific rules and methods to solve problems.

**Speaking** – Talking to others to convey information effectively.

**Writing** – Communicating effectively in writing as appropriate for the needs of the audience.

***Complex Problem Solving Skills*** – Developed capacities used to solve novel, ill-defined problems in complex, real-world settings.

**Complex Problem Solving** – Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

***Resource Management Skills*** – Developed capacities used to allocate resources efficiently.

**Management of Financial Resources** – Determining how money will be spent to get the work done, and accounting for these expenditures.

**Management of Material Resources** – Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.

**Management of Personnel Resources** – Motivating, developing, and directing people as they work, identifying the best people for the job.

**Time Management** – Managing one's own time and the time of others.

***Social Skills*** – Developed capacities used to work with people to achieve goals.

**Coordination** – Adjusting actions in relation to others' actions.

**Instructing** – Teaching others how to do something.

**Negotiation** – Bringing others together and trying to reconcile differences.

**Persuasion** – Persuading others to change their minds or behavior.

**Service Orientation** – Actively looking for ways to help people.

**Social Perceptiveness** – Being aware of others' reactions and understanding why they react as they do.

***Systems Skills*** – Developed capacities used to understand, monitor, and improve socio-technical systems.

**Judgment and Decision Making** – Considering the relative costs and benefits of potential actions to choose the most appropriate one.

**Systems Analysis** – Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

**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.

**Technical Skills** – Developed capacities used to design, set-up, operate, and correct malfunctions involving application of machines or technological systems.

**Equipment Maintenance** – Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.

**Equipment Selection** – Determining the kind of tools and equipment needed to do a job.

**Installation** – Installing equipment, machines, wiring, or programs to meet specifications.

**Operation and Control** – Controlling operations of equipment or systems.

**Operation Monitoring** – Watching gauges, dials, or other indicators to make sure a machine is working properly.

**Operations Analysis** – Analyzing needs and product requirements to create a design.

**Programming** – Writing computer programs for various purposes.

**Quality Control Analysis** – Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

**Repairing** – Repairing machines or systems using the needed tools.

**Technology Design** – Generating or adapting equipment and technology to serve user needs.

**Troubleshooting** – Determining causes of operating errors and deciding what to do about it.

**KNOWLEDGE** – Organized sets of principles and facts applying in general domains.

**Administration and Management** – Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.

**Biology** – Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.

**Building and Construction** – Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.

**Chemistry** – Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.

**Clerical** – Knowledge of administration and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.

**Communications and Media** – Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.

**Computers and Electronics** – Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

**Customer and Personal Service** – Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

**Design** – Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.

**Economics and Accounting** – Knowledge of economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data.

**Education and Training** – Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.

**Engineering and Technology** – Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

**English Language** – Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.

**Fine Arts** – Knowledge of the theory and techniques required to compose, produce, and perform works of music, dance, visual arts, drama, and sculpture.

**Food Production** – Knowledge of techniques and equipment for planting, growing, and harvesting food products (both plant and animal) for consumption, including storage/handling techniques.



**Foreign Language** – Knowledge of the structure and content of a foreign (non-English) language including the meaning and spelling of words, rules of composition and grammar, and pronunciation.

**Geography** – Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.

**History and Archeology** – Knowledge of historical events and their causes, indicators, and effects on civilizations and cultures.

**Law and Government** – Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.

**Mathematics** – Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

**Mechanical** – Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

**Medicine and Dentistry** – Knowledge of the information and techniques needed to diagnose and treat human injuries, diseases, and deformities. This includes symptoms, treatment alternatives, drug properties and interactions, and preventive health-care measures.

**Personnel and Human Resources** – Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems.

**Philosophy and Theology** – Knowledge of different philosophical systems and religions. This includes their basic principles, values, ethics, ways of thinking, customs, practices, and their impact on human culture.

**Physics** – Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.

**Production and Processing** – Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.

**Psychology** – Knowledge of human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.

**Public Safety and Security** – Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.

**Sales and Marketing** – Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems.

**Sociology and Anthropology** – Knowledge of group behavior and dynamics, societal trends and influences, human migrations, ethnicity, cultures and their history and origins.

**Telecommunications** – Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.

**Therapy and Counseling** – Knowledge of principles, methods, and procedures for diagnosis, treatment, and rehabilitation of physical and mental dysfunctions, and for career counseling and guidance.

**Transportation** – Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.

## WORK ACTIVITIES

**Analyzing data or information** – Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.

**Assisting and caring for others** - Providing personal assistance, medical attention, emotional support, or other personal care to others such as coworkers, customers, or patients.

**Coaching and developing others** – Identifying the developmental needs of others and coaching, mentoring, or otherwise helping others to improve their knowledge or skills.

**Communicating with persons outside the organizations** – Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or e-mail.

**Communicating with supervisors, peers or subordinates** – Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.

**Controlling machines and process** – Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).

**Coordinating the work and activities of others** – Getting members of a group to work together to accomplish tasks.

**Developing and building teams** – Encouraging and building mutual trust, respect, and cooperation among team members.

**Developing objectives and strategies** – Establishing long-range objectives and specifying the strategies and actions to achieve them.

**Documenting/recording information** – Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.

**Drafting, laying-out, & specify tech devices, parts, or equip** – Providing documentation, detailed instructions, drawings, or specifications to tell others about how devices, parts, equipment, or structures are to be fabricated, constructed, assembled, modified, maintained, or used.

**Establish and maintaining interpersonal relationships** – Developing constructive and cooperative working relationships with others, and maintaining them over time.

**Estimate characteristics of materials, prod, events or info** – Estimating sizes, distances, and quantities; or determining time, costs, resources, or materials needed to perform a work activity.

**Evaluating information for compliance to standards** – Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.

**Getting information needed to do the job** – Observing, receiving, and otherwise obtaining information from all relevant sources.

**Guiding, directing and motivating subordinates** – Providing guidance and direction to subordinates, including setting performance standards and monitoring performance.

**Handling and moving objects** – Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.

**Identifying objects, actions, and events** – Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.

**Inspecting equipment, structures or materials** – Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.

**Interacting with computers** – Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.

**Interpreting the meaning of information for others** – Translating or explaining what information means and how it can be used.

**Judging the qualities of objects, services or persons** – Assessing the value, importance, or quality of things or people.

**Making decisions and solving problems** – Analyzing information and evaluating results to choose the best solution and solve problems.

**Monitoring and controlling resources** – Monitoring and controlling resources and overseeing the spending of money.

**Monitoring processes, materials or surroundings** – Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.

**Operating vehicles, mechanized devices or equipment** – Running, maneuvering, navigating, or driving vehicles or mechanized equipment, such as forklifts, passenger vehicles, aircraft, or water craft.

**Organizing, planning and prioritizing work** – Developing specific goals and plans to prioritize, organize, and accomplish your work.

**Performing general physical activities** – Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.

**Processing information** – Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.

**Providing consultation and advice to others** – Providing guidance and expert advice to management or other groups on technical, systems, or process-related topics.

**Repairing and maintaining electronic equipment** – Servicing, repairing, calibrating, regulating, fine-tuning, or testing machines, devices, and equipment that operate primarily on the basis of electrical or electronic (not mechanical) principles.

**Repairing and maintaining mechanical equipment** – Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles.

**Resolving conflicts and negotiating with others** – Handling complaints, settling disputes, and resolving grievances and conflicts, or otherwise negotiating with others.

**Scheduling work and activities** – Scheduling events, programs, and activities, as well as the work of others.

**Selling or influencing others** – Convincing others to buy merchandise/goods or to otherwise change their minds or actions.

**Staffing organizational units** – Recruiting, interviewing, selecting, hiring, and promoting employees in an organization.

**Teaching others** – Identifying the educational needs of others, developing formal educational or training programs or classes, and teaching or instructing others.

**Thinking creatively** – Developing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions.

**Updating and using job** – relevant knowledge - Keeping up-to-date technically and applying new knowledge to your job.

**Working directly with the public** – Performing for people or dealing directly with the public. This includes serving customers in restaurants and stores, and receiving clients or guests.



# Skills *for* Tomorrow

## in Workforce Investment

### Advisory Area 1 2002-2012



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## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

The SBP system also provides for a review of possible critical skills for an area. The main tool in the system to study this subject is the *skills gap index*. The purpose of the skills gap index is to see the potential for gaps between current supply and demand by measuring the difference between the two. *Demand refers to total projected openings; that is openings due to growth plus net replacement openings.* The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. *Skills with high skills gap indices are expected to be critical for the projected period.*

## What will be needed in Region 1?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

**Projected Demand** refers to *total projected openings*; calculated as the sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

**Skills Gap Index** for each job requirement is a standardized measure of the difference (gap) between the current supply and projected demand, calculated in four steps:

1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
2. *Skill Weight Percent Change*: Employment change across the projection horizon, weighted by the percentage of total base-year employment. ((Projected Employment - Base Employment)/Base Employment) \* Skill Weight.
3. *Skill Weight Rank*: A rank score, of Skill Weight Percent Change, within a job requirement set.
4. *Skill Gap Index*: The Skill Weight Rank is standardized from 1 to 100.

**Replacement Index** is the *proportion of total openings due to net replacements* rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical. Table 1 shows the current occupational skill supply in Region 1. Of these, eight are basic, three are social, and one is resource management. The emphasis on basic skills means that workers in 2012 will have to have a flexible view of the work environment as a place of continuous learning. The next three, coordination, social perceptiveness, and instructing, are social skills. These are the necessary competencies that help employees work together successfully. These specific social skills in Region 1 suggest that workers can adjust their actions in relation to others' actions, are aware of and understand why coworkers

**Table 1 Current Skill Supply**

Skills Job Requirements	Current Supply 2002	
	Alabama	WIA Region 1
Reading Comprehension	881,383	41,886
Active Listening	823,698	36,533
Speaking	703,203	31,850
Critical Thinking	608,553	27,080
Writing	620,025	27,018
Active Learning	549,925	24,681
Coordination	512,260	24,369
Social Perceptiveness	473,861	22,922
Instructing	474,708	22,247
Monitoring	485,121	21,777
Learning Strategies	468,767	21,246
Time Mgmt	436,596	19,524

react as they do and finally, are able to coach other coworkers. The final remaining skill, time management, is classified under resource management. This specific skill suggests that workers can manage their time and the time of others.

It is expected that by 2012 1,218 job openings will need to be filled in Region 1 where occupations requiring reading comprehension will be in greatest demand. This means that reading comprehension is at least moderately important to have in order to do the job, and that this skill is required at least at a moderate level or higher. Active listening, speaking, and critical thinking are skills that will also be in demand for the occupational growth of Region 1.

**Table 2 Selected Skills Overview**

Geography	Alabama 2012			WIA Region 1		
Projections Horizon	2002-2012					
Skill Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Reading Comprehension	33,159	100	54	1,218	100	66
Active Listening	32,364	97	56	1,154	97	67
Speaking	28,283	94	53	1,055	94	65
Critical Thinking	23,926	89	54	869	91	65
Writing	24,630	91	54	844	89	65
Active Learning	21,875	86	54	803	80	66
Social Perceptiveness	19,810	80	52	787	86	64
Instructing	19,913	83	51	759	83	63
Monitoring	19,613	77	53	727	77	65
Coordination	19,299	71	53	713	71	64

The *skills gap* refers to the potential gap between the current supply and projected demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. Within Region 1, a skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet future demand. An occupation where skills appearing in table 2, such as reading comprehension, active listening, active learning, and instructing, are among important requirements is pharmacy technician. In Region 1, this occupation is expected to grow from 270 in the year 2002 to 330 in 2012. The skills gap indices for skills comprising a pharmacy technician are *anticipated* gaps since qualified workers will be required to fill the vacancies.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur due to turnover or people leaving the labor force. For example, 66% of job openings in occupations with at least a moderate requirement for reading comprehension are projected to occur because of replacement. In other words, just over 803 openings should result because of turnover. The remaining 34% or about 414 job openings should be due to growth. This reveals a need to continue training programs that support the acquisition of these skills into training programs.



Table 3 shows the top 10 skills by education level in Region 1. The table indicates the master degree and higher educational level occupations have a greater need for training in the basic skills category. The technical skills appear mainly in moderate-term and long-term on-the-job training groups.

**Table 3 Selected Skill Gap by Occupational Preparation in Region 1**

Short-term OJT	Reading Comprehension	Active Listening	Speaking	Instructing	Critical Thinking	Social Perceptiveness	Monitoring	Learning Strategies	Coordination	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Speaking	Writing	Critical Thinking	Reading Comprehension	Installation	Equipment Maintenance	Active Learning	Repairing	Equipment Selection
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Reading Comprehension	Installation	Troubleshooting	Equipment Maintenance	Coordination	Critical Thinking	Active Learning	Mathematics	Active Listening	Equipment Selection
	100	97	94	91	89	86	83	80	77	74
Work Exp. in Related	Mgmt of Personnel Resources	Coordination	Speaking	Reading Comprehension	Active Listening	Monitoring	Writing	Time Mgmt	Critical Thinking	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
Postsec Voc Training	Learning Strategies	Speaking	Active Learning	Active Listening	Monitoring	Troubleshooting	Critical Thinking	Coordination	Social Perceptiveness	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
AA/AS	Reading Comprehension	Active Listening	Active Learning	Critical Thinking	Instructing	Learning Strategies	Writing	Speaking	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Speaking	Instructing	Learning Strategies	Active Listening	Social Perceptiveness	Writing	Monitoring	Active Learning	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
BA/BS + Work Experi.	Writing	Active Learning	Speaking	Monitoring	Critical Thinking	Judgment and Decision Making	Active Listening	Time Mgmt	Social Perceptiveness	Mgmt of Personnel Resources
	100	97	94	91	89	86	83	80	77	74
MA/MS	Critical Thinking	Speaking	Active Listening	Writing	Reading Comprehension	Active Learning	Learning Strategies	Instructing	Complex Problem Identification	Monitoring
	100	97	94	91	89	86	83	80	77	74
Doctoral	Active Listening	Writing	Speaking	Reading Comprehension	Monitoring	Learning Strategies	Critical Thinking	Active Learning	Instructing	Complex Problem Identification
	100	97	94	91	89	86	83	80	77	74
1st Prof. Degree	Reading Comprehension	Active Listening	Speaking	Social Perceptiveness	Writing	Critical Thinking	Active Learning	Mathematics	Judgment and Decision Making	Monitoring
	100	97	94	91	89	86	83	80	77	74
Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely										
Basic Skill		Complex Problem Solving		Social Skill		Technical Skill		Resource Management Skill		System Skill

Troubleshooting, installation, and equipment maintenance are technical skills that appear in occupations such as general maintenance and repair workers. Jobs requiring short-term on-the-job training have a greater need for social skills, although social skills are fairly important in occupations through all the training levels. Within the master to doctoral degree educational levels, complex problem identification appears in their top 10 skills. System skills are needed in occupations requiring a bachelor's degree and a 1<sup>st</sup> professional degree. Lastly, resource management appears in occupations requiring a bachelor's degree or higher with work experience to lower education levels.

In general, the data indicates the greatest gaps in occupations will be in basic skills *and* will occur across all preparation levels. Lower preparation levels have greater technical skill gaps than do the upper job

preparation levels. In contrast, those at the upper levels need training in systems and complex problem solving skills.

**Table 4 Suggested Critical Skills for Region 1**

Projection Horizon	2002-2012				
	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings	Growth Openings
Reading Comprehension	1,218	100	66	804	414
Active Listening	1,154	97	67	773	381
Speaking	1,055	94	65	686	369
Critical Thinking	869	91	65	565	304
Writing	844	89	65	549	295
Active Learning	803	80	66	530	273
Social Perceptiveness	787	86	64	504	283
Instructing	759	83	63	478	281
Monitoring	727	77	65	473	254
Coordination	713	71	64	456	257
Learning Strategies	702	74	65	456	246
Time Mgmt	633	69	66	418	215

To qualify as a critical skill, the skills gap index along with the replacement index must be analyzed. Replacement and growth openings are calculated using the projected demand and replacement index. Across all education levels, Table 4 lists critical skills that are composed of 8 basic, 3 social, and 1 resource management skills categories. The following is a partial list of growing occupations in Region 1 that have at least 10 out of 12 of the critical skills: cardiovascular technologists and technicians; registered nurses; licensed practical and licensed vocational nurses; and medical assistants. It is crucial to remember that labor turnover is grounded in cause and effect relationships within the larger economy, and as such the *type* of turnover can be an excellent indicator of economic health. Growth openings confirm a vibrant labor market with an increased need for trained workers, while a large number of replacement openings may indicate a mix of jobs that do not have a clear-cut career path, are low skilled or low paying, or have less than favorable working conditions.

**KNOWLEDGE**

Most work situations require a specific set of learned facts and standard requirements. Knowledge job requirements, like skills are found in occupations as a ‘set’ that help to define an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as the skills and later on in this report, the work activities sections; projected demand, skills gap index, and replacement index.

Table 5 describes the projected 2012 demand in Region 1 across all educational levels in which the top 10 knowledge job requirements occur in occupations. Occupations that require two or more of these knowledge elements are: customer service representatives; elementary school teachers, except special education; pharmacy technicians; secondary school teachers, except special education; and tellers. Each of these occupations are either high-demand or fast-growing in Region 1.

**Table 5 Selected Knowledge Job Requirements Compared to the State**

Geography	Alabama 2012			WIA Region 1		
Projections Horizon	2002-2012					
Knowledge Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Customer and Personal Service	30,619	100	59	1,102	100	70
English Language	13,119	97	56	452	97	66
Education and Training	9,632	94	51	375	94	63
Mathematics	9,350	91	58	348	91	68
Sales and Marketing	8,663	85	65	324	85	71
Clerical	9,511	88	64	300	73	75
Mechanical	5,874	76	61	282	82	67
Administration and Management	6,330	79	57	258	76	62
Psychology	5,940	82	51	242	79	65
Building and Construction	3,098	55	55	218	88	55

Skills gap values are similar in comparing Region 1 to the state. In Region 1, replacement indices across knowledge elements compared to state indicate that the openings will be more occupation turnover than growth. Knowledge of building and construction has an identical replacement index of 55% for Region 1 and 55% for the state. Carpenters rely heavily on this particular knowledge, and in Region 1, carpenters should experience a 2.03 average annual growth rate compared to the state rate of 1.32; therefore it is probable that carpenters will experience better job opportunities in Region 1 than in other areas of the state.

Notice also in Table 5 that mechanical knowledge has a substantially larger skills gap in Region 1 than in the state, with 82 and 76 respectively. Although the replacement rate for this knowledge element is 67, the skills gap indicates that there will likely be a need for training in this area due to demand. Electricians and maintenance and repair workers, general are two occupations which require knowledge in both mechanical and building and construction knowledge, and these occupations are expected to be in high demand in the region through 2012.

**WORK ACTIVITIES**

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and maintaining them over time, is the work activity projected to be in highest demand through 2012 in Region 1. Table 6 compares this information for the area to the state. Handling and moving objects, along with communicating with supervisors, peers, or subordinates round the list of the top work activities expected to be in highest demand in the region.

Establishing and maintaining interpersonal relationships has the highest demand with 1,444 job openings by 2012 requiring this work activity. This requirement is found in high-demand occupations, such as customer service representatives, child care workers, receptionists and information clerks, and tellers. Handling and moving objects and communicating with supervisors, peers, or subordinates are projected to

produce a demand of over 1,900, although both these requirements appear in several occupations. For example, electricians, fire fighters, machinists, occupational therapists, and recreation workers are a few occupations that require both work activities at a moderate level or higher. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost due to attrition, but also for new entrants due to employment growth in occupations using these work activities. The top three work activities in Table 6 are each expected to provide from 31% to 34% of employment growth opportunities.

**Table 6 Selected Work Activities Compared to the State**

Geography	Alabama 2012			WIA Region 1		
Projection Horizon	2002-2012					
Work Activity Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Establishing and maintaining interpersonal relationships	39,448	100	58	1,444	100	69
Handling and moving objects	22,513	85	62	1,072	98	66
Communicating with supervisors, peers or subordinates	24,401	95	56	887	93	66
Getting information needed to do the job	24,528	98	55	881	95	65
Organizing, planning and prioritizing work.	22,618	93	55	790	88	66
Updating and using job-relevant knowledge	22,010	90	55	790	90	65
Working directly with the public	18,863	78	61	728	78	72
Performing general physical activities	16,109	73	62	679	83	64
Making decisions and solving problems	18,324	88	52	628	80	64
Monitoring processes, materials or surroundings	15,797	80	50	604	85	61

Of the selected work activity elements in Table 6, monitoring processes, materials, or surroundings will account for the greatest amount of hiring due to growth, with 39%. This means occupations requiring this work activity are most likely projected to experience growth in Region 1. In those same jobs, the remaining 61% will be due to turnover. The state has more growth with 50%, but less turnover with 50% for occupations with this work activity in contrast to the region. High-demand and fast-growing jobs in which monitoring processes, materials, or surroundings is at least moderately important are home health aides, carpenters, and welders, cutters, solderers, and brazers.

## Summary

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth in the region and a minimum of five average annual job openings. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

*Region 1 is expected to maintain an average annual occupational growth rate of 0.77% from 2002 to 2012.* This growth depends on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill job openings. Many of the occupations listed in Table 7 require at least an associate’s degree or higher. A comprehensive list of occupational estimates and the associated

preparation levels are provided in the above-referenced Occupational Projections for this region. Because these preparation levels tend to entail additional training in order to sustain labor market growth and compete with other areas, Region 1 should prepare workers to fill growth occupations beyond entry level positions.

*Region 1 can expect slower industrial growth than is projected for the state.* The largest growth should occur within administrative and waste remediation services industries, with 1.92% growth followed by real estate and rental and leasing at 1.40%. Although both these figures fall below state growth levels, when combined they are expected to contribute 670 new jobs to the area. The third largest growth sector is health care and social assistance reporting a projected average annual growth rate of 1.37%. That translates into 1,510 additional jobs. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for *ongoing and diversified* growth in related industry fields. This will help offset losses in nondurable goods manufacturing and assist in providing flexible employment situations for presently skilled workers being forced out of their present manufacturing jobs.

**Table 7 Occupations in Region 1 Matching Critical Skills**

Region 1 Occupations	2002-2012 Occupational Projections	
	Avg. Annual Growth Rate	Avg. Annual Job Openings
Medical Assistants	3.10	10
Public Relations Managers	2.71	5
Dental Hygienists	2.44	5
Dental Assistants	2.26	10
Sales Managers	2.15	10
Industrial Production Managers	1.73	10
Social and Human Service Assistants	1.55	10
Educational, Vocational, and School Counselors	1.55	5
Medical and Clinical Laboratory Technicians	1.55	5
Chief Executives	1.49	10
Emergency Medical Technicians and Paramedics	1.44	10
<b>General and Operations Managers</b>	<b>1.39</b>	<b>60</b>
Purchasing Agents, Except Wholesale, Retail, & Farm Products	1.26	5
<b>Registered Nurses</b>	<b>1.19</b>	<b>65</b>
Loan Officers	1.18	10
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	1.18	10
Bill and Account Collectors	1.06	10
Education Administrators, Elementary and Secondary School	1.05	5
<b>Licensed Practical and Licensed Vocational Nurses</b>	<b>1.04</b>	<b>35</b>
Recreation Workers	1.00	5
Lawyers	0.82	10
First-Line Supervisors/Managers of Retail Sales Workers	0.81	45



# Skills *for* Tomorrow

## *in* Workforce Investment

### Advisory Area 2 2002-2012



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## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

The SBP system also provides for a review of possible critical skills for an area. The main tool in the system to study this subject is the *skills gap index*. The purpose of the skills gap index is to see the potential for gaps between current supply and demand by measuring the difference between the two. *Demand refers to total projected openings; that is openings due to growth plus net replacement openings*. The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. *Skills with high skills gap indices are expected to be critical for the projected period*.



## What will be needed in Region 2?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

**Projected Demand** refers to *total projected openings*; calculated as the sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

**Skills Gap Index** for each job requirement is a standardized measure of the difference (gap) between the current supply and projected demand, calculated in four steps:

1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
2. *Skill Weight Percent Change*: Employment change across the projection horizon, weighted by the percentage of total base-year employment. ((Projected Employment - Base Employment)/Base Employment) \* Skill Weight.
3. *Skill Weight Rank*: A rank score, of Skill Weight Percent Change, within a job requirement set.
4. *Skill Gap Index*: The Skill Weight Rank is standardized from 1 to 100.

**Replacement Index** is the *proportion of total openings due to net replacements* rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

### SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. As shown in Table 1, reading comprehension is the top skill for the current occupational supply in Region 2. Reading comprehension, active listening, speaking, writing, critical thinking, active learning, monitoring, learning strategies, and mathematics are the 9 that fall into the basic skills category. Basic skills are the developed capacities that facilitate learning or the more rapid acquisition of knowledge. The remaining skills fall into the complex problem solving, resource management, social, and systems categories. Complex

**Table 1 Current Supply**

Skills Job Requirement	Current Supply 2002	
	Alabama	WIA Region 2
Reading Comprehension	881,383	159,661
Active Listening	823,698	145,330
Speaking	703,203	124,401
Writing	620,025	113,335
Critical Thinking	608,553	113,133
Active Learning	549,925	105,397
Coordination	512,260	98,372
Monitoring	485,121	88,070
Instructing	474,708	87,074
Learning Strategies	468,767	86,703
Time Mgmt	436,596	80,819
Social Perceptiveness	473,861	78,875
Judgment and Decision Making	363,521	72,117
Mathematics	332,550	69,142
Complex Problem Identification	296,807	60,515

problem solving skills are developed capacities used to solve novel, ill-defined problems in complex, real world settings. The single skill, complex problem identification, is in this area. Time management is the only skill that falls into resource management, which is a capacity used to allocate resources efficiently. Another skill category, social, is the developed capacities used to work with people to achieve goals. Coordination, instructing, and social perceptiveness fall into the social group. The last category, systems, is the developed capacities used to understand, monitor, and improve socio-technical systems. The single skill, judgment and decision making, appears in this area.

According to table 2, 6,298 openings will occur in occupations which require reading comprehension at a moderate or higher level. This means that reading comprehension is at least moderately important to have in order to do the job, and that this skill is required at least at a moderate level or higher. Active listening, speaking, and writing are skills that will also be in demand for the occupational growth of Region 2.

**Table 2 Selected Skills Compared to the State**

Geography	Alabama 2012			WIA Region 2		
Projections Horizon	2002-2012					
Skill Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Reading Comprehension	33,159	100	54	6,298	100	52
Active Listening	32,364	97	56	5,890	97	53
Speaking	28,283	94	53	5,195	94	50
Writing	24,630	91	54	4,607	89	52
Critical Thinking	23,926	89	54	4,565	91	51
Active Learning	21,875	86	54	4,258	86	51
Coordination	19,299	71	53	3,873	80	51
Instructing	19,913	83	51	3,799	83	47
Learning Strategies	19,310	74	52	3,687	77	49
Monitoring	19,613	77	53	3,672	74	50
Social Perceptiveness	19,810	80	52	3,553	71	49
Time Mgmt	17,334	69	54	3,266	69	51

The *skills gap* refers to the potential gap between the current supply and projections demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. Within Region 2, a skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet future demand. Active listening, speaking, and writing are skills that will also be in high demand in Region 2. Licensed practical and licensed vocational nurses is an occupation in which reading comprehension, active listening, active learning, writing, speaking, and instructing are all important skills. In region 2 this occupation is predicted to grow from 920 to 1,020 in 2012. The skills gap indices for the skills comprising this occupation and others are anticipated gaps, since qualified workers will be required to fill the vacancies.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur through job churn or people leaving the labor force. For example, 52% of jobs openings in occupations with at least a moderate requirement for reading comprehension are projected to occur because of replacement. In other words, approximately 3,270 openings should result because of turnover. The remaining 48% or about 2,645 job openings should be due to growth. This reveals a need to continue training programs that support the acquisition of these skills into training programs.

Table 3 shows the top 10 projected skills by education level in Region 2. In general the data indicates the greatest skills gaps will occur in the basic skills group across all education levels. In

**Table 3 Selected Skill Gap by Occupational Preparation in Region 2**

Short-term OJT	Reading Comprehension	Active Listening	Speaking	Critical Thinking	Social Perceptiveness	Instructing	Monitoring	Learning Strategies	Writing	Coordination
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Writing	Reading Comprehension	Speaking	Critical Thinking	Active Learning	Instructing	Social Perceptiveness	Time Mgmt	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Reading Comprehension	Installation	Troubleshooting	Critical Thinking	Active Listening	Writing	Speaking	Coordination	Active Learning	Equipment Selection
	100	97	94	91	89	86	83	80	77	74
Work Experience in Related	Speaking	Reading Comprehension	Monitoring	Active Listening	Mgmt of Personnel Resources	Time Mgmt	Writing	Coordination	Social Perceptiveness	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
Postsecondary Vocational Training	Learning Strategies	Speaking	Active Listening	Active Learning	Troubleshooting	Monitoring	Social Perceptiveness	Reading Comprehension	Critical Thinking	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
AA/AS	Reading Comprehension	Active Listening	Active Learning	Instructing	Critical Thinking	Learning Strategies	Writing	Speaking	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Speaking	Active Listening	Learning Strategies	Instructing	Active Learning	Writing	Critical Thinking	Monitoring	Coordination
	100	97	94	91	89	86	83	80	77	74
BA/BS + Work Experience	Reading Comprehension	Coordination	Speaking	Writing	Active Learning	Monitoring	Critical Thinking	Judgment and Decision Making	Active Listening	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
MA/MS	Reading Comprehension	Writing	Active Learning	Speaking	Active Listening	Critical Thinking	Monitoring	Learning Strategies	Complex Problem Identification	Instructing
	100	97	94	91	89	86	83	80	77	74
Doctoral	Writing	Reading Comprehension	Critical Thinking	Active Learning	Speaking	Monitoring	Learning Strategies	Active Listening	Complex Problem Identification	Instructing
	100	97	94	91	89	86	83	80	77	74
1st Professional Degree	Reading Comprehension	Active Listening	Speaking	Social Perceptiveness	Writing	Critical Thinking	Active Learning	Judgment and Decision Making	Monitoring	Coordination
	100	97	94	91	89	86	83	80	77	74
Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely										
Basic Skill	Complex Problem Solving	Social Skill			Technical Skill		Resource Management Skill		System Skill	

a similar manner, some form of social skill is expected to be in high demand in occupations across all education levels.

Some noticeable differences do occur when looking at the remaining skills groups by education level. For example, technical skills, such as installation, troubleshooting, and equipment

selection, are expected to be in high demand in occupations requiring long-term on-the-job training. The following occupations, requiring these technical skills and several of the basic skills, are expected to grow faster than the region average and/or provide at least 40 openings a year through 2012; Audio and video equipment technicians; electricians; machinists; and heating, air conditioning, and refrigeration mechanics and installers. Complex problem identification skills are expected to experience gaps in occupations requiring a Master's or Doctoral Degree. Most of these occupations fall in the categories of postsecondary teachers; life physical or social scientists; or counseling occupations. The system skill of judgment and decision making logically appear in high demand in occupations requiring a bachelor's degree plus work experience or first professional degree, for these usually occur in upper management positions or highly skilled and experienced jobs.

To sum up, the data indicates the greatest gaps in occupations will be in basic skills *and* will occur across all preparation levels. Lower preparation levels have a greater technical skill gap than do the upper job preparation levels. In contrast, those at the upper levels need training in systems and complex problem solving skills.

**Table 4 Suggested Critical Skills for Region 2**

Projection Horizon	2002-2012					
	Critical Skills	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings	Growth Openings
	Reading Comprehension	6,298	100	52	3,275	3,023
	Active Listening	5,890	97	53	3,122	2,768
	Speaking	5,195	94	50	2,598	2,598
	Writing	4,607	89	52	2,396	2,211
	Critical Thinking	4,565	91	51	2,328	2,237
	Active Learning	4,258	86	51	2,172	2,086
	Coordination	3,873	80	51	1,975	1,898
	Instructing	3,799	83	47	1,786	2,013
	Learning Strategies	3,687	77	49	1,807	1,880
	Monitoring	3,672	74	50	1,836	1,836
	Social Perceptiveness	3,553	71	49	1,741	1,812
	Time Mgmt	3,266	69	51	1,666	1,600

To qualify as a critical skill, the skills gap index along with the replacement index must be analyzed. Replacement and growth openings are calculated using the projected demand and replacement index. Table 4 breaks out the openings which are due to growth in the skill and those which are due to replacement. It is evident that region 2 is projected to experience a better than average amount of growth by looking at the low replacement indices. For all the critical skills, between 47% and 53% of the job openings will be created in growing occupations. Growth openings confirm a vibrant labor market with an increased need for trained workers. On the other hand, replacement openings may indicate that a mix of jobs that do not have a clear-cut career path, are low skilled or low paying, or have less than favorable working conditions.

## KNOWLEDGE

Most work situations require a specific set of learned facts and standard requirements. Knowledge job requirements, like skills are found in occupations as a ‘set’ that help to define an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as the skills and later on in this report, the work activities sections; projected demand, skills gap index, and replacement index.

Table 5 describes the projected 2012 demand for Region 2 across all educational levels in which the top 10 knowledge job requirements occur in occupations. Occupations that require two or more of these knowledge elements are: Customer Service Representatives; Elementary School Teachers, Except Special Education; Pharmacists; Secondary School Teachers, Except Special Education; and Tellers. Each of these occupations are projected to be either high-demand or fast-growing in Region 2.

**Table 5 Selected Knowledge Requirements Compared to the State**

Geography	Alabama 2012			WIA Region 2		
Projections Horizon	2002-2012					
Knowledge Job Requirements	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Customer and Personal Service	30,619	100	59	5,378	100	56
English Language	13,119	97	56	2,483	97	53
Mathematics	9,350	91	58	1,918	91	56
<b>Education and Training</b>	<b>9,632</b>	<b>94</b>	<b>51</b>	<b>1,831</b>	<b>94</b>	<b>47</b>
Clerical	9,511	88	64	1,630	79	63
Sales and Marketing	8,663	85	65	1,564	85	62
<b>Administration and Management</b>	<b>6,330</b>	<b>79</b>	<b>57</b>	<b>1,440</b>	<b>88</b>	<b>57</b>
Computers and Electronics	5,444	73	59	1,326	82	54
Mechanical	5,874	76	61	1,064	73	61
<b>Psychology</b>	<b>5,940</b>	<b>82</b>	<b>51</b>	<b>1,020</b>	<b>76</b>	<b>46</b>
Design	2,749	52	55	732	67	55
Economics and Accounting	3,856	67	56	697	64	55
Public Safety and Security	3,676	58	61	685	61	58
<b>Medicine and Dentistry</b>	<b>3,712</b>	<b>70</b>	<b>47</b>	<b>631</b>	<b>70</b>	<b>42</b>
Law, Government and Jurisprudence	3,557	61	58	618	55	56

The replacement indices are fairly close in all knowledge elements when comparing Region 2 to the state; however, notice that none of the measurements for region two are higher than the state. This indicates that region 2 should experience more growth than the state as a whole.

Occupations in region 2 requiring knowledge in psychology and education and training are expected to produce more job openings due to growth than the state. Jobs requiring knowledge in both of these areas exist mostly in management, education, and healthcare occupational groups.

The three knowledge elements which expect to have the greatest need for training over the next few years are customer and personal service, English language, and mathematics. Although there does not appear to be as much growth for occupations requiring these knowledge elements due to the fact that the replacement indices are over 50%, a great number of occupations do require knowledge in these areas which is reflected in higher demand figures. Over a hundred occupations require knowledge in at least two of these three areas.

Of the selected knowledge items in Table 5, medicine and dentistry will account for the greatest amount of hiring due to growth. The demand for knowledge in medicine and dentistry is expected to grow 58% over the period. This is a reflection of the expected demand for workers in the healthcare industry in the coming years. Seven occupations requiring knowledge in medicine and dentistry at least at a moderate level are expected to be fast-growing in region 2: Dental hygienists, dental assistants, pharmacists, anesthesiologists, registered nurses, internists, general and cardiovascular technologists and technicians.

## **WORK ACTIVITIES**

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and maintaining them over time, is the top work activity projected through 2012 in Region 2. Table 6 compares this information for the area to the state. Getting information needed to do the job along with communicating with supervisors, peers, or subordinates round the list of the top 3 work activities.

**Table 6 Selected Work Activities Compared to the State**

<b>Geography</b>	<b>Alabama 2012</b>			<b>WIA Region 2</b>		
<b>Projections Horizon</b>	<b>2002-2012</b>					
<b>Work Activity Job Requirement</b>	<b>Projected Demand</b>	<b>Skills Gap Index</b>	<b>Replacement Index</b>	<b>Projected Demand</b>	<b>Skills Gap Index</b>	<b>Replacement Index</b>
<b>Establishing and maintaining interpersonal relationships</b>	<b>39,448</b>	<b>100</b>	<b>58</b>	<b>7,359</b>	<b>100</b>	<b>55</b>
<b>Communicating with supervisors, peers or subordinates</b>	<b>24,401</b>	<b>95</b>	<b>56</b>	<b>4,809</b>	<b>95</b>	<b>54</b>
<b>Getting information needed to do the job</b>	<b>24,528</b>	<b>98</b>	<b>55</b>	<b>4,710</b>	<b>98</b>	<b>53</b>
Handling and moving objects	22,513	85	62	4,343	83	61
Organizing, planning and prioritizing work.	22,618	93	55	4,249	93	52
Updating and using job-relevant knowledge	22,010	90	55	4,145	90	52
Making decisions and solving problems	18,324	88	52	3,519	88	50
Working directly with the public	18,863	78	61	3,327	78	59
<b>Identifying objects, actions, and events</b>	<b>16,069</b>	<b>83</b>	<b>50</b>	<b>3,226</b>	<b>85</b>	<b>47</b>
Monitoring processes, materials or surroundings	15,797	80	50	2,963	80	49

Establishing and maintaining interpersonal relationships has the highest demand in 7,359 additional job openings by 2012. This work activity is found in the high-demand occupations, customer service representatives as well as in child care workers and tellers. Communicating with supervisors, peers or subordinates and getting information needed to do the job are expected

to produce a demand of over 9,500 additional jobs, although both these requirements are important in large number of occupations. For example, computer software engineers, pharmacists, registered nurses, sales managers, and vocational education teachers are a small number of occupations requiring both work activities at a moderate level or higher. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost due to attrition, but also for new entrants due to employment growth in occupations using these work activities. Demand for the top three work activities is expected to be due to growth of between 45% and 47%.

Of the selected work activity elements in Table 6, identifying objects, actions, and events will account for the greatest amount of hiring due to growth, with 39%. This means occupations requiring this work activity are most likely projected to experience growth in region 1. The remaining demand of 47% will be due to turnover in occupations employing this activity. High-demand and fast-growing jobs in which identifying objects, actions, and events are at least moderately important are computer system analysts, medical assistants, and security guards.

## Summary

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth and job openings in the region. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing.

*Region 2 is expected to maintain an average annual occupational growth rate of 1.38% per year from 2002 to 2012.* This growth depends on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill job openings. Many of the occupations listed in Table 7 require at least an associate's degree or higher. A comprehensive list of occupational estimates and the associated preparation levels are provided in the above-referenced occupational projections for this region. Because these preparation levels tend to entail additional training, in order to sustain labor market growth and compete with other areas Region 2 should prepare workers to fill growth occupations beyond entry level positions.

The largest industry growth in region 2 should occur within administrative and waste remediation services industries, with 3.70% growth followed by healthcare and social assistance at 2.85%. Both of these industries are expected to produce a higher growth rate than the state average, adding over 17,000 new jobs to the region by 2012. The third largest growth sector is projected to be in Arts, Entertainment, and Recreation reporting a projected annual average growth rate of 2.71%, which translates into 610 new jobs over the ten-year period. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for *ongoing and diversified* growth in related industry fields. This will help offset losses in nondurable goods manufacturing and assist in providing flexible employment situations for already-skilled workers being forced out of their present manufacturing jobs.

**Table 7 Occupations in Region 5 Matching Critical Skills**

Region 2 Occupations	2002-2012 Occupational Projections	
	Avg. Annual Growth Rate	Avg. Annual Job Openings
<b>Accountants and Auditors</b>	<b>1.33</b>	<b>80</b>
Administrative Services Managers	0.90	15
Advertising Sales Agents	1.62	10
Aerospace Engineers	1.01	65
Architects, Except Landscape and Naval	1.43	10
<b>Cardiovascular Technologists and Technicians</b>	<b>2.61</b>	<b>10</b>
Chemists	0.77	10
Chief Executives	1.79	45
<b>Child, Family, and School Social Workers</b>	<b>2.66</b>	<b>15</b>
Civil Engineers	0.40	15
Coaches and Scouts	2.03	10
Computer and Information Systems Managers	2.13	45
<b>Computer Software Engineers, Applications</b>	<b>3.58</b>	<b>80</b>
<b>Computer Software Engineers, Systems Software</b>	<b>3.13</b>	<b>55</b>
<b>Computer Support Specialists</b>	<b>2.82</b>	<b>55</b>
<b>Computer Systems Analysts</b>	<b>2.06</b>	<b>100</b>
Construction and Building Inspectors	1.10	10
Cost Estimators	1.90	20
<b>Database Administrators</b>	<b>3.49</b>	<b>10</b>
<b>Dental Hygienists</b>	<b>3.79</b>	<b>20</b>
Diagnostic Medical Sonographers	2.36	10
Dietitians and Nutritionists	2.10	10
Education Administrators, Elementary and Secondary School	2.38	25
Education Administrators, Postsecondary	1.96	20
Educational, Vocational, and School Counselors	2.00	10
<b>Emergency Medical Technicians and Paramedics</b>	<b>3.02</b>	<b>20</b>
Employment, Recruitment, and Placement Specialists	2.31	15
Engineering Managers	0.99	60
<b>English Language and Literature Teachers, Postsecondary</b>	<b>2.54</b>	<b>10</b>
Environmental Engineers	1.99	10
Environmental Scientists and Specialists, Including Health	1.41	10
Fire Fighters	1.63	30
First-Line Supervisors/Managers of Police and Detectives	0.96	10
<b>First-Line Supervisors/Managers of Retail Sales Workers</b>	<b>1.51</b>	<b>190</b>
Food Service Managers	1.33	35
<b>General and Operations Managers</b>	<b>1.94</b>	<b>280</b>
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	2.51	40
Human Resources Managers	1.46	15
Industrial Engineers	1.62	35
Industrial Production Managers	0.83	20
Instructional Coordinators	2.36	10
Insurance Sales Agents	0.80	40
Lawyers	1.37	35
Librarians	1.84	15
<b>Licensed Practical and Licensed Vocational Nurses</b>	<b>2.43</b>	<b>120</b>



**Table 7 Occupations in Region 5 Matching Critical Skills, Continued**

<b>Region 2</b>	<b>2002-2012 Occupational Projections</b>	
<b>Occupations</b>	<b>Avg. Annual Growth Rate</b>	<b>Avg. Annual Job Openings</b>
Loan Officers	2.41	40
Management Analysts	2.02	60
Marketing Managers	1.84	15
Medical and Clinical Laboratory Technicians	2.52	30
Medical and Health Services Managers	2.48	25
Medical and Public Health Social Workers	1.38	10
<b>Network Systems and Data Communications Analysts</b>	<b>3.90</b>	<b>20</b>
Nursing Instructors and Teachers, Postsecondary	2.26	10
<b>Personal and Home Care Aides</b>	<b>4.14</b>	<b>45</b>
<b>Physical Therapist Assistants</b>	<b>3.51</b>	<b>10</b>
<b>Public Relations Managers</b>	<b>3.13</b>	<b>20</b>
Purchasing Agents, Except Wholesale, Retail, & Farm Products	0.81	55
Radiologic Technologists and Technicians	2.52	15
Real Estate Sales Agents	0.79	15
Recreation Workers	2.20	35
<b>Registered Nurses</b>	<b>2.54</b>	<b>285</b>
Respiratory Therapists	1.62	10
<b>Sales Managers</b>	<b>2.62</b>	<b>40</b>
Social and Community Service Managers	1.41	10
<b>Speech-Language Pathologists</b>	<b>2.54</b>	<b>10</b>
Surgical Technologists	2.44	15
Technical Writers	1.18	10
Training and Development Specialists	2.34	15
Veterinarians	1.73	10
Wholesale and Retail Buyers, Except Farm Products	1.34	10



# Skills *for* Tomorrow

## *in* Workforce Investment

### Advisory Area 3      2002-2012



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## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

The SBP system also provides for a review of possible critical skills for an area. The main tool in the system to study this subject is the *skills gap index*. The purpose of the skills gap index is to see the potential for gaps between current supply and demand by measuring the difference between the two. *Demand refers to total projected openings; that is openings due to growth plus net replacement openings*. The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. *Skills with high skills gap indices are expected to be critical for the projected period*.

## What will be needed in Region 3?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

**Projected Demand** refers to *total projected openings*; calculated as the sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

**Skills Gap Index** for each job requirement is a standardized measure of the difference (gap) between the current supply and projected demand, calculated in four steps:

1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
2. *Skill Weight Percent Change*: Employment change across the projection horizon, weighted by the percentage of total base-year employment.  $((\text{Projected Employment} - \text{Base Employment}) / \text{Base Employment}) * \text{Skill Weight}$ .
3. *Skill Weight Rank*: A rank score, of Skill Weight Percent Change, within a job requirement set.
4. *Skill Gap Index*: The Skill Weight Rank is standardized from 1 to 100.

**Replacement Index** is the *proportion of total openings due to net replacements* rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. Table 1 displays the top eleven skills relating to current occupational supply in Region 3. Reading comprehension, active listening, speaking, writing, critical thinking, active learning, learning strategies, and monitoring all fall into the basic skills category. The emphasis on basic skills means that workers in 2012 will have to have a flexible view of the work environment as a place of continuous learning. The remaining three, coordination, social perceptiveness and instructing, are social skills. These are the necessary competencies that help employees to successfully work together. These specific social skills in Region 3 suggest that workers can adjust their actions in relation to others' actions, are aware of and understand why coworkers react as they do and finally, are able to coach other coworkers. This underscores current efforts to remain competitive in a

**Table 1 Current Supply**

Skill Job Requirement	Current Supply 2002	
	Alabama	WIA Region 3
Reading Comprehension	881,383	48,046
Active Listening	823,698	43,186
Speaking	703,203	37,192
Writing	620,025	32,520
Critical Thinking	608,553	31,269
Active Learning	549,925	28,616
Coordination	512,260	26,994
Instructing	474,708	26,722
Social Perceptiveness	473,861	26,033
Learning Strategies	468,767	25,999
Monitoring	485,121	25,242

global economy where daily challenges require timely and effective business solutions. This kind of competition requires a workplace that not only facilitates independent learning, but is filled by workers who are able to effectively communicate by focusing on and understanding what is being said, asking appropriate questions and not interrupting the speaker. It will also mean socially literate workers can adjust their actions in relation to others' and be able to use logical reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

By 2012, it is projected that Region 3 will have 1,854 job openings in occupations requiring reading comprehension. This means that reading comprehension is at least moderately important to have in order to do the job, and that this skill is required at least at a moderate level or higher. Active listening, speaking, and writing are skills that will also be needed in Region 3's occupational growth.

**Table 2 Selected Skills Overview**

Geography	Alabama 2012			WIA Region 3		
Projections Horizon	2002-2012					
Skill Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Reading Comprehension	33,159	100	54	1,854	100	55
Active Listening	32,364	97	56	1,711	97	57
Speaking	28,283	94	53	1,512	94	54
Writing	24,630	91	54	1,302	91	55
Critical Thinking	23,926	89	54	1,228	89	55
Active Learning	21,875	86	54	1,152	83	55
Instructing	19,913	83	51	1,120	86	52
Social Perceptiveness	19,810	80	52	1,087	80	54
Learning Strategies	19,310	74	52	1,058	77	54
Monitoring	19,613	77	53	1,024	74	54
Coordination	19,299	71	53	1,018	71	54

The *skills gap* refers to the potential gap between the current supply and projected demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. A skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet the demand. Elementary school teacher, except special education is a particular occupation in which reading comprehension, active listening, active learning, critical thinking, writing, speaking, social perceptiveness, and instructing are all important skills. In Region 3 this occupation is expected to grow from 1,420 in the year 2002 to 1,710 in 2012. The skills gap indices for skills comprising this occupation, and others, are *anticipated* gaps since qualified workers will be required to fill the vacancies.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur due to turnover or people leaving the labor force. For example, 57% of jobs openings in occupations with at least a moderate requirement for active listening are projected to occur because of replacement. In other words, just over 975 openings should result as turnover. The remaining 43% or about 735 job openings should be due to growth. The skills gap index is 97, indicating a very high likelihood that skill training in active listening will need to occur in order to meet the demand.

Table 3 shows the top 10 projected skills by education level in Region 3. In general the data indicates the greatest skills gaps will occur in the basic skills group across all education levels. In a similar manner, some form of social skill is expected to be in high demand in occupations across all education levels.

**Table 3 Selected Skill Gaps by Occupational Preparation in Region 3**

Short-term OJT	Reading Comprehension	Active Listening	Speaking	Critical Thinking	Social Perceptiveness	Instructing	Monitoring	Learning Strategies	Writing	Coordination
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Writing	Reading Comprehension	Speaking	Critical Thinking	Active Learning	Instructing	Social Perceptiveness	Time Mgmt	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Reading Comprehension	Installation	Troubleshooting	Critical Thinking	Active Listening	Writing	Speaking	Coordination	Active Learning	Equipment Selection
	100	97	94	91	89	86	83	80	77	74
Work Experience in Related	Speaking	Reading Comprehension	Monitoring	Active Listening	Mgmt of Personnel Resources	Time Mgmt	Writing	Coordination	Social Perceptiveness	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
Postsecondary Vocational Training	Learning Strategies	Speaking	Active Listening	Active Learning	Troubleshooting	Monitoring	Social Perceptiveness	Reading Comprehension	Critical Thinking	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
AA/AS	Reading Comprehension	Active Listening	Active Learning	Instructing	Critical Thinking	Learning Strategies	Writing	Speaking	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Speaking	Active Listening	Learning Strategies	Instructing	Active Learning	Writing	Critical Thinking	Monitoring	Coordination
	100	97	94	91	89	86	83	80	77	74
BA/BS + Work Experience	Reading Comprehension	Coordination	Speaking	Writing	Active Learning	Monitoring	Critical Thinking	Judgment and Decision Making	Active Listening	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
MA/MS	Reading Comprehension	Writing	Active Learning	Speaking	Active Listening	Critical Thinking	Monitoring	Learning Strategies	Complex Problem Identification	Instructing
	100	97	94	91	89	86	83	80	77	74
Doctoral	Writing	Reading Comprehension	Critical Thinking	Active Learning	Speaking	Monitoring	Learning Strategies	Active Listening	Complex Problem Identification	Instructing
	100	97	94	91	89	86	83	80	77	74
1st Professional Degree	Reading Comprehension	Active Listening	Speaking	Social Perceptiveness	Writing	Critical Thinking	Active Learning	Judgment and Decision Making	Monitoring	Coordination
	100	97	94	91	89	86	83	80	77	74
Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely										
Basic Skill		Complex Problem Solving		Social Skill		Technical Skill		Resource Management Skill		System Skill

Some noticeable differences do occur when looking at the remaining skills groups by education level. For example, technical skills, such as installation, troubleshooting, and equipment selection, are expected to be in high demand in occupations requiring long-term on-the-job training. Machinists, millwrights, and heating, air conditioning and refrigeration mechanics and installers require all three of the above technical skills at least at a moderate level. Furthermore these occupations are expected to experience higher annual average growth in the region than in the state as a whole. Complex problem identification skills are expected to experience gaps in occupations requiring a Master’s or Doctoral Degree. Most of these occupations fall in the categories of postsecondary teachers; life physical or social scientists; or counseling occupations. The system skill of judgment and decision making logically appear as high demand in occupations requiring a bachelor’s degree

plus work experience or first professional degree, for these usually occur in upper management positions or highly skilled and experienced jobs.

In general, the data indicates the greatest gaps in occupations will be in basic skills *and* will occur across all preparation levels. Lower preparation levels have greater technical and social skill gaps than do the upper job preparation levels. In contrast, those at the upper levels need training in systems and complex problem solving skills.

**Table 4 Suggested Critical Skills**

Projection Horizon	2002-2012				
Critical Skills	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings	Growth Openings
Reading Comprehension	1,854	100	55	1,020	834
Active Listening	1,711	97	57	975	736
Speaking	1,512	94	54	816	696
Writing	1,302	91	55	716	586
Critical Thinking	1,228	89	55	675	553
Active Learning	1,152	83	55	634	518
Instructing	1,120	86	52	582	538
Social Perceptiveness	1,087	80	54	587	500
Learning Strategies	1,058	77	54	571	487
Monitoring	1,024	74	54	553	471
Coordination	1,018	71	54	550	468
Time Mgmt	875	69	54	473	403

As mentioned previously, skills which display an especially high skills gap index are expected to be critical skills for the projected period. The skills gap incorporates anticipated changes over the ten-year projection period, *to include* hiring activity due to growth and turnover. Each type of hiring activity will have its own implications for training and will depend on regional infrastructure and resources to implement action based on these indices. As shown in Table 4, there are 11 skills in

Region 3 with a skills gap rank scores of 70 or more, each with a large number of expected job openings for that skill. The Replacement Index shows the percentage of job openings that should occur as turnover/lateral movement or people leaving the labor force. The inverse value shows demand due to growth. This allows us to calculate replacement and growth openings. These are included in Table 4 to show the potential impact of each skill on job openings associated with that single skill through 2012. It is up to the reader to determine if the skills listed in Table 4 are *critical* skills.

For example, occupations with a skill requirement in instructing are expected to provide 1,120 openings in the region. Approximately 582 of these openings (52%) should result as turnover and the balance of 48%, or about 538 openings are expected to be due to growth. These results in a skill gap index of 86, indicating a very high likelihood that skill training in instructing should be addressed for this area. It is crucial to remember that labor turnover is grounded in cause and effect relationships within the larger economy, and as such the *type* of turnover can be an excellent indicator of economic health. Growth openings confirm a vibrant labor market with an increased need for trained workers, while a large number replacement openings may indicate a mix of jobs that do not have a clear-cut career path, are low skilled or low paying or have less than favorable working conditions.



## KNOWLEDGE

Most work situations require a specific set of learned facts and standard requirements. Knowledge job requirements, like skills are found in occupations as a ‘set’ that help to define an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as the skills and later on in this report, the work activities sections; projected demand, skills gap index, and replacement index.

Table 5 describes the projected 2012 demand for Region 3 across all educational levels in which the top 9 knowledge job requirements occur in occupations. Occupations that require two or more of these knowledge elements are: Customer Service Representatives; Elementary School Teachers, Except Special Education; Pharmacists; and Secondary School Teachers, Except Special Education. Each of these occupations is projected to be either high-demand or fast-growing in Region 3.

**Table 5 Selected Knowledge Requirements Compared to the State**

Geography	Alabama			WIA Region 3		
Projections Horizon	2002-2012					
Knowledge Job Requirements	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Customer and Personal Service	30,619	100	59	1,613	100	60
English Language	13,119	97	56	774	97	56
Education and Training	9,632	94	51	600	94	52
Clerical	9,511	88	64	517	88	62
Mathematics	9,350	91	58	466	91	57
Sales and Marketing	8,663	85	65	427	82	63
Mechanical	5,874	76	61	408	85	54
Administration and Management	6,330	79	57	350	76	54
Psychology	5,940	82	51	331	79	53

Skills gap values are similar in comparing Region 3 to the state, with one exception. Mechanical knowledge produces an 85 skills gap index, while the state shows only 76. In examining this knowledge area further, the replacement indices are lower for the region than the state, with 54 and 61 respectively. This means more openings will occur due to growth in mechanical knowledge in the region than in the state as a whole; therefore it is likely that training will be needed in this area to meet future demand.

The replacement indices are fairly close in all knowledge elements when comparing Region 3 to the state; furthermore, notice that with the exception of the top three, replacement indices for the region are lower than the state. This indicates that Region 3 will likely experience more growth than the state as a whole. Knowledge of the English language is identical in comparison with the state, with a replacement index of 56. In Region 3,

postsecondary business teachers utilize this knowledge at moderate level or higher, and should experience a 2.92 average annual growth rate compared to the state rate of 1.95.

Of the selected knowledge items in Table 5, education and training will account for the greatest amount of hiring due to growth. The demand for knowledge in education and training is expected to grow 48% over the period. In those same jobs, the remaining 52% will be due to turnover.

## WORK ACTIVITIES

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and maintaining them over time, is the top work activity projected through 2012 in Region 3. Table 6 compares this information for the area to the state. Getting information needed to do the job along with handling and moving objects round the list of the top 3 work activities.

**Table 6 Selected Work Activities Compared to the State**

Geography	Alabama 2012			WIA Region 3		
Projections Horizon	2002-2012					
Work Activity Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Establishing and maintaining interpersonal relationships	39,448	100	58	2,174	100	58
Getting information needed to do the job	24,528	98	55	1,348	98	56
Handling and moving objects	22,513	85	62	1,346	88	58
Communicating with supervisors, peers or subordinates	24,401	95	56	1,276	93	56
Organizing, planning and prioritizing work.	22,618	93	55	1,226	95	54
Updating and using job-relevant knowledge	22,010	90	55	1,190	90	55
Performing general physical activities	16,109	73	62	979	83	58
Working directly with the public	18,863	78	61	976	76	62
Making decisions and solving problems	18,324	88	52	918	85	53
Monitoring processes, materials or surroundings	15,797	80	50	822	80	51

Establishing and maintaining interpersonal relationships has the highest demand with 2,174 additional job openings by 2012. This work activity is found in the fast-growing occupations, management analyst as well as coaches and scouts. Getting information needed to do the job and handling and moving objects are expected to produce a demand of over 2,690 openings, although both of these requirements may occur in the same occupations. For example, dentists, fire fighters, veterinarians, and radiologic technologists and technicians are some of the occupations which require both of the above work activities. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost due to attrition,

but also for new entrants due to employment growth in occupations using these work activities. The top three work activities in Table 6 are each expected to provide from 42% to 44% of employment growth opportunities.

Data for the work activity performing general physical activities shows that this work activity is expected to have a greater need for training in Region 3 than in the state as a whole. Region 3 has a lower replacement index than the state, with 58 and 62 respectively; therefore, the region is projected to have a larger number of openings due to growth than the state. As a result, the skills gap index for Region 3 is 83, whereas for the state it is only 73. The following occupations require this work activity, and are projected to be fast growing in Region 3 through 2012: Electricians; heating, air conditioning and refrigeration mechanics and installers; packaging and filling machine operators and tenders; and telecommunications line installers and repairers.

Of the selected work activity elements in Table 6, monitoring processes, materials, or surroundings will account for the greatest amount of hiring due to growth, with 49%. This means occupations requiring this work activity are likely to experience growth in Region 3. In those same jobs, the remaining 51% will be due to turnover. High-demand and fast-growing jobs in which monitoring processes, materials, or surroundings is at least moderately important are dental assistants; inspectors, testers, sorters, samplers, and weighers; and welders, cutters, solderers, and brazers.

## Summary

**Table 7 Occupations in Region 3 Matching Critical Skills**

Region 3	2002-2012 Occupational Projections	
Occupations	Avg. Annual Growth Rate	Avg. Annual Job Openings
Accountants and Auditors	1.55	25
Administrative Services Managers	2.66	5
Child, Family, and School Social Workers	2.10	5
Civil Engineers	0.51	5
Coaches and Scouts	2.54	10
Computer and Information Systems Managers	2.26	5
Computer Support Specialists	2.10	10
Computer Systems Analysts	2.54	10
Cost Estimators	2.10	10
Dental Hygienists	3.82	5
Education Administrators, Elementary and Secondary School	1.55	10
Education Administrators, Postsecondary	1.76	10
Educational, Vocational, and School Counselors	1.73	10
Emergency Medical Technicians and Paramedics	2.14	5
Engineering Managers	1.34	5
Fire Fighters	1.06	15
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	1.37	25
First-Line Supervisors/Managers of Police and Detectives	0.96	5
First-Line Supervisors/Managers of Retail Sales Workers	1.16	50
Food Service Managers	1.12	10
General and Operations Managers	1.72	80
Health Specialties Teachers, Postsecondary	1.74	20
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	3.21	20

Region 3	2002-2012 Occupational Projections	
Occupations	Avg. Annual Growth Rate	Avg. Annual Job Openings
<b>Industrial Engineers</b>	3.82	10
Industrial Production Managers	1.76	10
Instructional Coordinators	2.66	5
Insurance Sales Agents	0.71	15
Lawyers	1.48	10
Librarians	1.18	10
<b>Licensed Practical and Licensed Vocational Nurses</b>	1.94	45
Loan Officers	1.55	10
<b>Management Analysts</b>	2.66	10
<b>Medical and Health Services Managers</b>	2.36	10
<b>Personal and Home Care Aides</b>	3.28	15
Physical Therapists	2.03	5
Public Relations Managers	3.42	5
Purchasing Agents, Except Wholesale, Retail, and Farm Products	0.65	5
<b>Radiologic Technologists and Technicians</b>	3.87	10
Real Estate Sales Agents	0.51	5
Recreation Workers	1.64	5
<b>Registered Nurses</b>	1.87	80
Sales Managers	1.73	10
Training and Development Specialists	2.54	5

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth and job openings in the region. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

*Region 3 is expected to maintain an average annual occupational growth rate of 1.41% per year from 2002 to 2012, which is higher than the state average of 1.32%. This growth depends on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill job openings. Many of the occupations listed in Table 7 require at least an associate's degree or higher. A comprehensive list of occupational estimates and the associated preparation levels are provided in the above-referenced occupational projections for this region. Because these preparation levels tend to entail additional training in order to sustain labor market growth and compete with other areas, Region 3 should prepare workers to fill growth occupations beyond entry level positions.*

The largest industry growth in Region 3 should occur within administrative and waste remediation services industries, with 3.51% growth followed by arts, entertainment, and recreation at 2.80%. Both of these industries are expected to produce a higher growth rate than the state average, adding over 1,300 new jobs to the region by 2012. The third largest growth sector is projected to be in professional, scientific, and technical services reporting a projected annual average growth rate of 2.40%, which translates into 690 new jobs over the ten-year period. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for *ongoing and diversified* growth in related industry fields.

# Skills *for* Tomorrow

## in Workforce Investment

### Advisory Area 4 2002-2012



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## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

The SBP system also provides for a review of possible critical skills for an area. The main tool in the system to study this subject is the *skills gap index*. The purpose of the skills gap index is to see the potential for gaps between current supply and demand by measuring the difference between the two. *Demand refers to total projected openings; that is openings due to growth plus net replacement openings*. The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. *Skills with high skills gap indices are expected to be critical for the projected period*.

## What will be needed in Region 4?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

**Projected Demand** refers to *total projected openings*; calculated as the sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

**Skills Gap Index** for each job requirement is a standardized measure of the difference (gap) between the current supply and projected demand, calculated in four steps:

1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
2. *Skill Weight Percent Change*: Employment change across the projection horizon, weighted by the percentage of total base-year employment. ((Projected Employment - Base Employment)/Base Employment) \* Skill Weight.
3. *Skill Weight Rank*: A rank score, of Skill Weight Percent Change, within a job requirement set.
4. *Skill Gap Index*: The Skill Weight Rank is standardized from 1 to 100.

**Replacement Index** is the *proportion of total openings due to net replacements* rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. Table 1 shows the top twelve skills relating to current occupational supply in Region 4. Reading comprehension, active listening, speaking, writing, critical thinking, active learning, monitoring, and learning strategies are the eight basic skills in the list. The emphasis on basic skills means that workers in 2012 will have to have a flexible view of the work environment as a place of continuous learning. The next three, coordination, social perceptiveness and instructing, are social skills. These are the necessary competencies that help employees to successfully work together. These specific social skills in Region 4 suggest that workers can adjust their actions in relation to others' actions, are aware of and understand why coworkers react as they do and finally, are able to coach other coworkers. This underscores current efforts to remain competitive in a global economy where daily challenges require timely and effective business solutions. This kind of

**Table 1 Current Skill Supply**

Skill Job Requirement	Current Supply 2002	
	Alabama	WIA Region 4
Reading Comprehension	881,383	47,798
Active Listening	823,698	44,922
Speaking	703,203	39,006
Writing	620,025	33,691
Critical Thinking	608,553	32,268
Active Learning	549,925	29,980
Coordination	512,260	27,050
Social Perceptiveness	473,861	26,559
Instructing	474,708	26,130
Monitoring	485,121	26,028
Learning Strategies	468,767	25,454
Time Mgmt	436,596	23,317

competition requires a workplace that not only facilitates independent learning, but is filled by workers who are able to effectively communicate by focusing on and understanding what is being said, asking appropriate questions and not interrupting the speaker. The final skill, time management, falls under the resource management category. Time management is a developed capacity that allows workers to manage their own time and the time of others.

By 2012, it is projected that 2,453 job openings will need to be filled in Region 4 in occupations requiring reading comprehension. This means that reading comprehension is at least moderately important to have in order to perform the duties of the job, and that this skill is required at least at a moderate level or higher. Active listening, speaking, and writing are skills that will also be needed to support job growth in Region 4.

**Table 2 Selected Skills Overview**

Geography	Alabama 2012			WIA Region 4		
Projections Horizon	2002-2012					
Skill Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Reading Comprehension	33,159	100	54	2,453	100	40
Active Listening	32,364	97	56	2,389	97	42
Speaking	28,283	94	53	2,127	94	40
Writing	24,630	91	54	1,774	91	41
Critical Thinking	23,926	89	54	1,667	89	41
Active Learning	21,875	86	54	1,588	83	41
Instructing	19,913	83	51	1,542	86	38
Social Perceptiveness	19,810	80	52	1,490	77	41
Learning Strategies	19,310	74	52	1,460	80	38
Monitoring	19,613	77	53	1,376	74	41
Coordination	19,299	71	53	1,322	71	40
Time Mgmt	17,334	69	54	1,200	69	42

The *skills gap* refers to the potential gap between the current supply and projected demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. A skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet the demand. Elementary school teacher, except special education is a particular occupation in which reading comprehension, active listening, active learning, critical thinking, writing, speaking, social perceptiveness, and instructing are all important skills. In Region 4, this occupation is expected to grow from 1,310 in the year 2002 to 1,940 in 2012. The skills gap indices for skills comprising this occupation, and others, are *anticipated* gaps since qualified workers will be required to fill the vacancies.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur due to turnover or people leaving the labor force. For example, 40% of jobs openings in occupations with at least a moderate requirement for



reading comprehension are projected to occur because of replacement. In other words, just over 980 openings should result as turnover. The remaining 60% or about 1,471 job openings should be due to growth. The skills gap index is 100, indicating a very high likelihood that skill training in reading comprehension will need to occur in order to meet the demand.

When comparing the replacement indices in Region 4 to the state, you will notice that the numbers are much lower in the region than the state. Region 4 has a range of 38%-42% openings due to replacement while the state's range is 51%-56%. As a result, Region 4 will experience more openings due to growth in occupations containing these skills than the state as a whole.

Table 3 shows the top 10 projected skills by education level in Region 4. Notice the overwhelming demand for skills in the basic and social skills groups. The prominence of basic skills means that workers in 2012 will have to have a flexible view of the work environment as *a place of continuous learning*. Social skills are the necessary competencies that help employees to successfully work together.

**Table 3 Selected Skill Gaps by Occupational Preparation in Region 4**

Short-term OJT	Reading Comprehension	Active Listening	Speaking	Instructing	Critical Thinking	Social Perceptiveness	Learning Strategies	Monitoring	Coordination	Writing
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Reading Comprehension	Writing	Speaking	Critical Thinking	Active Learning	Time Mgmt	Social Perceptiveness	Instructing	Installation
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Reading Comprehension	Installation	Troubleshooting	Coordination	Equipment Maintenance	Critical Thinking	Active Listening	Writing	Speaking	Repairing
	100	97	94	91	89	86	83	80	77	74
Work Experience in Related	Mgmt of Personnel Resources	Speaking	Reading Comprehension	Coordination	Monitoring	Active Listening	Time Mgmt	Writing	Social Perceptiveness	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
Postsecondary Vocational Training	Learning Strategies	Speaking	Active Listening	Active Learning	Monitoring	Reading Comprehension	Social Perceptiveness	Coordination	Time Mgmt	Writing
	100	97	94	91	89	86	83	80	77	74
AA/AS	Reading Comprehension	Active Listening	Active Learning	Instructing	Critical Thinking	Writing	Speaking	Learning Strategies	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Speaking	Instructing	Learning Strategies	Active Listening	Writing	Active Learning	Social Perceptiveness	Monitoring	Mathematics
	100	97	94	91	89	86	83	80	77	74
BA/BS + Work Experience	Writing	Speaking	Active Learning	Monitoring	Critical Thinking	Active Listening	Judgment and Decision Making	Reading Comprehension	Time Mgmt	Mgmt of Personnel Resources
	100	97	94	91	89	86	83	80	77	74
MA/MS	Writing	Reading Comprehension	Active Learning	Speaking	Active Listening	Critical Thinking	Complex Problem Identification	Learning Strategies	Monitoring	Instructing
	100	97	94	91	89	86	83	80	77	74
Doctoral	Active Listening	Writing	Speaking	Reading Comprehension	Monitoring	Learning Strategies	Critical Thinking	Active Learning	Instructing	Complex Problem Identification
	100	97	94	91	89	86	83	80	77	74
1st Professional Degree	Reading Comprehension	Active Listening	Speaking	Writing	Social Perceptiveness	Critical Thinking	Active Learning	Learning Strategies	Service Orientation	Judgment and Decision Making
	100	97	94	91	89	86	83	80	77	74
Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely										
Basic Skill		Complex Problem Solving		Social Skill		Technical Skill		Resource Management Skill		System Skill

Occupations requiring long-term on-the-job training will experience a greater need for training in technical skills, displaying high skills gaps in those like installation, troubleshooting, and equipment maintenance. Repairing is also a technical skill that falls within the top ten for occupations in this training category. Millwrights and heating, air conditioning, and refrigeration mechanics and installers are both occupations in this training category that require all four of the listed technical skills at a moderate level or higher. Furthermore, these occupations are expected to grow at a much faster rate through 2012 in Region 4 than in the state as a whole.

Resource management skills appear in the top ten for occupations requiring work experience in a related occupation or a bachelor’s degree plus work experience. This is logical, for most jobs falling into these training categories consist of supervisory or management occupations. Complex problem solving and system skills are likely to require training in those occupations requiring education and experience beyond a bachelor degree.

In general, the data indicates the greatest gaps in occupations will be in basic skills *and* will occur across all preparation levels. Lower preparation levels have greater technical and social skill gaps than do the upper job preparation levels. In contrast, those at the upper levels need training in system and complex problem solving skills.

**Table 4 Suggested Critical Skills**

Projection Horizon	2002-2012					
	Critical Skills	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings	Growth Openings
	Reading Comprehension	2,453	100	40	981	1,472
	Active Listening	2,389	97	42	1,003	1,386
	Speaking	2,127	94	40	851	1,276
	Writing	1,774	91	41	727	1,047
	Critical Thinking	1,667	89	41	683	984
	Instructing	1,542	86	38	586	956
	Active Learning	1,588	83	41	651	937
	Learning Strategies	1,460	80	38	555	905
	Social Perceptiveness	1,490	77	41	611	879
	Monitoring	1,376	74	41	564	812
	Coordination	1,322	71	40	529	793
	Time Mgmt	1,200	69	42	504	696

As mentioned previously, skills which display an especially high skills gap index are expected to be critical skills for the projected period. The skills gap incorporates anticipated changes over the ten-year projection period, *to include* hiring activity due to growth and turnover. Each type of hiring activity will have its own implications for training and will depend on regional infrastructure and resources to implement action based on these indices. As shown in Table 4, there are 11 skills in Region 4 with a skills gap rank score of 70 or more, each with a large number of expected job openings for that skill. The Replacement Index shows the percentage of job openings that should occur as turnover/lateral movement or people leaving the labor force. The inverse value shows demand due to growth. This allows us to calculate replacement and growth openings. These are included in Table 4 to show the potential impact of each skill on job openings associated with that single skill through 2012. It is up to the reader to determine if the skills listed in Table 4 are *critical* skills.

For example, occupations with a skill requirement in instructing are expected to provide 1,542 openings. Approximately 586 of these openings (38%) should result as turnover and the balance of 62%, or about 956 openings are expected to be due to growth. These results in a skill gap index of 86, indicating a high likelihood that skill training in instructing should be addressed. All of the top twelve critical skills listed above are expected to create more openings because of growth than replacement, due to their low replacement indices.

## KNOWLEDGE

Most work situations require a specific set of learned facts and standard requirements. Knowledge job requirements, like skills, are found in occupations as a ‘set’ that help to define an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as skills and later on in this report, the work activities sections using projected demand, skills gap index, and replacement index.

**Table 5 Selected Knowledge Requirements Compared to the State**

PROJECTIONS HORIZON	2002-2012					
	ALABAMA 2012			WIA REGION 4		
GEOGRAPHY	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
<b>KNOWLEDGE REQUIREMENTS</b>						
Customer and Personal Service	30,619	100	59	2,134	100	46
<b>English Language</b>	<b>13,119</b>	<b>97</b>	<b>56</b>	<b>1,016</b>	<b>97</b>	<b>40</b>
<b>Education and Training</b>	<b>9,632</b>	<b>94</b>	<b>51</b>	<b>810</b>	<b>94</b>	<b>36</b>
Mathematics	9,350	91	58	668	91	45
Clerical	9,511	88	64	663	88	48
Sales and Marketing	8,663	85	65	622	85	53
Administration and Management	6,330	79	57	485	82	42
Mechanical	5,874	76	61	453	79	47
<b>Computers and Electronics</b>	<b>5,444</b>	<b>73</b>	<b>59</b>	<b>379</b>	<b>73</b>	<b>42</b>
<b>Psychology</b>	<b>5,940</b>	<b>82</b>	<b>51</b>	<b>376</b>	<b>76</b>	<b>39</b>

Table 5 describes the projected 2012 demand for Region 4 across all educational levels in which the top 10 knowledge job requirements occur in occupations. Occupations that require two or more of these knowledge elements are: customer service representatives; elementary school teachers, except special education; and registered nurses. Each of these occupations are either high-demand or fast-growing in Region 4.

As noted above in the skills discussion, the replacement indices for knowledge elements are much lower in Region 4 than in the state. This indicates that the region is expected to grow faster than the state as a whole. A skills gap index of 94 for knowledge in education and training both in the state and the region presents an equal need for training. However, the skills gap index in Region 4 of 36 indicates that

training will be needed in this area for more jobs due to growth than those in the state as a whole. In general this rings true for a majority of the top knowledge elements.

Region 4 is projected to experience a slightly higher shortage of workers with administration and management and mechanical knowledge than the state. Also, knowledge in psychology is not expected to need as much training in the region than in the state as a whole, with skills gap indices of 76 and 82 respectively.

In Region 4, the replacement indices across the same knowledge elements indicate that the openings will be more occupation growth than turnover with the exception of sales and marketing. Computers and electronics knowledge has the greatest difference comparison with a replacement index of 42 for Region 4 and 59 for the state. As an example, computer support specialists utilize this knowledge, and in the region the occupation should experience a 5.03 average annual growth rate compared to the state rate of 2.68. Therefore, the area will have more career opportunities for computer support specialists than the state.

## WORK ACTIVITIES

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and maintaining them over time, is the top work activity projected through 2012 in Region 4. Table 6 compares this information for the area to the state. Handling and moving objects, along with getting information needed to do the job round the list of the top 3 work activities.

**Table 6 Selected Work Activities Compared to the State**

Geography	Alabama 2012			WIA Region 4		
Projections Horizon	2002-2012					
Work Activity Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
<b>Establishing and maintaining interpersonal relationships</b>	<b>39,448</b>	<b>100</b>	<b>58</b>	<b>2,910</b>	<b>100</b>	<b>45</b>
<b>Handling and moving objects</b>	<b>22,513</b>	<b>85</b>	<b>62</b>	<b>1,906</b>	<b>90</b>	<b>50</b>
<b>Getting information needed to do the job</b>	<b>24,528</b>	<b>98</b>	<b>55</b>	<b>1,825</b>	<b>98</b>	<b>41</b>
Communicating with supervisors, peers or subordinates	24,401	95	56	1,739	95	43
Organizing, planning and prioritizing work.	22,618	93	55	1,651	93	41
Updating and using job-relevant knowledge	22,010	90	55	1,599	88	42
Working directly with the public	18,863	78	61	1,345	80	50
Performing general physical activities	16,109	73	62	1,312	83	47
Making decisions and solving problems	18,324	88	52	1,222	85	40
Communicating with persons outside the organizations	13,184	71	57	1,062	73	43
<b>Identifying objects, actions, and events</b>	<b>16,069</b>	<b>83</b>	<b>50</b>	<b>1,058</b>	<b>78</b>	<b>37</b>
Monitoring processes, materials or surroundings	15,797	80	50	1,046	76	38

Establishing and maintaining interpersonal relationships has the highest demand with a projection of 2,910 additional job openings by 2012. This work activity is found in the fast-growing occupations, fitness trainers and aerobics instructors as well as public relations managers. Handling and moving objects and getting information needed to do the job are expected to produce a demand of over 3,730 additional employment opportunities, although both these work activities are important in many occupations. Fire fighters, occupational therapists, veterinarians, and cardiovascular technologists and

technicians are just a few occupations requiring both work activities at a moderate level or higher. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost due to attrition, but also for new entrants due to employment growth in occupations using these work activities. The top three work activities in Table 6 are each expected to provide from 50% to 59% of employment growth opportunities.

Of the selected work activity elements in Table 6, identifying objects, actions, and events will account for the greatest amount of hiring due to growth with 63%. This means occupations requiring this work activity will likely experience growth in Region 4. The remaining demand of 37% will be due to turnover in occupations employing this activity. High-demand and fast-growing jobs in which identifying objects, actions, and events are at least moderately important are computer systems analysts, team assemblers, and school bus drivers.

## **Summary**

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth and job openings in the region. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

*Region 4 is expected to maintain an average annual occupational growth rate of 2.39% per year from 2002 to 2012, which is much higher than the state average of 1.32%. This growth depends on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill job openings. Many of the occupations listed in Table 7 require at least an associate's degree or higher. A comprehensive list of occupational estimates and the associated preparation levels are provided in the above-referenced occupational projections for this region. Because these preparation levels tend to entail additional training in order to sustain labor market growth and compete with other areas, Region 4 should prepare workers to fill growth occupations beyond entry level positions.*

The largest industry growth in Region 4 should occur within administrative and waste remediation services industries, with 5.39% growth followed by professional, scientific, and technical services at 4.60%. Both of these industries are expected to produce a higher growth rate than the state average, adding approximately 5,080 new jobs to the region by 2012. The third largest growth sector is projected to be in Arts, Entertainment, and Recreation reporting a projected annual average growth rate of 4.36%, which translates into 500 new jobs over the ten-year period. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for *ongoing and diversified* growth in related industry fields. This will help offset losses in nondurable goods manufacturing and assist in providing flexible employment situations for already-skilled workers being forced out of their present manufacturing jobs.

**Table 7 Occupations in Region 4 Matching Critical Skills**

Region 4 Occupations	2002-2012 Occupational Projections	
	Avg. Annual Growth Rate	Avg. Annual Job Openings
Accountants and Auditors	2.23	35
Administrative Services Managers	3.15	5
Chief Executives	2.58	20
Child, Family, and School Social Workers	3.07	5
Coaches and Scouts	2.92	5
Computer and Information Systems Managers	4.14	5
<b>Computer Software Engineers, Applications</b>	<b>6.76</b>	<b>15</b>
<b>Computer Support Specialists</b>	<b>5.03</b>	<b>25</b>
<b>Computer Systems Analysts</b>	<b>4.45</b>	<b>15</b>
Cost Estimators	2.36	10
<b>Database Administrators</b>	<b>4.14</b>	<b>5</b>
<b>Dental Hygienists</b>	<b>4.14</b>	<b>5</b>
<b>Education Administrators, Elementary and Secondary School</b>	<b>4.14</b>	<b>15</b>
<b>Education Administrators, Preschool and Child Care Center/Program</b>	<b>7.18</b>	<b>5</b>
<b>Educational, Vocational, and School Counselors</b>	<b>4.14</b>	<b>10</b>
Emergency Medical Technicians and Paramedics	3.34	5
Engineering Managers	1.84	10
Fire Fighters	1.84	10
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	2.33	30
<b>First-Line Supervisors/Managers of Retail Sales Workers</b>	<b>1.74</b>	<b>80</b>
Food Service Managers	2.15	15
<b>General and Operations Managers</b>	<b>2.89</b>	<b>135</b>
<b>Heating, Air Conditioning, and Refrigeration Mechanics and Installers</b>	<b>4.05</b>	<b>25</b>
Industrial Production Managers	1.96	10
Insurance Sales Agents	1.07	30
Lawyers	1.51	10
Librarians	3.10	10
<b>Licensed Practical and Licensed Vocational Nurses</b>	<b>3.03</b>	<b>45</b>
Loan Officers	2.61	10
<b>Management Analysts</b>	<b>5.16</b>	<b>20</b>
Marketing Managers	3.63	5
Medical and Clinical Laboratory Technicians	2.50	15
Medical and Health Services Managers	2.14	10
Medical and Public Health Social Workers	1.18	5
<b>Mental Health Counselors</b>	<b>4.62</b>	<b>5</b>
<b>Network Systems and Data Communications Analysts</b>	<b>6.39</b>	<b>5</b>
<b>Personal and Home Care Aides</b>	<b>4.14</b>	<b>20</b>
Probation Officers and Correctional Treatment Specialists	3.42	5
<b>Public Relations Managers</b>	<b>4.52</b>	<b>15</b>
Purchasing Agents, Except Wholesale, Retail, and Farm Products	2.26	10
Real Estate Sales Agents	1.23	10
Recreation Workers	3.15	15
<b>Registered Nurses</b>	<b>3.43</b>	<b>85</b>
Sales Managers	2.41	10
Social and Community Service Managers	2.66	5
Substance Abuse and Behavioral Disorder Counselors	3.24	5
Training and Development Specialists	2.92	5
<b>Veterinarians</b>	<b>4.14</b>	<b>5</b>
<b>Veterinary Technologists and Technicians</b>	<b>6.25</b>	<b>5</b>

# Skills *for* Tomorrow in Workforce Investment

Advisory Area 5 2002-2012



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*This report was developed by the Labor Market Information Division of the Alabama Department of Industrial Relations in cooperation with the Projections Managing Partnership, sponsored by the US Department of Labor, Employment and Training Administration.*

## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

The SBP system also provides for a review of possible critical skills for an area. The main tool in the system to study this subject is the *skills gap index*. The purpose of the skills gap index is to see the potential for gaps between current supply and demand by measuring the difference between the two. *Demand refers to total projected openings; that is openings due to growth plus net replacement openings*. The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. *Skills with high skills gap indices are expected to be critical for the projected period*.



## What will be needed in Region 5?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

**Projected Demand** refers to *total projected openings*; calculated as the sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

**Skills Gap Index** for each job requirement is a standardized measure of the difference (gap) between the current supply and projected demand, calculated in four steps:

1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
2. *Skill Weight Percent Change*: Employment change across the projection horizon, weighted by the percentage of total base-year employment.  $((\text{Projected Employment} - \text{Base Employment}) / \text{Base Employment}) * \text{Skill Weight}$ .
3. *Skill Weight Rank*: A rank score, of Skill Weight Percent Change, within a job requirement set.
4. *Skill Gap Index*: The Skill Weight Rank is standardized from 1 to 100.

**Replacement Index** is the *proportion of total openings due to net replacements* rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. As shown in Table 1, of the top twelve skills relating to the current occupational supply in Region 5, reading comprehension, active listening, speaking, critical thinking, writing, active learning, learning strategies, and monitoring all fall into the *basic* skills group. The emphasis on basic skills means that workers in 2012 will need to maintain a flexible view of the work environment as a place of continuous learning. The next three skills, coordination, social perceptiveness and instructing, are *social* skills. These are the necessary competencies that help employees to successfully work together. These specific social skills in Region 5 suggest that workers can adjust their actions in relation to others' actions, are aware of and understand why coworkers react as they do and finally, are able to coach other coworkers. The level of activity for these social skills range from setting up appointments to project management for coordination, noticing customer frustration to crisis counseling for social perceptiveness, or showing new coworkers how to clock in to teaching medical procedures for instructing. The remaining skill,

**Table 1 Current Skill Supply**

Skill Job Requirement	Current Supply 2002	
	Alabama	WIA Region 5
Reading Comprehension	881,383	59,570
Active Listening	823,698	52,683
Speaking	703,203	46,247
Critical Thinking	608,553	38,938
Writing	620,025	38,861
Active Learning	549,925	34,948
Coordination	512,260	33,637
Social Perceptiveness	473,861	33,023
Instructing	474,708	32,963
Learning Strategies	468,767	32,210
Monitoring	485,121	31,426
Time Mgmt	436,596	27,375

*time management*, is classified in the resource management category. This skill implies workers can manage the time of others and themselves. All of these skills are highly important in Region 5 where healthcare and education occupations consist of nearly half the fast-growing occupations for the 2012 projection period.

The current skill supply underscores efforts to remain competitive in regional and global economies where daily challenges require timely and effective business solutions. This kind of competition requires a workplace that not only facilitates independent learning, but is filled by workers who are able to effectively communicate by focusing on and understanding what is being said, asking appropriate questions and not interrupting the speaker. It also means socially literate workers can adjust their actions in relation to others’ and be able to use logical reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

By 2012, 2,127 job openings are projected in occupations requiring reading comprehension. In other words, reading comprehension is required at a moderate level or higher for occupations which will create 2,127 job openings. Active listening, speaking, and writing are skills that will also be needed to support Region 5’s occupational growth. The projected demand information in Table 2 shows how many job openings are anticipated *in addition* to the current skill supply. As explained previously, several skills together make up one occupation, whereas this table shows the demand, or number of additional job openings, per individual skill.

**Table 2 Selected Skills Overview**

Skill Job Requirement	Alabama			Region 5		
	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Reading Comprehension	33,159	100	54	2,127	100	59
Active Listening	32,364	97	56	1,950	97	60
Speaking	28,283	94	53	1,758	94	57
Writing	24,630	91	54	1,450	89	58
Critical Thinking	23,926	89	54	1,432	91	58
Active Learning	21,875	86	54	1,320	80	58
Social Perceptiveness	19,810	80	52	1,315	83	56
Instructing	19,913	83	51	1,312	86	55
Learning Strategies	19,310	74	52	1,221	77	56
Monitoring	19,613	77	53	1,207	74	57
Coordination	19,299	71	53	1,206	71	58
Time Mgmt	17,334	69	54	1,022	69	58
Judgment and Decision Making	14,560	66	54	896	66	59

The skills gap refers to the potential gap between the current supply and projected demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. Within Region 5, a skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet the demand. Middle school teachers, except special and vocational education is a particular occupation where reading comprehension, active listening, speaking, writing, critical thinking, active learning, social perceptiveness, and instructing are among important skills. This occupation is identified as being in high demand in Region 5 and is expected to grow from 790 in the year 2002 to 940 in 2012. The skills gap indices are *anticipated* gaps that, for example, show a likely need to train in

these identified skills that are required for middle school teachers, since qualified workers will be essential to fill vacancies.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur due to turnover or those leaving the labor force. For example, 59% of the job openings with a high skill requirement in reading comprehension will occur due to replacement, resulting in just over 1,254 openings. The remaining 41% or about 872 job openings should be due to growth. Furthermore, 40% to 45% of the projected demand for all critical skills listed in Table 2 will be due to growth openings. The implication is to continue training programs that supports the acquisition of these skills.

**Table 3 Selected Skill Gaps by Occupational Preparation**

Short-term OJT	Reading Comprehension	Active Listening	Speaking	Instructing	Critical Thinking	Social Perceptiveness	Monitoring	Learning Strategies	Coordination	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Reading Comprehension	Speaking	Writing	Critical Thinking	Active Learning	Social Perceptiveness	Instructing	Service Orientation	Coordination
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Installation	Reading Comprehension	Troubleshooting	Critical Thinking	Speaking	Writing	Coordination	Active Learning	Active Listening	Judgment and Decision Making
	100	97	94	91	89	86	83	80	77	74
Work Experience in Related Occupation	Mgmt of Personnel Resources	Reading Comprehension	Speaking	Active Listening	Monitoring	Coordination	Writing	Time Mgmt	Social Perceptiveness	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
Postsecondary Vocational Training	Learning Strategies	Speaking	Active Listening	Active Learning	Critical Thinking	Monitoring	Social Perceptiveness	Reading Comprehension	Coordination	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
AA/AS	Active Listening	Reading Comprehension	Active Learning	Instructing	Critical Thinking	Learning Strategies	Writing	Speaking	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Speaking	Learning Strategies	Instructing	Active Listening	Social Perceptiveness	Writing	Active Learning	Monitoring	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
BA/BS + Work Experience	Reading Comprehension	Speaking	Writing	Active Learning	Monitoring	Critical Thinking	Coordination	Active Listening	Judgment and Decision Making	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
MA/MS	Writing	Reading Comprehension	Active Learning	Speaking	Active Listening	Critical Thinking	Learning Strategies	Complex Problem Identification	Instructing	Monitoring
	100	97	94	91	89	86	83	80	77	74
Doctoral	Writing	Reading Comprehension	Critical Thinking	Active Learning	Speaking	Monitoring	Learning Strategies	Active Listening	Complex Problem Identification	Instructing
	100	97	94	91	89	86	83	80	77	74
1st Professional Degree	Reading Comprehension	Active Listening	Speaking	Social Perceptiveness	Writing	Critical Thinking	Active Learning	Mathematics	Judgment and Decision Making	Monitoring
	100	97	94	91	89	86	83	80	77	74
Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely										
Basic Skill		Complex Problem Solving		Social Skill		Technical Skill		Resource Management Skill		System Skill

Table 3 shows the top 10 skill gaps for each education level in Region 5. This table indicates that occupations at the postsecondary vocational training and higher educational levels have a greater need for training in the basic skills category. Technical skill gaps appear mainly in the long-term on-the-job training group. Troubleshooting and installation are technical skills appearing in an occupation such as telecommunications line installers and repairers. This occupation is listed as fast-growing in Region 5 through the year 2012.

Jobs requiring moderate-term on-the-job training, associates degree, and bachelor’s degree have a need for basic and social skills. Within the master to doctoral degree educational levels, complex problem solving appears in their top 10 skills. System skills are needed in occupations requiring long-term on-the-job training, a bachelor’s degree or higher with work experience, and in the 1<sup>st</sup> professional degree category. Lastly, resource management appears in occupations requiring work experience in related occupations to bachelor’s degree or higher with work experience.

In general, the data indicates the greatest gaps in occupations will be in basic skills *and* will occur across all preparation levels. Lower preparation levels have greater technical and social skill gaps than do the upper job preparation levels, although occupations at all preparation levels do foresee a need for social skills. In contrast, those at the upper levels need training in systems and complex problem solving skills.

As mentioned previously, skills which display an especially high skills gap index are expected to be critical skills for the projected period. In Table 4, replacement and growth openings have been calculated by applying the replacement index to the projected demand to illustrate the impact these critical skills should have on job openings. Curators, registered nurses, licensed practical and licensed vocational nurses, and a wide variety of teaching occupations in Region 5 require all 12 of these critical skills. It is crucial to remember that labor turnover is grounded in cause and effect relationships within the larger economy, and as such the *type* of turnover can be an excellent indicator of economic health. Growth openings confirm a vibrant labor market with an increased need for trained workers, while a large number replacement openings may indicate a mix of jobs that do not have a clear-cut career path, are low skilled or low paying or have less than favorable working conditions.

**Table 4 Suggested Critical Skills**

Projection Horizon	Region 5 2002-2012				
	Critical Skills	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings
Reading Comprehension	2,127	100	59	1,255	872
Active Listening	1,950	97	60	1,170	780
Speaking	1,758	94	57	1,002	756
Critical Thinking	1,432	91	58	831	601
Writing	1,450	89	58	841	609
Instructing	1,312	86	55	722	590
Social Perceptiveness	1,315	83	56	736	579
Active Learning	1,320	80	58	766	554
Learning Strategies	1,221	77	56	684	537
Monitoring	1,207	74	57	688	519
Coordination	1,206	71	58	699	507
Time Mgmt	1,022	69	58	593	429

## KNOWLEDGE

Most work situations require a specific set of learned facts and standard requirements. Knowledge job requirements, like skills are found in occupations as a ‘set’ that help to define an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as the skills and later on in this report, the work activities sections; projected demand, skills gap index, and replacement index.

Table 5 describes the projected 2012 demand for the top 10 knowledge job requirements. Occupations which appear as high demand in Region 5 and require at least two of these knowledge elements are: customer service representatives; elementary school teachers, except special education; and tellers. Skills gap indices vary somewhat when comparing the region to the state. Region 5 shows a higher need for training in knowledge requirements such as administration and management, and psychology, with skills gaps of 85 and 88 respectively. Knowledge in both of these areas is important in occupations such as funeral directors, optometrists, instructional coordinators, and chief executives.

It is evident in Table 5 that the replacement indices in Region 5 are somewhat higher than those for the state. This reflects fewer openings due to growth in this region than in the state as a whole. Mechanical knowledge has the greatest divergence from state to region with replacement indices of 61 and 70 respectively. Notice however that the skills gap index is the same both statewide and regionally. This indicates that the potential need for training in mechanical knowledge is the same in the region as in the state.

**Table 5 Selected Knowledge Requirements Compared to the State**

PROJECTIONS HORIZON	2002-2012					
	ALABAMA			WIA REGION 5		
KNOWLEDGE REQUIREMENTS	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
Customer and Personal Service	30,619	100	59	1,865	100	63
English Language	13,119	97	56	833	97	60
Education and Training	9,632	94	51	666	94	56
Mathematics	9,350	91	58	529	91	63
Clerical	9,511	88	64	513	79	69
Sales and Marketing	8,663	85	65	500	82	68
Administration and Management	6,330	79	57	454	85	65
Mechanical	5,874	76	61	424	76	70
Psychology	5,940	82	51	404	88	55
Computers and Electronics	5,444	73	59	260	61	65

Of the selected knowledge items in Table 5, psychology will account for approximately 45% of growth openings in this region where it is at least moderately important to the occupation. The remaining 55% of job openings in the knowledge of psychology will be the result of turnover. Jobs in which English language along with education and training are at least moderately important complete the top three knowledge elements. Openings in these knowledge requirements characterize 40% to 44% of growth openings.

## WORK ACTIVITIES

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and

maintaining them over time, is the top work activity projected through 2012 in Region 5. Table 6 compares this information for the area to the state. Getting information needed to do the job along with communicating with supervisors, peers or subordinates round the list of the top 3 work activities.

Establishing and maintaining interpersonal relationships has the highest demand with 2,470 additional job openings by 2012. This work activity is found in the fast-growing occupations, sales managers and public relations managers. Getting information needed to do the job and communicating with supervisors, peers, or subordinates are important activities that will provide over 3,140 employment opportunities in occupations that require them at least at a moderate level. However both of these work activities may occur in the same occupations. For example, both of the above work activities are important to occupations like advertising sales agents, directors of religious activities and education, industrial engineers, and public relations managers, all of which are fast growing occupations in Region 5. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost through attrition, but also for new entrants filling job openings that are available due to growth in occupations employing these work activities. Employment growth from 37% to 40% is expected in occupations which require the top three work activities above a moderate level.

**Table 6 Selected Work Activities Compared to the State**

Geography	Alabama			WIA Region 5		
Projections Horizon	2002-2012					
Work Activity Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Establishing and maintaining interpersonal relationships	39,448	100	58	2,470	100	63
Getting information needed to do the job	24,528	98	55	1,611	98	60
Communicating with supervisors, peers or subordinates	24,401	95	56	1,537	95	62
Handling and moving objects	22,513	85	62	1,529	88	64
Updating and using job-relevant knowledge	22,010	90	55	1,362	90	60
Organizing, planning and prioritizing work.	22,618	93	55	1,338	93	59
Working directly with the public	18,863	78	61	1,218	78	65
Making decisions and solving problems	18,324	88	52	1,069	85	57
Identifying objects, actions, and events	16,069	83	50	1,005	83	56
Performing general physical activities	16,109	73	62	998	76	62
Monitoring processes, materials or surroundings	15,797	80	50	978	80	55
Communicating with persons outside the organizations	13,184	71	57	863	71	62
Processing information	14,301	76	57	801	68	61

Of the selected elements in Table 6, monitoring processes, materials, or surroundings will account for the greatest number of openings due to growth. Prospects in occupations requiring this activity will account for approximately 45% of growth openings in this region. In those same jobs, the remaining 55% will be due to turnover. In contrast, the state divides growth and replacement with 50% each. High-demand and fast-growing jobs in which monitoring processes, materials or surroundings is at least moderately important are home health aides, carpenters, and welders, cutters, solderers, and brazers. However, for this particular work activity, replacement openings compared to the state clearly demonstrate that the general trend is for more *growth* job openings statewide; the region still providing valuable openings but doing so as a function of replacement.

## Summary

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth in the region and a minimum of five average annual job openings. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

*Region 5 is expected to maintain an average annual occupational growth rate of one percent per year from 2002 to 2012.* This growth depends on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill job openings. Many of the occupations listed in Table 7 require at least an associate's degree or higher. A comprehensive list of occupational estimates and the associated preparation levels are provided in the above-referenced Occupational Projections for this region. Because these preparation levels tend to entail additional training in order to sustain labor market growth and compete with other areas, Region 5 should prepare workers to fill growth occupations beyond entry level positions.

Region 5 can expect somewhat slower industrial growth than is projected for the state. The largest growth should occur within administrative and waste remediation services industries, with 2.53% growth followed closely by professional, scientific, and technical services at 2.23%. Although both these figures fall below state growth levels, when combined they are expected to contribute 2,710 new industry jobs to the area. The third largest growth sector is health care and social assistance reporting a projected average annual growth rate of 2.16%. That translates into 3,390 additional jobs. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for ongoing and diversified growth in related industry fields. This will help offset losses in nondurable goods manufacturing and assist in providing flexible employment situations for already-skilled workers being forced out of their present manufacturing jobs.

**Table 7 Occupations in Region 5 Matching Critical Skills**

Occupation	2002-2012 Occupational Projections	
	Avg Annual Growth Rate	Avg Annual Job Openings
Accountants and Auditors	0.98	25
Administrative Services Managers	1.18	5
<b>Advertising Sales Agents</b>	<b>1.93</b>	<b>10</b>
Chief Executives	1.26	10
Child, Family, and School Social Workers	1.73	10
Computer and Information Systems Managers	2.26	5
Computer Support Specialists	2.03	5
Computer Systems Analysts	1.12	5
<b>Cost Estimators</b>	<b>2.10</b>	<b>10</b>
<b>Dental Assistants</b>	<b>2.78</b>	<b>10</b>
Dental Hygienists	3.10	5
Education Administrators, Elementary and Secondary School	1.60	10
<b>Education Administrators, Postsecondary</b>	<b>1.96</b>	<b>10</b>
Educational, Vocational, and School Counselors	1.34	10
Electrical and Electronics Repairers, Commercial and Industrial Equipment	0.61	5
<b>Emergency Medical Technicians and Paramedics</b>	<b>3.02</b>	<b>15</b>
Employment, Recruitment, and Placement Specialists	2.92	5
Engineering Managers	1.18	5
Family and General Practitioners	2.10	5

Skills Based Projections in Workforce Investment Advisory Area, Region 5

Occupation	2002-2012 Occupational Projections	
	Avg Annual Growth Rate	Avg Annual Job Openings
Fire Fighters	0.83	15
First-Line Supervisors/Managers of Police and Detectives	0.80	5
First-Line Supervisors/Managers of Retail Sales Workers	1.16	70
Food Service Managers	0.98	15
General and Operations Managers	1.52	105
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1.84	15
<b>Industrial Engineers</b>	<b>2.39</b>	<b>10</b>
Industrial Production Managers	1.30	10
Insurance Sales Agents	0.67	20
Lawyers	1.06	10
Librarians	1.55	10
Licensed Practical and Licensed Vocational Nurses	1.69	40
Loan Officers	1.84	10
<b>Management Analysts</b>	<b>1.99</b>	<b>10</b>
Medical and Clinical Laboratory Technicians	1.26	10
Medical and Health Services Managers	1.84	10
Medical and Public Health Social Workers	1.18	10
<b>Medical Assistants</b>	<b>4.28</b>	<b>20</b>
Mental Health Counselors	1.55	5
Network Systems and Data Communications Analysts	2.54	5
<b>Personal and Home Care Aides</b>	<b>2.16</b>	<b>10</b>
Physician Assistants	3.24	5
<b>Public Relations Managers</b>	<b>2.39</b>	<b>10</b>
Purchasing Agents, Except Wholesale, Retail, and Farm Products	1.48	10
Radiologic Technologists and Technicians	1.64	10
Recreation Workers	1.29	10
<b>Registered Nurses</b>	<b>2.10</b>	<b>105</b>
<b>Sales Managers</b>	<b>2.26</b>	<b>10</b>
<b>Training and Development Specialists</b>	<b>2.14</b>	<b>10</b>



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## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

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## What will be needed in Region 6?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

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1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
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## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. As shown in Table 1, seven of the top eleven skills relating to the current occupational supply in Region 6 are *basic* skills. This emphasis on basic skills means that workers in 2012 will need a flexible outlook for the work environment as a place of continuous learning. *Coordination, social perceptiveness, and instructing* are social skills. These are the necessary competencies that help employees to successfully work together. These specific social skills suggest that workers can adjust their actions in relation to others' actions, are able to coach other coworkers, and finally, are aware of and understand why coworkers react as they do on the job. These social skills range in action from setting up appointments to project management (*coordination*), noticing customer frustration to crisis counseling (*social perceptiveness*), and showing new coworkers how to clock in to teaching medical procedures (*instructing*). Basic and social skill types are also important in Region 6 where it is likely that healthcare industries will provide occupational growth. The remaining skill, *time management*, is classified in the resource management category. This skill implies workers can manage the time of others and themselves.

**Table 1 Current Skill Supply**

Skill Job Requirement	Current Supply 2002	
	Alabama	WIA Region 6
Reading Comprehension	881,383	2,700
Instructing	474,708	2,690
Speaking	703,203	2,400
Critical Thinking	608,553	2,190
Active Listening	823,698	2,170
Coordination	512,260	2,170
Monitoring	485,121	2,060
Social Perceptiveness	473,861	2,020
Time Mgmt	436,596	2,010
Writing	620,025	1,830
Active Learning	549,925	1,600

All of the skills underscore efforts to remain competitive in a global economy where daily challenges require timely and effective business solutions. This kind of competition requires a workplace that not only facilitates independent learning, but is filled by workers who are able to effectively communicate by focusing on and understanding what is being said, ask appropriate questions and not interrupt the speaker. It will also mean socially literate workers can adjust their actions in relation to others' and be able to use logical reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Region 6 is a fairly rural area with a workforce in 2002 of just over 46,000. Over the past several years, employment has experienced very little growth in this region. You may notice that in many of the occupations that are expected to grow, the numbers are so small, that several occupations will show zero job openings. This is due to the fact that job openings are rounded to the nearest 5.

Looking at skills by *projected demand*, through 2012 it is expected that for each skill job requirement, 15 to 55 additional job openings will need to be filled where that single skill is moderately important to have, and will be required at least at a moderate level or higher. The projected demand information in Table 2 shows how many job openings are anticipated *in addition* to the current skill supply. As explained previously, several skills together make up one occupation, whereas this table shows the demand, or number of additional job openings, per individual skill.

**Table 2 Selected Skills Overview**

Geography	Alabama 2012			WIA Region 6		
Projections Horizon	2002-2012					
Skill Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Speaking	28,283	94	53	50	100	100
Instructing	19,913	83	51	50	97	100
Reading Comprehension	33,159	100	54	55	94	100
Coordination	19,299	71	53	45	91	100
Writing	24,630	91	54	40	89	100
Critical Thinking	23,926	89	54	45	86	100
Active Listening	32,364	97	56	45	83	100
Time Mgmt	17,334	69	54	40	80	100
Social Perceptiveness	19,810	80	52	40	77	100
<b>Operation Monitoring</b>	<b>2,628</b>	<b>11</b>	<b>59</b>	<b>30</b>	<b>74</b>	<b>83</b>
Monitoring	19,613	77	53	45	71	100
Learning Strategies	19,310	74	52	20	69	100
Active Learning	21,875	86	54	35	66	100
Judgment and Decision Making	14,560	66	54	30	63	100
Complex Problem Identification	11,729	60	52	15	60	100

The skills gap refers to the potential gap between the current supply and projected demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. Because of the lack of an abundance of industry in Region 6, skills that are expected to experience shortages in trained people vary widely in comparison to the state as a whole. Of the top five skills which are expected to need the most training over the period, two of them fall into the social skills group; *instructing and coordination*. In Region 6 registered nurses require both of these social skills at least at a moderate level; furthermore, the occupation is expected to be in high demand in the region through 2012, with an average of 15 openings a year. The skills gap indices are *anticipated* gaps that, for example, show a likely need to train in these identified skills that are required for registered nurses, since qualified workers will be essential to fill vacancies.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur due to turnover or those leaving the labor force. In general you will notice that all of the skills listed in Table 2, except for one, have replacement indices of 100. This is a clear indication that most of the job openings for skills in this region will occur because of occupational replacement. The only skill that does not have a 100 replacement index is *operation monitoring*. Compared with the State, Region 6 is expected to have a much greater need for training in this skill, with skills

gap indices of 11 and 74 respectively. Food batchmakers require this skill higher than a moderate level, and in Region 6 it is expected to grow 1.18% per year through 2012, and produce an average of 5 openings per year due to growth.

Table 3 shows the top 10 projected skills by education level in Region 3. Only seven out of the eleven training categories contained occupations which are expected to be vital to the economy in Region 6 through the year 2012; therefore, high demand skills will only be available for those training categories. While there is great demand across training categories for basic and social skills, Region 6 displays a much different mix than the state or any other WIA regions. Occupational preparation which requires no postsecondary education is expected to need more training in technical skills. Time management, managing one’s own time and the time of others, and judgment and decision making, considering the relative costs benefits of potential actions to choose the most appropriate one, will also require some training to meet demand for occupations which require no postsecondary education.

**Table 3 Selected Skill Gaps by Occupational Preparation in Region 6**

Short-term OJT	Operation Monitoring	Instructing	Coordination	Reading Comprehension	Time Mgmt	Speaking	Social Perceptiveness	Monitoring	Critical Thinking	Quality control
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Writing	Speaking	Active Listening	Social Perceptiveness	Service Orientation	Reading Comprehension	Learning Strategies	Instructing	Time Mgmt	Judgment and Decision Making
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Troubleshooting	Reading Comprehension	Operation Monitoring	Operation and Control	Monitoring	Mathematics	Learning Strategies	Installation	Critical Thinking	Coordination
	100	71	56	53	47	35	32	24	15	12
Work Experience in Related	Writing	Time Mgmt	Speaking	Social Perceptiveness	Reading Comprehension	Persuasion	Negotiation	Monitoring	Mathematics	Judgment and Decision Making
	100	97	94	91	89	86	83	80	77	74
AA/AS	Writing	Time Mgmt	Speaking	Social Perceptiveness	Service Orientation	Reading Comprehension	Persuasion	Monitoring	Mathematics	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
BA/BS	Writing	Troubleshooting	Time Mgmt	Technology Design	Systems Evaluation	Systems Analysis	Speaking	Reading Comprehension	Quality control	Persuasion
	100	97	94	91	89	86	83	80	77	74
BA/BS + Work Experience	Writing	Systems Evaluation	Systems Analysis	Speaking	Reading Comprehension	Operations Analysis	Monitoring	Mgmt of Personnel Resources	Mgmt of Material Resources	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
<b>Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely</b>										
Basic Skill		Social Skill		Technical Skill			Resource Management Skill		System Skill	

Occupations which require postsecondary training are projected to need people trained in technical, resource management, and system skills. The systems skills needing training for occupations requiring a bachelor’s degree, or a bachelor’s degree with work experience are systems evaluation and systems analysis. Systems evaluation is defined as identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system. Systems analysis is determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

Management analysts and network systems and data communications analysts are occupations that require both of the listed system skills.

As mentioned previously, skills which display an especially high skills gap index are expected to be critical skills for the projected period. The skills gap incorporates anticipated changes over the ten-year projection period, *to include* hiring activity due to growth and turnover. Each type of hiring activity will have its own implications for training and will depend on regional infrastructure and resources to implement action based on these indices. As shown in Table 4, there are 11 skills in Region 6 with a skills gap rank score of 70 or more. The Replacement Index shows the percentage of job openings that should occur as turnover/lateral movement or people leaving the labor force. The inverse value shows demand due to growth. This allows us to calculate replacement and growth openings. These are included in Table 4 to show the potential impact of each skill on job openings associated with that single skill through 2012. It is up to the reader to determine if the skills listed in Table 4 are *critical* skills.

**Table 4 Suggested Critical Skills**

Projection Horizon	2002-2012				
	Critical Skills	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings
Speaking	50	100	100	50	0
Instructing	50	97	100	50	0
Reading Comprehension	55	94	100	55	0
Coordination	45	91	100	45	0
Writing	40	89	100	40	0
Critical Thinking	45	86	100	45	0
Active Listening	45	83	100	45	0
Time Mgmt	40	80	100	40	0
Social Perceptiveness	40	77	100	40	0
<b>Operation Monitoring</b>	<b>30</b>	<b>74</b>	<b>83</b>	<b>25</b>	<b>5</b>
Monitoring	45	71	100	45	0
Learning Strategies	20	69	100	20	0

As pointed out, the only skill which does not have a replacement index of 100 is operation monitoring. Occupations with a skill requirement in operation monitoring are expected to provide 30 openings, with 25 or 83% resulting from turnover and 5 resulting from growth (17%). These results in a skill gap index of 74, indicating a high likelihood that skill training in operation monitoring should be addressed. Nevertheless, all of the critical skills in Region 6 are expected to create more openings due to replacement because little growth is projected for the region through 2012.

## KNOWLEDGE

Most work situations require a specific set of learned facts and standard requirements. Knowledge job requirements, like skills are found in occupations as a ‘set’ that help to define an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as the skills and later on in this report, the work activities section; projected demand, skills gap index, and replacement index.

Table 5 describes the projected 2012 demand for Region 6 across all educational levels in which the top 10 knowledge job requirements occur in occupations. Occupations that require two or more of these knowledge elements are: customer service representatives and registered nurses. Each of these occupations are high-demand in Region 6.

**Table 5 Selected Knowledge Requirements Compared to the State**

Projections Horizon	2002-2012					
	Alabama 2012			Region 6		
Geography	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Customer and Personal Service	30,619	100	59	55	100	100
English Language	13,119	97	56	15	97	100
Education and Training	9,632	94	51	15	94	100
Psychology	5,940	82	51	15	91	100
Administration and Management	6,330	79	57	15	88	100
<b>Therapy and Counseling</b>	<b>2,787</b>	<b>64</b>	<b>46</b>	<b>0</b>	<b>85</b>	<b>0</b>
Sales and Marketing	8,663	85	65	25	82	100
Clerical	9,511	88	64	0	79	0
Telecommunications	900	39	42	0	76	0
Mathematics	9,350	91	58	20	73	100

Skills gap values for Region 6 vary tremendously when comparing them to the state, and even to other regions. Because Region 6 is such a rural area, the employment mix is different than other areas of the state. Knowledge in psychology, administration and management, therapy and counseling, and telecommunications is likely to be needed in this area much more than in other advisory areas or the state as a whole. As with the skills demand above, the replacement indices for knowledge requirements indicate that a large majority of job openings in the region will be due to occupational turnover or people leaving the labor force.

*Knowledge requirements in therapy and counseling, clerical, and telecommunications all display zeros for projected demand and replacement index, yet they still display a high likelihood for training needs with skills gaps of 85, 79, and 76 respectively. Logically, with skills gap indices that high and replacement indices of zero, one would expect there to be growth in these knowledge elements, yet the demand still displays zeros. The main reason for this occurrence is due to rounding of the occupational projections. For example, both social and human service assistants, and network systems and data communications analysts require one or more of these knowledge elements. Both are expected to experience growth through 2012 in Region 6. Table 7 at the end shows that social and human service assistants are expected to grow an average of 0.74% per year, and network systems and data communications analysts, 7.18% per year. **In occupational projections job openings are calculated into an annual average number, just as the growth rate is; therefore, if only 10 to 20 openings are expected over the 10-year period, and they are reported on an annual average basis, the result would be 1 to 2 openings per year, and rounding would display that as zero openings.***

In summation, the three highest demand knowledge requirements for the region do coincide with the state, but the demand varies in Region 6 in the remaining knowledge areas.

## WORK ACTIVITIES

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and

maintaining them over time, is the top work activity projected through 2012 in Region 6. Table 6 compares the region’s projected demand for work activities to the state’s projected demand. Monitoring processes, materials or surroundings and identifying objects, actions, and events round out the top three in the list of high demand work activities. The skills gaps for these two work activities suggest a much higher need for training in Region 6 than in the state as a whole. As a matter of fact, the next three on the list also are projected to require more training in this region than in the state. Furthermore, Handling and moving objects and performing general physical activities, numbers four and five on the list, are the only work activities expected to produce job openings due to growth in Region 6.

**Table 6 Selected Work Activities Compared to the State**

Projections Horizon Geography	2002-2012					
	Alabama 2012			Region 6		
Work Activity Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Establishing and maintaining interpersonal relationships	39,448	100	58	60	100	100
Monitoring processes, materials or surroundings	15,797	80	50	35	98	100
Identifying objects, actions, and events	16,069	83	50	30	95	100
Handling and moving objects	22,513	85	62	70	93	93
Performing general physical activities	16,109	73	62	40	90	88
Working directly with the public	18,863	78	61	30	88	100
Getting information needed to do the job	24,528	98	55	55	85	100
Updating and using job-relevant knowledge	22,010	90	55	30	83	100
Making decisions and solving problems	18,324	88	52	40	80	100
Communicating with supervisors, peers or subordinates	24,401	95	56	45	78	100
Organizing, planning and prioritizing work.	22,618	93	55	25	76	100
Communicating with persons outside the organizations	13,184	71	57	10	73	100
Processing information	14,301	76	57	25	71	100

Handling and moving objects has the highest projected demand with 70. The replacement index indicates that 93% of the demand will be due to turnover in occupations which require this work activity at a moderate level or higher. In other words, 65 openings will occur because of job churn, and only 5 will occur due to growth. Performing general physical activities has a lower projected demand of 40, but the lower replacement rate indicates that occupations in Region 6 which require this work activity should experience a little more growth than those requiring the previous one listed. As a matter of fact, there are five occupations in Region 6 requiring the performance of general physical activities that are projected to experience growth: concrete masons and concrete finishers, landscaping and groundskeeping workers, parking lot attendants, truck drivers, heavy and tractor-trailer, and water and liquid waste treatment plant and system operators.



In general it looks like Region 6 will need more training in work activities that are more individual and action oriented rather than team and supervisory oriented.

## Summary

Each of the selected occupations in Table 7 *match 3 or more of the 12 critical skills alone*, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth and job openings in the region. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

*Overall, Region 6 is expected to maintain an average annual occupational decline of .5% per year from 2002 to 2012 with an annual average of 245 job openings across all occupations.* The ability to turn this decline into growth will depend on the economic health of employers in the area as well as an available supply of qualified workers needed to fill job openings with current and potential new businesses. While this region may experience declines in several occupational groups, the majority are expected to maintain current levels. Computer and mathematical occupations should remain steady as well as most business operations specialists, operations specialties managers, as well as a variety of healthcare practitioners and technicians. Small gains are projected for network systems and data communications analysts and metal workers and plastic workers.

*Region 6 overall industry employment is expected to decline by 2,250 by the year 2012.* However, it is projected that durable goods manufacturing will grow over 17%, adding approximately 710 jobs over the period. In addition, the healthcare and social assistance sector is expected to add 50 jobs. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for *ongoing and diversified* growth in related industry fields. This will help offset losses in nondurable goods manufacturing and assist in providing flexible employment situations for already-skilled workers being forced out of their present manufacturing jobs.

**Table 7 Occupations in Region 6 matching Critical Skills**

Region 6 Occupations	2002-2012 Occupational Projections	
	Avg. Annual Growth Rate	Avg. Annual Job Openings
Cost Estimators	1.55	0
Food Cooking Machine Operators and Tenders	1.06	0
<b>General and Operations Managers</b>	0.00	15
<b>Industrial Truck and Tractor Operators</b>	0.00	10
Management Analysts	1.18	0
Medical Assistants	4.14	0
<b>Network Systems and Data Communications Analysts</b>	7.18	0
Nursing Aides, Orderlies, and Attendants	0.35	10
Registered Nurses	0.15	15
<b>Sales Representatives, Wholesale and Manufacturing</b>	0.63	10
Social and Human Service Assistants	0.74	0
<b>Water &amp; Liquid Waste Treatment Plant &amp; System Operators</b>	0.00	5



# Skills *for* Tomorrow

## *in* Workforce Investment

### Advisory Area 7 2002-2012



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## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. As shown in Table 1, of the top twelve skills relating to current occupational supply in Region 7, reading comprehension, active listening, speaking, writing, critical thinking, active learning, monitoring, and learning strategies are the eight basic skills for this area. The emphasis on basic skills means that workers in 2012 will have to have a flexible view of the work environment as a place of continuous learning. The next three—coordination, social perceptiveness and instructing are social skills. These are the necessary competencies that help employees to successfully work together. These specific social skills in Region 7 suggest that workers can adjust their actions in relation to others’ actions, are aware of and understand why coworkers react as they do and finally, are able to coach other coworkers. The level of activity for these social skills range from setting up appointments to project management for coordination, noticing customer frustration to crisis counseling for social perceptiveness, or showing new coworkers how to clock in to teaching medical procedures for instructing. This underscores current efforts to remain competitive in a global economy where daily challenges require timely and effective business solutions. This kind of competition requires a workplace that not only facilitates independent learning, but is filled by workers who are able to effectively communicate by focusing on and understanding what is being said, asking appropriate questions and not interrupting the speaker. It will also mean socially literate

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Monitoring	485,121	50,536
Social Perceptiveness	473,861	48,834
Learning Strategies	468,767	48,162
Instructing	474,708	47,779
Time Mgmt	436,596	46,003

workers can adjust their actions in relation to others’ and be able to use logical reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems. The remaining skill, time management, is classified in the resource management category. This skill implies workers can manage the time of others and themselves. All of these skills are very important in Region 7 where healthcare, education, and community and social service occupations consist of nearly half the fast-growing occupations for the 2012 projection period.

By 2012 it is expected that 3,731 job openings in occupations requiring reading comprehension will need to be filled. In other words, reading comprehension is required at a moderate level or higher for occupations which will create 3,731 job openings. Active listening, speaking, and writing are skills that will also be needed in Region 7’s occupational growth. The projected demand information in Table 2 shows how many more job openings are anticipated *in addition* to the current skill supply. As explained previously, several skills together make up one occupation, whereas this table shows the demand, or number of additional job openings, per individual skill.

**Table 2 Selected Skills Overview**

Geography	Alabama 2012			WIA Region 7		
Projections Horizon	2002-2012					
Skill Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Reading Comprehension	33,159	100	54	3,731	100	52
Active Listening	32,364	97	56	3,672	97	54
Speaking	28,283	94	53	3,098	94	51
Writing	24,630	91	54	2,695	91	52
Critical Thinking	23,926	89	54	2,631	89	51
Active Learning	21,875	86	54	2,379	86	52
Social Perceptiveness	19,810	80	52	2,152	80	50
Coordination	19,299	71	53	2,135	77	50
Monitoring	19,613	77	53	2,130	71	51
Instructing	19,913	83	51	2,110	83	49

The skills gap refers to the potential gap between the current supply and projected demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. Within Region 7, a skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet the demand. Medical assistant is a particular occupation where reading comprehension, active listening, speaking, active learning, and social perceptiveness are among important skills. For Region 7, this occupation is listed as a fast-growing occupation and is expected to grow 55% from 230 in the year 2002 to 370 in 2012. The skills gap indices for skills comprising the medical assistant occupation are *anticipated* gaps since qualified workers will be required to fill the vacancies.

Table 3 shows the top 10 skills by education level in Region 7. The table indicates that postsecondary vocational training and higher educational level occupations have a greater need for training in the basic skills category. The technical skills appear mainly in the long-term on-the-job training group. Troubleshooting,

**Table 3 Selected Skill Gaps by Occupational Preparation in Region 7**

Short-term OJT	Reading Comprehension	Active Listening	Speaking	Critical Thinking	Social Perceptiveness	Instructing	Monitoring	Learning Strategies	Writing	Coordination
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Reading Comprehension	Writing	Speaking	Critical Thinking	Active Learning	Instructing	Social Perceptiveness	Time Mgmt	Service Orientation
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Reading Comprehension	Installation	Troubleshooting	Critical Thinking	Active Listening	Writing	Speaking	Coordination	Mathematics	Equipment Maintenance
	100	97	94	91	89	86	83	80	77	74
Work Experience in Related	Speaking	Mgmt of Personnel Resources	Reading Comprehension	Coordination	Active Listening	Monitoring	Time Mgmt	Writing	Social Perceptiveness	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
Postsec. Voc Training	Learning Strategies	Speaking	Active Listening	Active Learning	Social Perceptiveness	Reading Comprehension	Time Mgmt	Writing	Coordination	Monitoring
	100	97	94	91	89	86	83	80	77	74
AA/AS	Reading Comprehension	Active Listening	Active Learning	Instructing	Critical Thinking	Writing	Learning Strategies	Speaking	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Speaking	Active Listening	Learning Strategies	Active Learning	Writing	Instructing	Monitoring	Critical Thinking	Coordination
	100	97	94	91	89	86	83	80	77	74
BA/BS + Work Experience	Speaking	Writing	Active Learning	Monitoring	Critical Thinking	Reading Comprehension	Judgment and Decision Making	Active Listening	Coordination	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
MA/MS	Writing	Reading Comprehension	Active Learning	Speaking	Active Listening	Critical Thinking	Monitoring	Complex Problem Identification	Learning Strategies	Instructing
	100	97	94	91	89	86	83	80	77	74
Doctoral	Writing	Reading Comprehension	Critical Thinking	Active Learning	Speaking	Monitoring	Learning Strategies	Active Listening	Complex Problem Identification	Instructing
	100	97	94	91	89	86	83	80	77	74
1st Professional Degree	Reading Comprehension	Active Listening	Speaking	Writing	Social Perceptiveness	Critical Thinking	Active Learning	Learning Strategies	Judgment and Decision Making	Service Orientation
	100	97	94	91	89	86	83	80	77	74

Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely

Basic Skill	Complex Problem Solving	Social Skill	Technical Skill	Resource Management Skill	System Skill
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installation, and equipment maintenance are technical skills that appear in occupations such as general maintenance and repair workers. Jobs requiring short-term on-the-job training, associates degree, and bachelor's degree have a greater need for basic and social skills. Within the master to doctoral degree educational levels, complex problem solving appears in their top 10 skills. System skills are needed in occupations requiring a bachelor's degree or higher with work experience and a 1<sup>st</sup> professional degree. Lastly, resource management appears in occupations requiring a bachelor's degree or higher with work experience down to work experience in related occupations.

In general, the data indicates the greatest gaps in occupations will be in basic skills *and* will occur across all preparation levels. Lower preparation levels have greater technical and social skill gaps than do the upper job preparation levels. In contrast, those at the upper levels need training in systems and complex problem solving skills.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur due to turnover or those leaving the labor force. In Table 4, 52% of the job openings with a high skill requirement in reading comprehension will occur due to replacement, resulting in just over 1,940 openings. The remaining 48% or about 1,791 job openings should be due to growth. Furthermore, 46% to 51% of the projected demand for all critical skills listed in Table 4 will be openings due to growth. This high number of growth openings in particular implies that it is essential to continue or develop training programs that support the acquisition of these skills and the resulting occupational growth in the area.

**Table 4 Suggested Critical Skills for Region 7**

Projection Horizon	2002-2012				
	Critical Skills	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings
Reading Comprehension	3,731	100	52	1,940	1,791
Active Listening	3,672	97	54	1,983	1,689
Speaking	3,098	94	51	1,580	1,518
Writing	2,695	91	52	1,401	1,294
Critical Thinking	2,631	89	51	1,342	1,289
Active Learning	2,379	86	52	1,237	1,142
Instructing	2,110	83	49	1,034	1,076
Social Perceptiveness	2,152	80	50	1,076	1,076
Coordination	2,135	77	50	1,068	1,068
Learning Strategies	2,092	74	49	1,025	1,067
Monitoring	2,130	71	51	1,086	1,044
Time Mgmt	1,936	69	51	987	949

As mentioned previously, skills which display an especially high skills gap index are expected to be critical skills for the projected period. In Table 4, replacement and growth openings have been calculated by applying the replacement index to the projected demand to illustrate the impact these critical skills should have on job openings. Curators, registered nurses, licensed practical and licensed vocational nurses, and a wide variety of teaching occupations in Region 5 require all 12 of these critical skills. It is crucial to remember that labor turnover is grounded in cause and effect relationships within the larger economy, and as such the *type* of turnover can be an excellent indicator of economic health. Growth openings confirm a vibrant labor market and increased need for trained workers, while a large number of replacement openings may indicate a mix of jobs that for example do not have a clear-cut career path, are low skilled or low paying, or have less than favorable working conditions.

## KNOWLEDGE

Most work situations require a specific set of learned facts and standard requirements. Knowledge job requirements, like skills, are found in occupations as a ‘set’ that help to define an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as the skills and later in this report, the work activities sections; projected demand, skills gap index, and replacement index.



Table 5 describes some knowledge elements for Region 7 that are expected to be in highest demand in 2012. Occupations that require two or more of these knowledge elements are customer service representatives; legal secretaries; public relations managers; and tellers. Each of these occupations is also either fast-growing or high-demand for this region.

**Table 5 Selected Knowledge Job Requirements Compared to the State**

PROJECTIONS HORIZON GEOGRAPHY	2002-2012					
	ALABAMA 2012			WIA REGION 7		
KNOWLEDGE REQUIREMENTS	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
Customer and Personal Service	30,619	100	59	3,393	100	57
English Language	13,119	97	56	1,488	97	53
Clerical	9,511	88	64	1,250	91	60
Mathematics	9,350	91	58	1,040	88	55
Education and Training	9,632	94	51	1,002	94	49
Sales and Marketing	8,663	85	65	853	82	61
Administration and Management	6,330	79	57	703	85	51
Computers and Electronics	5,444	73	59	641	73	57
Mechanical	5,874	76	61	627	76	54
Psychology	5,940	82	51	614	79	

Skills gap values in Region 7 are similar compared to the state. In Region 7, the replacement indices across the same knowledge elements show that there will be more openings due to growth than in the state as a whole. For those occupations where at least a moderate level of knowledge in psychology and education and training is required, 824 job openings are expected due to growth, and 792 due to replacement. However it is important to remember that several knowledge elements make up one occupation. Knowledge in psychology as well as knowledge in education and training is likely to be utilized in some of the same occupations at least at a moderate important level, therefore, those number are slightly higher than actuality.

Education and training as well as psychology knowledge elements have the smallest replacement indices with 49 each for Region 7 and 51 for the state. Occupations requiring these elements will account for approximately 51% of growth openings in Region 7. Occupations that utilize both of these as well as other knowledge elements in the region are mostly in healthcare and education fields and include occupations such as instructional coordinator; educational, vocational and school counselors; cardiovascular technicians and technologists; and social and human service assistants.

## WORK ACTIVITIES

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and maintaining them over time, is the top work activity projected through 2012 in Region 7. Table 6 compares this information for the area to the state. Getting information needed to do the job and communicating with supervisors, peers or subordinates round the list of the top 3 work activities.

**Table 6 Selected Work Activities Compared to the State**

Geography	Alabama 2012			WIA Region 7		
Projections Horizon	2002-2012					
Work Activity Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Establishing and maintaining interpersonal relationships	39,448	100	58	4,332	100	55
Getting information needed to do the job	24,528	98	55	2,694	98	52
Communicating with supervisors, peers or subordinates	24,401	95	56	2,672	95	53
Organizing, planning and prioritizing work.	22,618	93	55	2,541	93	52
Updating and using job-relevant knowledge	22,010	90	55	2,395	90	52
Handling and moving objects	22,513	85	62	2,393	88	56
Making decisions and solving problems	18,324	88	52	2,054	85	50
Working directly with the public	18,863	78	61	1,945	78	59
Identifying objects, actions, and events	16,069	83	50	1,809	83	47
Performing general physical activities	16,109	73	62	1,713	76	56
Monitoring processes, materials or surroundings	15,797	80	50	1,711	80	46
Processing information	14,301	76	57	1,636	73	56

Establishing and maintaining interpersonal relationships has the highest demand with 4,332 additional job openings by 2012. Fast-growing occupations such as fitness trainers and aerobics instructors, and public relations managers carry out this work activity. Getting information needed to do the job and communicating with supervisors, peers or subordinates are work activities needed in occupations that will provide over 5,366 additional employment opportunities. The three highest projected demand work activities each are expected to provide from 44% to 48% of employment growth opportunities. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost to attrition, but also for new entrants due to employment growth in occupations using these work activities.

Of the selected work activity elements in Table 6, monitoring processes, materials or surroundings will account for the greatest amount of hiring due to growth. Occupations requiring this activity will account for approximately 54% of growth openings in this region. In those same jobs, the remaining 46% will be due to turnover, ahead of the state figure by four percent for occupations with this work activity. Examples of high-demand and fast-growing jobs in which monitoring processes, materials or surroundings are at least moderately important include computer software engineers, systems software, and security guards.

## Summary

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, are in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth in the region and a minimum of five average annual job openings. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

*Region 7 is expected to maintain an average annual occupational and industrial growth rate of 1.67 per year from 2002 to 2012. This is slightly more growth than is anticipated statewide. This growth will depend on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill*

job openings. The largest projected industrial growth is within durable goods manufacturing industries, with 3.21%. This outpaces state growth at 1.2%. Administrative and waste and remediation services follows closely at 3.18%; slightly slower than state growth at 3.24%. When combined, these two sectors are expected to contribute 7,750 new industry jobs to the area. The third largest growth sector is healthcare and social assistance, reporting a projected average annual growth rate of 2.94%. That translates into 6,320 additional jobs. These figures point out the need for prepared workers who can meet the occupational demands brought on by this industry growth. Many of the occupations listed in Table 7 require at least an associate’s degree or higher. A comprehensive list of occupational estimates and the associated preparation levels is provided in the above-referenced Occupational Projections for this region. Because these preparation levels tend to necessitate additional training, in order to sustain labor market growth and compete with other areas, Region 7 should prepare workers to fill growth occupations beyond entry level positions.

**Table 7 Occupations in Region 7 Matching Critical Skills**

Region 7 Occupations	2002-2012 Occupational Projections	
	Avg. Annual Growth Rate	Avg. Annual Job Openings
Accountants and Auditors	1.53	85
Administrative Services Managers	1.55	15
Advertising Sales Agents	1.71	10
Chief Executives	2.10	25
Child, Family, and School Social Workers	2.92	15
Civil Engineers	1.04	10
Coaches and Scouts	1.41	10
Compensation, Benefits, and Job Analysis Specialists	1.10	10
Computer and Information Systems Managers	1.84	15
Computer Software Engineers, Applications	5.12	10
Computer Software Engineers, Systems Software	4.91	10
Computer Support Specialists	2.70	25
Computer Systems Analysts	1.24	30
Cost Estimators	1.99	10
Dental Hygienists	3.42	10
Education Administrators, Elementary and Secondary School	1.96	10
Education Administrators, Postsecondary	1.50	20
Educational, Vocational, and School Counselors	1.77	10
Emergency Medical Technicians and Paramedics	4.02	20
Employment, Recruitment, and Placement Specialists	2.26	10
Engineering Managers	1.08	15
Environmental Scientists and Specialists, Including Health	1.12	10
Fire Fighters	0.87	20
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	1.70	35
First-Line Supervisors/Managers of Retail Sales Workers	1.23	90
Food Service Managers	1.28	20
General and Operations Managers	2.09	155
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	2.92	20
Human Resources Managers	1.66	10

**Table 7 Occupations in Region 7 Matching Critical Skills**

Region 7 Occupations	2002-2012 Occupational Projections	
	Avg. Annual Growth Rate	Avg. Annual Job Openings
Human Resources Managers	1.66	10
<b>Industrial Engineers</b>	<b>4.37</b>	<b>15</b>
Industrial Production Managers	1.62	10
Instructional Coordinators	1.93	10
Insurance Sales Agents	0.95	35
Lawyers	1.76	40
Librarians	1.44	10
<b>Licensed Practical and Licensed Vocational Nurses</b>	<b>2.12</b>	<b>75</b>
Loan Officers	1.39	20
Management Analysts	2.35	15
Marketing Managers	2.03	10
Medical and Clinical Laboratory Technicians	2.16	10
Medical and Health Services Managers	2.13	20
Medical and Public Health Social Workers	1.76	10
<b>Mental Health and Substance Abuse Social Workers</b>	<b>2.92</b>	<b>10</b>
<b>Personal and Home Care Aides</b>	<b>4.26</b>	<b>20</b>
Procurement Clerks	2.66	10
<b>Public Relations Managers</b>	<b>3.59</b>	<b>15</b>
Public Relations Specialists	2.33	10
Purchasing Agents, Except Wholesale, Retail, and Farm Products	1.79	15
Radiologic Technologists and Technicians	2.76	15
Real Estate Sales Agents	0.83	10
Recreation Workers	2.08	20
<b>Registered Nurses</b>	<b>2.21</b>	<b>145</b>
<b>Sales Managers</b>	<b>2.85</b>	<b>20</b>
Social and Community Service Managers	2.14	10
Training and Development Specialists	2.12	10
Veterinarians	2.66	10

# Skills *for* Tomorrow

*in Workforce Investment  
Advisory Area 8*

**2002-2012**



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## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

The SBP system also provides for a review of possible critical skills for an area. The main tool in the system to study this subject is the *skills gap index*. The purpose of the skills gap index is to see the potential for gaps between current supply and demand by measuring the difference between the two. *Demand refers to total projected openings; that is openings due to growth plus net replacement openings*. The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. *Skills with high skills gap indices are expected to be critical for the projected period*.

## What will be needed in Region 8?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

**Projected Demand** refers to *total projected openings*; calculated as the sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

**Skills Gap Index** for each job requirement is a standardized measure of the difference (gap) between the current supply and projected demand, calculated in four steps:

1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
2. *Skill Weight Percent Change*: Employment change across the projection horizon, weighted by the percentage of total base-year employment.  $((\text{Projected Employment} - \text{Base Employment}) / \text{Base Employment}) * \text{Skill Weight}$ .
3. *Skill Weight Rank*: A rank score, of Skill Weight Percent Change, within a job requirement set.
4. *Skill Gap Index*: The Skill Weight Rank is standardized from 1 to 100.

**Replacement Index** is the *proportion of total openings due to net replacements* rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. As shown in Table 1, of the top eleven skills relating to the current occupational supply in Region 8, eight are categorized as basic skills. These skills are reading comprehension, active listening, speaking, writing, critical thinking, active learning, learning strategies, and monitoring. The emphasis on basic skills means that workers in 2012 will need to maintain a flexible view of the work environment as a place of continuous learning. The remaining three—coordination, social perceptiveness and instructing are social skills. These are the necessary competencies that help employees to successfully work together. The prevalent social skills in Region 8 suggest that workers can adjust their actions in relation to others' actions, are aware of and understand why coworkers react as they do and finally, are able to coach other coworkers. This underscores current efforts to remain competitive in a global economy where daily challenges require timely and effective business solutions. This kind of competition requires a workplace that

**Table 1 Current Skill Supply**

Skills Job Requirements	Current Supply 2002	
	Alabama	WIA Region 8
Reading Comprehension	881,383	41,482
Active Listening	823,698	37,793
Speaking	703,203	33,259
Writing	620,025	28,334
Critical Thinking	608,553	27,595
Active Learning	549,925	24,954
Instructing	474,708	24,374
Learning Strategies	468,767	23,489
Coordination	512,260	23,377
Social Perceptiveness	473,861	23,113
Monitoring	485,121	22,550

not only facilitates independent learning, but is filled by workers who are able to effectively communicate by focusing on and understanding what is being said, asking appropriate questions and not interrupting the speaker. It will also mean socially literate workers can adjust their actions in relation to others' and be able to use logical reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

It is expected that by 2012 1,331 job openings will need to be filled in Region 8 where occupations requiring reading comprehension will be in greatest demand. This means that reading comprehension is at least moderately important to have in order to do the job, and that this skill is required at least at a moderate level or higher. Active listening, speaking, and writing are skills that will also be in high demand for the occupational growth in the region.

**Table 2 Selected Skills Overview**

Geography	Alabama 2012			WIA Region 8		
Projections Horizon	2002-2012					
Skill Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Reading Comprehension	33,159	100	54	1,331	100	63
Active Listening	32,364	97	56	1,300	97	64
Speaking	28,283	94	53	1,151	94	61
Writing	24,630	91	54	977	91	62
Critical Thinking	23,926	89	54	937	89	62
Active Learning	21,875	86	54	871	83	62
Instructing	19,913	83	51	845	86	60
Social Perceptiveness	19,810	80	52	836	80	61
Learning Strategies	19,310	74	52	822	77	61
Monitoring	19,613	77	53	794	74	61

The *skills gap* refers to the potential gap between the current supply and projected demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. Within Region 8, a skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet the demand. Elementary school teachers, except special education is a particular occupation which requires all of the following skills appearing in Table 2: reading comprehension, active listening, speaking, writing, critical thinking, active learning, and instructing. In Region 8, this occupation is expected to grow from 990 in the year 2002 to 1,120 in 2012. The skills gap indices for skills needed for elementary school teachers, except special education occupation are *anticipated* gaps which suggest a likelihood that training will be needed since qualified workers will be required to fill the vacancies.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur as replacement. For example, 63% of the demand for the reading comprehension skill will occur due to turnover or people leaving the labor force. In other words, just over 838 openings in jobs that require reading comprehension at least at a moderate level will result due to job



churning. The balance of 37%, or about 492, openings will come from new jobs requiring this skill. The skills gap index is 100, indicating a very high likelihood that skill training in reading comprehension will need to occur in order to meet the demand. The implication is to continue training programs that supports the acquisition of these skills.

Table 3 shows the top 10 projected skills by education level in Region 8. In general the data indicates the greatest skills gaps will occur in the basic skills group across all education levels. Overall, the prominence of basic skills means that workers in 2012 will have to have a flexible view of the work environment as a *place of continuous learning*. In a similar manner, some form of social skill is expected to be in high demand in occupations across all education levels. These are the necessary competencies that help employees to successfully work together.

**Table 3 Selected Skill Gaps by Occupational Preparation in Region 8**

Short-term OJT	Reading Comprehension	Active Listening	Speaking	Critical Thinking	Social Perceptiveness	Instructing	Monitoring	Learning Strategies	Coordination	Writing
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Writing	Reading Comprehension	Speaking	Active Learning	Critical Thinking	Instructing	Social Perceptiveness	Service Orientation	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Reading Comprehension	Installation	Critical Thinking	Active Learning	Coordination	Speaking	Mathematics	Writing	Active Listening	Judgment and Decision Making
	100	97	94	91	89	86	83	80	77	74
Work Experience in Related	Speaking	Reading Comprehension	Active Listening	Monitoring	Mgmt of Personnel Resources	Time Mgmt	Writing	Coordination	Social Perceptiveness	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
Postsecondary Vocational Training	Learning Strategies	Monitoring	Speaking	Active Learning	Active Listening	Social Perceptiveness	Time Mgmt	Coordination	Instructing	Troubleshooting
	100	97	94	91	89	86	83	80	77	74
AA/AS	Reading Comprehension	Active Listening	Active Learning	Instructing	Learning Strategies	Critical Thinking	Writing	Speaking	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Speaking	Instructing	Learning Strategies	Active Listening	Writing	Active Learning	Social Perceptiveness	Monitoring	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
BA/BS + Work Experience	Writing	Speaking	Active Learning	Monitoring	Critical Thinking	Judgment and Decision Making	Active Listening	Reading Comprehension	Time Mgmt	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
MA/MS	Writing	Speaking	Reading Comprehension	Active Listening	Active Learning	Critical Thinking	Complex Problem Identification	Learning Strategies	Instructing	Monitoring
	100	97	94	91	89	86	83	80	77	74
Doctoral	Writing	Speaking	Reading Comprehension	Monitoring	Learning Strategies	Critical Thinking	Active Learning	Active Listening	Instructing	Complex Problem Identification
	100	97	94	91	89	86	83	80	77	74
1st Professional Degree	Reading Comprehension	Active Listening	Speaking	Writing	Social Perceptiveness	Critical Thinking	Active Learning	Mathematics	Instructing	Judgment and Decision Making
	100	97	94	91	89	86	83	80	77	74
Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely										
Basic Skill		Complex Problem Solving		Social Skill		Technical Skill		Resource Management Skill		System Skill

Some noticeable differences do occur when looking at the remaining skills groups by education level. It is interesting that technical skills do not appear to have a huge potential need for training in Region 8. Only installation skills which are important in occupations requiring long-term on-the-job training produces a high skills gap index with 97. Complex problem identification skills are expected to experience gaps in occupations requiring a Master’s or Doctoral Degree. Most of these occupations fall in the categories of postsecondary teachers; life physical or social scientists; or counseling occupations. The system skill of judgment and decision making logically appears as high demand in occupations requiring a bachelor’s degree plus work experience or first professional degree, for these usually occur in upper management positions or highly skilled and experienced jobs. However, judgment and decision making also appears in the top 10 for skills gap in occupations requiring long-term on-the-job training. Occupations in this category which require judgment and decision making are fire fighters, police and sheriff’s patrol workers, and machinists. It is also understandable that resource management skills would be important in occupations requiring work experience in a related occupation, for these skills are vital for supervisory and management positions which require extended job experience.

In general, the data indicates the greatest gaps in occupations will be in basic skills *and* will occur across all preparation levels. Lower preparation levels have greater social skill gaps than do the upper job preparation levels. In contrast, those at the upper levels need training in systems and complex problem solving skills.

As mentioned previously, skills which display an especially high skills gap index are expected to be critical skills for the projected period. The skills gap incorporates anticipated changes over the ten-year projection period, *to include* hiring activity due to growth and turnover. Each type of hiring activity will have its own implications for training and will depend on regional infrastructure and resources to

**Table 4 Suggested Critical Skills**

Projection Horizon	2002-2012					
	Critical Skills	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings	Growth Openings
	Reading Comprehension	1,331	100	63	839	492
	Active Listening	1,300	97	64	832	468
	Speaking	1,151	94	61	702	449
	Writing	977	91	62	606	371
	Critical Thinking	937	89	62	581	356
	Active Learning	871	83	62	540	331
	Instructing	845	86	60	507	338
	Social Perceptiveness	836	80	61	510	326
	Learning Strategies	822	77	61	501	321
	Monitoring	794	74	61	484	310
	Coordination	744	71	61	454	290
	Time Mgmt	677	69	63	427	250

implement action based on these indices. As shown in Table 4, there are 11 skills in Region 8 with a skills gap rank score of 70 or more, each with a large number of expected job openings for that skill. The Replacement Index shows the percentage of job openings that should occur as turnover/lateral movement or people leaving the labor force. The inverse value shows demand due to growth. This allows us to calculate replacement and growth openings. These are included in Table 4 to show the potential impact of each skill on job openings associated with that single skill through 2012. It is up to the reader to determine if the skills listed in Table 4 are *critical* skills.

For example, occupations with a skill requirement in instructing are expected to provide 845 openings. Approximately 507 of these openings (60%) should result as turnover and the balance of 40%, or about 338

openings are expected to be due to growth. These results in a skill gap index of 86, indicating a very high likelihood that skill training in instructing should be addressed in the region.

A variety of healthcare, management, and teaching occupations in Region 8 require this entire set of critical skills at a moderate level or higher. It is crucial to remember that labor turnover is grounded in cause and effect relationships within the larger economy, and as such the *type* of turnover can be an excellent indicator of economic health. Growth openings confirm a vibrant labor market with an increased need for trained workers, while a large number of replacement openings may indicate a mix of jobs that do not have a clear-cut career path, are low skilled or low paying, or have less than favorable working conditions.

## KNOWLEDGE

Most work situations require a specific set of learned facts and standard requirements. Knowledge job requirements, like skills, are found in occupations as a ‘set’ that help to define an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as Skills and Work Activities; projected demand, skills gap index, and replacement index.

Table 5 describes the top 10 knowledge job requirements projected to be in demand through 2012 for Region 8 across all educational levels. Occupations that require two or more of these knowledge elements are: Customer Service Representatives; Elementary School Teachers, Except Special Education; and Licensed Practical and Licensed Vocational Nurses. Each of these occupations are either high-demand or fast-growing in Region 8.

**Table 5 Selected Knowledge Requirements Compared to the State**

PROJECTIONS HORIZON	2002-2012					
GEOGRAPHY	ALABAMA 2012			WIA REGION 8		
KNOWLEDGE REQUIREMENTS	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
Customer and Personal Service	30,619	100	59	1,301	100	66
English Language	13,119	97	56	566	97	65
<b>Education and Training</b>	<b>9,632</b>	<b>94</b>	<b>51</b>	<b>469</b>	<b>94</b>	<b>60</b>
Mathematics	9,350	91	58	369	91	62
Psychology	5,940	82	51	270	88	61
Sales and Marketing	8,663	85	65	307	85	71
Clerical	9,511	88	64	345	82	73
<b>Medicine and Dentistry</b>	<b>3,712</b>	<b>70</b>	<b>47</b>	<b>176</b>	<b>79</b>	<b>57</b>
Administration and Management	6,330	79	57	221	76	66
<b>Therapy and Counseling</b>	<b>2,787</b>	<b>64</b>	<b>46</b>	<b>140</b>	<b>73</b>	<b>57</b>

When comparing the skills gaps indices for Region 8 to the state, this region is expected to have a greater need for training in psychology, medicine and dentistry, and therapy and counseling than the state. Occupations appearing in healthcare, education, and community and social service require knowledge in these areas. It is evident in Table 5 that the replacement indices in Region 8 are somewhat higher than those for the state. This reflects fewer openings due to growth in this region than in the state as a whole.

Of the selected knowledge items in Table 5, medicine and dentistry along with therapy and counseling account for the greatest job growth. Each of these knowledge elements will account for approximately 43% of job openings due to growth in occupations in which they are at least moderately important. In those same knowledge elements, the remaining 57% should be turnover. Various teachers and healthcare occupations require knowledge in both of the above areas.

Knowledge elements differ at every training or degree level. Knowledge of customer service ranks in the top three of all levels below the bachelor’s degree in Region 8. Bear in mind that the higher the index, the greater the anticipated need for acquisition of the knowledge requirement. This is necessary in order to provide qualified candidates for jobs where the knowledge item is considered moderately important.

## WORK ACTIVITIES

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and maintaining them over time, is the top work activity in demand through 2012 in Region 8, with 1,645 job openings. Table 6 compares this information for the area to the state. Getting information needed to do the job along with communicating with supervisors, peers, or subordinates round the list of the top 3 work activities.

**Table 6 Selected Work Activities Compared to the State**

Geography	Alabama 2012			WIA Region 8		
Projections Horizon	2002-2012					
Work Activity Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Establishing and maintaining interpersonal relationships	39,448	100	58	1,645	100	66
Getting information needed to do the job	24,528	98	55	999	98	63
Communicating with supervisors, peers or subordinates	24,401	95	56	938	90	64
Organizing, planning and prioritizing work.	22,618	93	55	904	95	62
Updating and using job-relevant knowledge	22,010	90	55	876	93	62
Handling and moving objects	22,513	85	62	835	76	67
Working directly with the public	18,863	78	61	811	85	68
Making decisions and solving problems	18,324	88	52	684	88	60
Monitoring processes, materials or surroundings	15,797	80	50	625	83	59
Identifying objects, actions, and events	16,069	83	50	614	80	59
Performing general physical activities	16,109	73	62	571	66	65
Processing information	14,301	76	57	542	73	64

Establishing and maintaining interpersonal relationships is found in high-demand occupations such as, elementary school teachers, except special education and licensed practical and licensed vocational nurses. Getting information needed to do the job along with communicating with supervisors, peers or subordinates will provide over 1,930 additional employment opportunities in occupations which require them at least in a

moderate capacity, although both these work activities may appear in the same occupations. For example both these work activities are important in occupations such as lawyers, veterinarians, pharmacists, pediatricians, etc. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost due to attrition, but also for new entrants due to employment growth in occupations using these work activities. The top three work activities in Table 6 are each expected to provide from 34% to 37% of employment growth opportunities.

Of the selected work activity elements in Table 6, monitoring processes, materials or surroundings will account for the greatest amount of hiring due to growth with 41%. This means occupations requiring this work activity will likely experience growth in Region 8. The remaining demand of 59% will be due to turnover in occupations employing this activity. The state has fewer turnovers with 50%, but more growth with 50% for occupations with this work activity in contrast to the region. High-demand and growing jobs in which monitoring processes, materials or surroundings are at least moderately important are customer service representatives and registered nurses.

## **Summary**

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth in the region and a minimum of five average annual job openings. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

*Region 8 is expected to maintain an average annual occupational growth rate of 0.77% per year from 2002 to 2012.* This growth depends on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill job openings. Many of the occupations listed in Table 7 require at least an associate's degree or higher. A comprehensive list of occupational estimates and the associated preparation levels are provided in the above-referenced Occupational Projections for this region. Because these preparation levels tend to entail additional training, in order to sustain labor market growth and compete with other areas Region 8 should prepare workers to fill growth occupations beyond entry level positions.

*Region 8 can expect slower industrial growth than is projected for the state.* The largest growth should occur within administrative and waste remediation services industries, with 2.74% growth followed by durable goods manufacturing at 1.96%, which is higher than the state average at 1.20%. When combined these industries are expected to contribute 2,720 new industry jobs to the area. The third largest growth sector is healthcare and social assistance reporting a projected average annual growth rate of 1.73%. That translates into 2,010 additional jobs. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for *ongoing and diversified* growth in related industry fields. This will help offset losses in nondurable goods manufacturing and assist in providing flexible employment situations for already-skilled workers being forced out of their present manufacturing jobs.

**Table 7 Occupations in Region 8 Matching Critical Skills**

Region 8 Occupations	2002-2012 Occupational Projections	
	Avg. Annual Growth Rate	Avg. Annual Job Openings
Accountants and Auditors	0.63	15
Chief Executives	0.54	5
Dental Hygienists	2.92	5
Education Administrators, Elementary and Secondary School	1.12	5
Education Administrators, Postsecondary	1.46	15
Educational, Vocational, and School Counselors	1.48	10
Emergency Medical Technicians and Paramedics	2.10	5
Environmental Science and Protection Technicians, Including Health	2.92	10
Fire Fighters	0.47	5
First-Line Supervisors/Managers of Mechanics, Installers, and Rep	0.80	15
First-Line Supervisors/Managers of Retail Sales Workers	0.97	40
Food Service Managers	0.85	10
Gaming Supervisors	1.44	5
General and Operations Managers	1.46	60
Health Specialties Teachers, Postsecondary	1.34	5
Heating, Air Conditioning, and Refrigeration Mechanics and Instal	1.26	10
Insurance Sales Agents	0.00	10
Lawyers	0.72	5
Librarians	0.65	5
Licensed Practical and Licensed Vocational Nurses	1.49	50
Medical and Clinical Laboratory Technicians	1.68	5
Medical and Health Services Managers	1.06	5
Medical and Public Health Social Workers	1.62	10
Personal and Home Care Aides	4.14	15
Public Relations Managers	2.26	5
Purchasing Agents, Except Wholesale, Retail, and Farm Products	1.26	10
Radiologic Technologists and Technicians	1.12	5
Real Estate Sales Agents	0.57	5
Registered Nurses	1.29	60
Sales Managers	2.92	10

# Skills *for* Tomorrow

## *in* Workforce Investment

### Advisory Area 9      2002-2012



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## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

The SBP system also provides for a review of possible critical skills for an area. The main tool in the system to study this subject is the *skills gap index*. The purpose of the skills gap index is to see the potential for gaps between current supply and demand by measuring the difference between the two. *Demand refers to total projected openings; that is openings due to growth plus net replacement openings*. The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. *Skills with high skills gap indices are expected to be critical for the projected period*.



## What will be needed in Region 9?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

**Projected Demand** refers to *total projected openings*; calculated as the sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

**Skills Gap Index** for each job requirement is a standardized measure of the difference (gap) between the current supply and projected demand, calculated in four steps:

1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
2. *Skill Weight Percent Change*: Employment change across the projection horizon, weighted by the percentage of total base-year employment.  $((\text{Projected Employment} - \text{Base Employment}) / \text{Base Employment}) * \text{Skill Weight}$ .
3. *Skill Weight Rank*: A rank score, of Skill Weight Percent Change, within a job requirement set.
4. *Skill Gap Index*: The Skill Weight Rank is standardized from 1 to 100.

**Replacement Index** is the *proportion of total openings due to net replacements* rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. Basic skills comprise seven of the top ten job requirements in Region 9. Three more, coordination, social perceptiveness, and instructing, are social skills. These are the necessary competencies that help employees to successfully work together in a goal-oriented environment. The specific social skills indicate that workers are able to adjust their actions in relation to others' actions, are aware of and understand why coworkers react as they do, and are able to coach other coworkers. This blend of continuous learning and social literacy underscores current efforts to remain competitive in a global economy where daily challenges require timely and effective business solutions. This kind of competition requires a workplace that not only facilitates independent learning (basic skills), but is filled by workers who are able to effectively communicate by focusing on and understanding what is being said, asking appropriate questions and not interrupting the speaker (social skills).

**Table 1 Current Skill Supply**

SKILL JOB REQUIREMENTS	CURRENT SUPPLY 2002	
	ALABAMA	WIA REGION 9
Reading Comprehension	881,383	42,039
Active Listening	823,698	38,180
Speaking	703,203	32,945
Writing	620,025	28,111
Critical Thinking	608,553	27,703
Active Learning	549,925	24,698
Coordination	512,260	24,224
Social Perceptiveness	473,861	23,985
Instructing	474,708	22,774
Monitoring	485,121	22,572

By 2012, it is projected that 1,802 job openings in occupations requiring reading comprehension will need to be filled. This means that reading comprehension is at least moderately important to have in order to do the job, and that this skill is required at least at a moderate level or higher. Active listening, speaking, writing, and critical thinking are skills that will also be needed to support occupational growth in the region. The projected demand information in Table 2 shows how many more job openings are anticipated *in addition* to the current skill supply. As explained previously, several skills together make up one occupation whereas this table shows the demand, or number of additional job openings, per individual skill.

**Table 2 Selected Skills Overview**

PROJECTIONS HORIZON	2002-2012					
GEOGRAPHY	ALABAMA			WIA REGION 9		
SKILL REQUIREMENT	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
Reading Comprehension	33,159	100	54	1,802	100	48
Active Listening	32,364	97	56	1,701	97	49
Speaking	28,283	94	53	1,523	94	46
Writing	24,630	91	54	1,264	91	47
Critical Thinking	23,926	89	54	1,239	89	47
Social Perceptiveness	19,810	80	52	1,177	86	45
Instructing	19,913	83	51	1,114	83	44
Active Learning	21,875	86	54	1,105	80	48
Monitoring	19,613	77	53	1,050	77	46
Learning Strategies	19,310	74	52	1,023	74	45

The *skills gap* refers to the potential gap between the current supply and projections demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. A skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet the demand. Within Region 9, a skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet the demand. Elementary school teacher, except special education is a particular occupation where reading comprehension, active listening, speaking, writing, critical thinking, social perceptiveness, and instructing are among important skills. In Region 9, this occupation is expected to grow from 1,080 in the year 2002 to 1,450 in 2012. The skills gap indices for skills comprising of the elementary school teacher, except special education occupation are *anticipated* gaps since qualified workers will be required to fill the vacancies.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur as replacement. For example, 48% of jobs openings in occupations with at least a moderate requirement for reading comprehension are projected to occur because of

replacement. In other words, just over 864 openings should result as turnover. The remaining 52% or about 937 job openings should be due to growth. This reveals a need to continue training programs that support the acquisition of these skills into training programs.

Table 3 shows the top 10 projected skills by education level in Region 9. Notice the overwhelming demand for skills in the basic and social skills groups. The prominence of basic skills means that workers in 2012 will have to have a flexible view of the work environment as *a place of continuous learning*. Social skills are the necessary competencies that help employees to successfully work together.

**Table 3 Selected Skill Gaps by Occupational Preparation in Region 9**

Short-term OJT	Reading Comprehension	Active Listening	Speaking	Critical Thinking	Instructing	Social Perceptiveness	Learning Strategies	Monitoring	Coordination	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Reading Comprehension	Writing	Critical Thinking	Speaking	Active Learning	Time Mgmt	Equipment Selection	Equipment Maintenance	Installation
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Reading Comprehension	Installation	Coordination	Critical Thinking	Writing	Active Listening	Speaking	Troubleshooting	Active Learning	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
Work experience	Speaking	Reading Comprehension	Mgmt of Personnel Resources	Monitoring	Active Listening	Time Mgmt	Coordination	Writing	Social Perceptiveness	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
Post Voc Training	Speaking	Learning Strategies	Active Learning	Active Listening	Monitoring	Social Perceptiveness	Time Mgmt	Coordination	Reading Comprehension	Writing
	100	97	94	91	89	86	83	80	77	74
AA/AS	Reading Comprehension	Active Listening	Active Learning	Instructing	Writing	Speaking	Critical Thinking	Learning Strategies	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Speaking	Instructing	Learning Strategies	Active Listening	Social Perceptiveness	Writing	Monitoring	Active Learning	Judgment and Decision Making
	100	97	94	91	89	86	83	80	77	74
BA/BS + work experience	Writing	Speaking	Active Learning	Monitoring	Critical Thinking	Active Listening	Judgment and Decision Making	Reading Comprehension	Social Perceptiveness	Coordination
	100	97	94	91	89	86	83	80	77	74
Master	Writing	Speaking	Reading Comprehension	Active Listening	Active Learning	Critical Thinking	Monitoring	Complex Problem Identification	Learning Strategies	Instructing
	100	97	94	91	89	86	83	80	77	74
Doctoral	Writing	Reading Comprehension	Critical Thinking	Active Learning	Active Listening	Speaking	Monitoring	Learning Strategies	Judgment and Decision Making	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
1st Prof	Reading Comprehension	Active Listening	Speaking	Writing	Social Perceptiveness	Critical Thinking	Active Learning	Learning Strategies	Judgment and Decision Making	Service Orientation
	100	94	94	91	89	86	83	80	77	74
Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely										
Basic Skill		Complex Problem Solving		Social Skill		Technical Skill		Resource Management Skill		System Skill

Many occupations requiring on-the-job training have a great need for technical skills, such as installation, troubleshooting, equipment maintenance, and equipment selection. Occupations requiring more than one of these technical skills, plus several basic skills, at a moderate level or higher are dental assistants; machinists; maintenance and repair workers, general; and heating, air conditioning, and refrigeration mechanics and installers. Judgment and decision making is a system skill, involving the consideration of relative costs and benefits of potential actions so the most appropriate choice is made. This skill logically shows up in demand in occupations requiring higher levels of education of bachelor’s degree or better.

Complex problem solving is a skill that is defined as the developed capacity used to solve novel, ill-defined problems in complex, real-world settings. In Region 9, this skill is in the top 10 for an anticipated skill gap in occupations requiring a master’s degree. For this educational level, *all* the top 10 skills relate to learning (nine

are basic skills) and solving problems. Conversely, at the lower end of the preparatory spectrum, resource management skills are needed. This is especially true for occupations that require at least work experience in related occupations. Coupled with coordination and social perceptiveness skills, this group is expected to have gaps in skills that may reflect low-level management occupations. This point is crucial and should not be overlooked since the aging workforce that leaves the workforce will also take with them years of experience.

Reading comprehension will provide the greatest number of job openings and of those openings, 52% are expected as a result of growth, leading to a very high skills gap index of 100. It is probable that occupations requiring reading comprehension will need training in this skill to meet demand. Active listening is a skill in occupations that will have 1,701 additional job openings in 2012 and is ranked second with a skills gap of 97. This skills gap rank considers the current skill employment of 38,180 with an expected 1,701 job openings and a 49% replacement index. In other words over 830 of the job openings will be a result of job churn and over 51% or 865 openings due to growth. Therefore, it will be prudent to educate these future job holders in active listening.

**Table 4 Suggested Critical Skills in Region 9**

PROJECTION HORIZON	2002-2012				
	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	GROWTH OPENINGS	REPLACEMENT OPENINGS
Reading Comprehension	1,802	100	48	937	865
Active Listening	1,701	97	49	868	833
Speaking	1,523	94	46	822	701
Writing	1,264	91	47	670	594
Critical Thinking	1,239	89	47	657	582
Social Perceptiveness	1,177	86	45	647	530
Instructing	1,114	83	44	624	490
Active Learning	1,105	80	48	575	530
Monitoring	1,050	77	46	567	483
Learning Strategies	1,023	74	45	563	460
Coordination	1,015	71	46	548	467
Time Mgmt	942	69	46	509	433

At the other end of the spectrum, instructing and social perceptiveness each have a skill replacement index of 44 and 45, respectively. All of the replacement indices for the top twelve critical skills in region 9 fall between 44 and 49 which means more of the openings for all the skills will be growth openings than replacement openings.

## KNOWLEDGE

Most work situations require a specific set of learned facts and standard requirements. Knowledge job requirements, like skills are found in occupations as a ‘set’ that help to define an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as Skills and Work Activities; projected demand, skills gap index, and replacement index.

Table 5 describes the projected 2012 demand for Region 9 across all educational levels in which the top 10 knowledge job requirements occur in occupations. Occupations that require two or more of these knowledge elements are: Customer Service Representatives; Kindergarten Teachers, Except Special Education; and Licensed Practical and Licensed Vocational Nurses. Each of these occupations are either high-demand or fast-growing in Region 9.

**Table 5 Selected Knowledge Job Requirements Compared to State**

PROJECTIONS HORIZON	2002-2012					
	Alabama 2012			Region 9		
	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Knowledge Requirements						
Customer and Personal Service	30,619	100	59	1,850	100	54
English Language	13,119	97	56	708	97	48
Education and Training	9,632	94	51	562	94	43
Clerical	9,511	88	64	503	91	55
Sales and Marketing	8,663	85	65	501	82	61
Mathematics	9,350	91	58	419	88	51
Psychology	5,940	82	51	345	85	43
Administration and Management	6,330	79	57	342	79	51
Mechanical	5,874	76	61	313	76	57
Computers and Electronics	5,444	73	59	206	55	56

The skills gap indices are similar in knowledge elements when comparing Region 9 to the state except for a major difference in computers and electronics. The region’s need for training in computer and electronics is not expected to be very great in the region as shown by the fairly low skills gap index of 55. In Region 9 and the state, the replacements indices across the same knowledge elements indicate that more opening will be due to turnover than growth with exceptions for English language, education and training, and psychology. Sales and marketing will produce the most turnover with a replacement index of 61% for Region 9 and 65% for the state. As an example, real estate sales agents utilize this knowledge and in Region 9, real estate sales agents should experience a 1.89% average annual growth rate compared to the state rate of 0.92%. Therefore, the region will have more career opportunities for real estate sales agents than the state.

Of the selected knowledge items in Table 5, education and training account for the greatest job growth. Knowledge in education and training will account for approximately 57% of growth openings in occupations where it is at least moderately important. The remaining 43% should be due to turnover. Jobs needing English language and psychology are the remaining top three growth contributors with 52% and 57%, respectively. Overall, the replacement indices in Region 9 fall below the replacement indices for the state as a whole for all knowledge elements. This emphasizes the projection that region 9 should experience more growth than the state as a whole.

**WORK ACTIVITIES**

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and maintaining them over time, is the top work activity for the base year 2002 in Region 9. Table 6 compares this information for the area to the state. Handling and moving objects along with working directly with the public round the list of the top 3 work activities.

**Table 6 Selected Work Activities Compared to State**

Geography	Alabama 2012			WIA Region 9		
Projection Horizon	2002-2012					
Work Activity Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Establishing and maintaining interpersonal relationships	39,448	100	58	2,301	100	53
Handling and moving objects	22,513	85	62	1,313	85	56
Working directly with the public	18,863	78	61	1,269	88	56
Getting information needed to do the job	24,528	98	55	1,245	98	49
Communicating with supervisors, peers or subordinates	24,401	95	56	1,231	93	51
Organizing, planning and prioritizing work.	22,618	93	55	1,167	95	49
Updating and using job-relevant knowledge	22,010	90	55	1,095	90	49
Performing general physical activities	16,109	73	62	1,044	80	55
Making decisions and solving problems	18,324	88	52	847	76	48
Identifying objects, actions, and events	16,069	83	50	843	83	43

Establishing and maintaining interpersonal relationships has the highest demand with 2,301 additional job openings by 2012. This work activity is found in the high-demand occupations, elementary school teachers, except special education as well as licensed practical and licensed vocational nurses. Handling and moving objects along with working directly with the public are needed to do the occupations that will provide over 2,580 additional employment opportunities. The region is expected to need people trained to work directly with the public more than the state, with respective skills gaps of 88 and 78. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost due to attrition, but also for new entrants due to employment growth in occupations using these work activities. The top three work activities in Table 6 are each expected to provide from 43% to 47% of employment growth opportunities.

Of the selected work activity elements in Table 6, identifying objects, actions, and events will account for the greatest amount of hiring due to growth, with 57%. This means occupations requiring this work activity are most likely projected to experience growth in region 1. In those same jobs, the remaining 43% will be due to turnover. High-demand and fast-growing jobs in which identifying objects, actions, and events are at least moderately important are customer service representatives and registered nurses.

## Summary

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth in the region. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

*Region 9 is expected to maintain an average annual occupational growth rate of 1.62% from 2002 to 2012. This growth depends on the economic health of the industries in the area as well as the consistent supply of*

qualified workers needed to fill job openings. Many of the occupations listed in Table 7 require at least an associate’s degree or higher. A comprehensive list of occupational estimates and the associated preparation levels are provided in the above-referenced Occupational Projections for this region. Because these preparation levels tend to entail additional training, in order to sustain labor market growth and compete with other areas Region 9 should prepare workers to fill growth occupations beyond entry level positions.

Region 9 can expect slightly faster industrial growth than is projected for the state. The largest growth should occur within administrative and waste remediation services industries, with 4.74% growth followed by professional, scientific and technical services at 4.21%. Both of these industries are expected to produce a higher growth rate than the state average, adding approximately 2,590 new jobs to the region by 2012. The third largest growth sector is healthcare and social assistance reporting a projected average annual growth rate of 3.56%. That translates into 3,710 additional jobs. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for ongoing and diversified growth in related industry fields. This will help offset losses in nondurable goods manufacturing and assist in providing flexible employment situations for presently skilled workers being forced out of their present manufacturing jobs.

**Table 7 Occupations in Region 9 Matching Critical Skills**

Region 9 Occupations	2002-2012 Occupational Projections	
	Avg. Annual Growth Rate	Avg. Annual Job Openings
Accountants and Auditors	2.04	30
Administrative Services Managers	2.44	5
Chief Executives	2.41	10
Computer Support Specialists	3.63	5
Dental Hygienists	4.70	5
Education Administrators, Elementary and Secondary School	2.78	10
Educational, Vocational, and School Counselors	2.54	10
Emergency Medical Technicians and Paramedics	3.87	15
Employment, Recruitment, and Placement Specialists	5.92	5
Environmental Engineers	8.84	5
Fire Fighters	1.71	15
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	1.41	25
First-Line Supervisors/Managers of Police and Detectives	0.96	5
First-Line Supervisors/Managers of Retail Sales Workers	1.60	70
Food Service Managers	1.84	10
Foresters	2.26	5
General and Operations Managers	2.40	85
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	3.60	15
Insurance Sales Agents	0.71	15
Lawyers	1.38	10
Librarians	2.10	10
Licensed Practical and Licensed Vocational Nurses	3.14	45
Loan Officers	2.14	10
Management Analysts	2.92	5
Medical and Clinical Laboratory Technicians	1.96	10
Medical and Health Services Managers	2.10	10
Medical and Public Health Social Workers	0.38	5
Personal and Home Care Aides	3.54	5

**Table 7 Occupations in Region 9 Matching Critical Skills, Continued**

Physical Therapist Assistants	4.14	5
Physical Therapists	4.70	5
Public Relations Managers	5.05	5
<b>Radiologic Technologists and Technicians</b>	<b>2.76</b>	<b>10</b>
Real Estate Sales Agents	1.99	10
Recreation Workers	3.01	15
Registered Nurses	2.66	75
Sales Managers	1.93	10
Veterinary Technologists and Technicians	7.18	5



# Skills *for* Tomorrow

## *in* Workforce Investment

### Advisory Area 10

2002-2012



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## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

The SBP system also provides for a review of possible critical skills for an area. The main tool in the system to study this subject is the *skills gap index*. The purpose of the skills gap index is to see the potential for gaps between current supply and demand by measuring the difference between the two. *Demand refers to total projected openings; that is openings due to growth plus net replacement openings*. The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. *Skills with high skills gap indices are expected to be critical for the projected period*.

## What will be needed in Region 10?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

**Projected Demand** refers to *total projected openings*; calculated as the sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

**Skills Gap Index** for each job requirement is a standardized measure of the difference (gap) between the current supply and projected demand, calculated in four steps:

1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
2. *Skill Weight Percent Change*: Employment change across the projection horizon, weighted by the percentage of total base-year employment.  $((\text{Projected Employment} - \text{Base Employment}) / \text{Base Employment}) * \text{Skill Weight}$ .
3. *Skill Weight Rank*: A rank score, of Skill Weight Percent Change, within a job requirement set.
4. *Skill Gap Index*: The Skill Weight Rank is standardized from 1 to 100.

**Replacement Index** is the *proportion of total openings due to net replacements* rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. Base year 2002 data shows that reading comprehension is the top skill employed across occupations, with an employment base of over 52,500. This is also true statewide, in more than 881,000 jobs. Table 1 show that it is one of eight basic skill job requirements for occupations employing over 20,000. Other skills are social, systems, and resource management in nature, including coordination, social perceptiveness, instruction, time management, and judgment and decision making.

**Table 1 Current Skill Supply**

SKILL JOB REQUIREMENTS	CURRENT SUPPLY 2002	
	ALABAMA	REGION 10
Reading Comprehension	881,383	52,546
Active Listening	823,698	47,301
Speaking	703,203	41,555
Critical Thinking	608,553	35,186
Writing	620,025	34,964
Coordination	512,260	31,489
Active Learning	549,925	31,456
Social Perceptiveness	473,861	29,455
Instructing	474,708	28,519
Monitoring	485,121	28,394
Learning Strategies	468,767	26,781
Time Mgmt	436,596	25,517
Judgment and Decision Making	363,521	20,594

**Table 2 Selected Skills Overview**

PROJECTIONS HORIZON	2002-2012					
GEOGRAPHY	ALABAMA			WIA REGION 10		
SKILL JOB REQUIREMENTS	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
Reading Comprehension	33,159	100	54	1,544	100	63
Active Listening	32,364	97	56	1,479	94	65
Speaking	28,283	94	53	1,372	97	63
Critical Thinking	23,926	89	54	1,131	91	64
Writing	24,630	91	54	1,111	89	62
Social Perceptiveness	19,810	80	52	1,042	86	62
Active Learning	21,875	86	54	1,024	80	64
Instructing	19,913	83	51	984	83	62
Monitoring	19,613	77	53	965	77	63
Coordination	19,299	71	53	927	71	63

It is expected that by 2012 1,544 job openings will need to be filled where reading comprehension will be in *greatest demand*. This means that reading comprehension is at least moderately important to have in order to do the job, and that this skill is required at a moderate level or higher. Active listening, speaking, and critical thinking are skills that will also be needed to support Region 10’s occupational demand.

The SBP system also provides another measure of hiring known as the *replacement index*. This index shows the percentage of employment needs due to occupational turnover rather than growth. Of the skills in Table 2, the replacement index only varies by three, reflecting that 62% to 65% of hiring activity will be to replace current workers and 35% to 38% will be the result of job growth. This demonstrates a great need to continue training programs that support acquisition of these skills.

The skills gap refers to the potential gap between the current supply and projected demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. For example, in Region 10 healthcare practitioners and technical occupations, as a group, are expected to increase from an occupational employment of 7,590 in 2002 to 8,920 by 2012, adding 1,330 jobs. The skill gap indices for the skill items comprising this occupational group are anticipated skill gaps since *qualified* workers will be required to fill the vacancies.

As shown in Table 3, jobs with lower education requirements such as short-term and moderate-term on-the-job training have a greater need for training in basic and social skills. Some occupations requiring both social perceptiveness and instructing are personal and home care aides, nursing aides, orderlies, and Attendants. Troubleshooting and installation are technical skills needed for occupations requiring either long-term on-the-job training or post-secondary vocational training. Those skills are found in jobs such as Heating, Air Conditioning, and Refrigeration Mechanics and Installers; and Electricians. Postsecondary and higher occupations have greater needs with system skills such as judgment and decision making.

Overall, the prominence of basic skills means that workers in 2012 will have to have a flexible view of the work environment as *a place of continuous learning*. The remaining three—coordination, social perceptiveness and instructing are social skills. These are the necessary competencies that help employees to successfully work

together. These specific social skills in Region 10 indicate that it is important in their jobs for workers to adjust their actions in relation to others' actions, be aware of and understand why coworkers react as they do and finally, be able to coach their coworkers. This underscores current efforts to remain competitive in a global economy in which daily challenges require timely and effective business solutions. This kind of competition requires a workplace that not only facilitates independent learning, but is filled by workers who are able to effectively communicate by focusing on and understanding what is being said, asking appropriate questions and not interrupting the speaker. It will also mean socially literate workers can adjust their actions in relation to others' and be able to use logical reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

**Table 3 Selected Skill Gaps by Occupational Preparation in Region 10**

Short-term O-JT	Reading Comprehension	Speaking	Active Listening	Critical Thinking	Social Perceptiveness	Monitoring	Instructing	Writing	Learning Strategies	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Speaking	Writing	Reading Comprehension	Active Learning	Instructing	Social Perceptiveness	Critical Thinking	Coordination	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Installation	Reading Comprehension	Troubleshooting	Coordination	Critical Thinking	Writing	Active Listening	Speaking	Active Learning	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
WORK EXPERIENCE in Related	Reading Comprehension	Speaking	Monitoring	Mgmt of Personnel Resources	Active Listening	Time Mgmt	Writing	Critical Thinking	Social Perceptiveness	Active Learning
	100	97	94	91	89	86	83	80	77	74
POSTSECONDARY VOCATIONAL TRAINING	Equipment Maintenance	Learning Strategies	Troubleshooting	Speaking	Active Listening	Social Perceptiveness	Active Learning	Reading Comprehension	Monitoring	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
AA/AS	Reading Comprehension	Active Listening	Active Learning	Critical Thinking	Instructing	Learning Strategies	Writing	Speaking	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Speaking	Instructing	Learning Strategies	Active Listening	Writing	Social Perceptiveness	Active Learning	Monitoring	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
BA/BS + WORK EXPERIENCE	Writing	Speaking	Active Learning	Monitoring	Critical Thinking	Active Listening	Judgment and Decision Making	Social Perceptiveness	Time Mgmt	Mgmt of Personnel Resources
	100	97	94	91	89	86	83	80	77	74
MA/MS	Writing	Speaking	Reading Comprehension	Active Listening	Active Learning	Critical Thinking	Monitoring	Instructing	Learning Strategies	Complex Problem Identification
	100	97	94	91	89	86	83	80	77	74
DOCTORAL	Writing	Speaking	Reading Comprehension	Monitoring	Learning Strategies	Critical Thinking	Active Listening	Active Learning	Complex Problem Identification	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
1 <sup>ST</sup> PROFESSIONAL DEGREE	Reading Comprehension	Active Listening	Speaking	Writing	Social Perceptiveness	Critical Thinking	Active Learning	Judgment and Decision Making	Monitoring	Coordination
	100	97	94	91	89	86	83	80	77	74
Skills Gap Ranking = '100' Very High Likelihood of Training Need _____ '1' Need for Training is Not Likely										
Basic Skill		Complex Problem Solving Skill		Social Skill		Technical Skill		Resource Management Skill		Systems Skill

In general, the data indicates the greatest gaps in occupations will be in basic skills *and* will occur across all preparation levels. Lower preparation levels have greater technical and social skill gaps than do the upper job preparation levels. In contrast, those at the upper levels need training in systems, resource management and complex problem solving skills. Across all levels, the skill gaps in the region are very similar to those for the state.

An analysis of critical skills is based on the Skills Gap Index and tempered by the Replacement Index. As already discussed, the skills gap incorporates anticipated changes over the ten- year projection period, *to include*

hiring activity due to growth and turnover. Each type of hiring activity will have its own implications for training and will depend on regional infrastructure and resources to implement action based on these indices.

**Table 4 Suggested Critical Skills for Region 10**

PROJECTION HORIZON	2002-2012				
	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	REPLACEMENT OPENINGS	GROWTH OPENINGS
Reading Comprehension	1,544	100	63	973	571
Active Listening	1,479	94	65	961	518
Speaking	1,372	97	63	864	508
Critical Thinking	1,131	91	64	724	407
Writing	1,111	89	62	689	422
Social Perceptiveness	1,042	86	62	646	396
Active Learning	1,024	80	64	655	369
Instructing	984	83	62	610	374
Monitoring	965	77	63	608	357
Coordination	927	71	63	584	343
Learning Strategies	893	74	63	563	330
Time Mgmt	849	69	64	543	306

As shown in Table 4, there are 10 skills in Region 10 with a skills gap rank score of 70 or more, each with a large number of expected job openings for that skill. The Replacement Index shows the percentage of job openings that should occur as turnover/lateral movement or people leaving the labor force. The inverse value shows demand due to growth. This allows us to calculate replacement and growth openings. These are included in Table 4 to show the potential impact of each skill on job openings associated with that

single skill through 2012. It is up to the reader to determine if the skills listed in Table 4 are *critical* skills.

For example, occupations with a skill requirement in critical thinking are expected to provide 1,131 openings. Approximately 724 of these openings (64%) should result as turnover and the balance of 36%, or about 407 openings are expected to be due to growth. These results in a skill gap index of 91, indicating a very high likelihood that skill training in critical thinking should be addressed.

## KNOWLEDGE

Most work situations require a specific set of learned facts and standard job requirements. Knowledge job requirements, like skills are found in occupations as a ‘set’ that help to define the workers in an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as Skills and Work Activities; projected demand, skills gap index, and replacement index.

Table 5 describes some knowledge elements for Region 10 that are expected to be in highest demand in 2012. Occupations that require one or more of these knowledge elements are: pharmacy technicians; medical and health services managers; dental assistants; security guards; and welders, cutters, solderers, and brazers. Each of these occupations is also either fast-growing or high-demand in this region.

Skills gap values are similar in comparing Region 10 to the state. In Region 10 the replacement indices across the same knowledge elements indicate that the openings will be more turnover than growth. A mechanical knowledge is the closest comparison with a replacement index of 61% for the state and 67% for Region 10. As an example, electricians utilize this knowledge and in Region 10, electricians should experience a 1.34 average annual growth rate compared to the state rate of 2.07. This underscores the need for acquisition of demand knowledge job requirements in order to compete for jobs.

**Table 5 Selected Knowledge Job Requirements Compared to State**

PROJECTIONS HORIZON	2002-2012					
GEOGRAPHY	ALABAMA			WIA REGION 10		
KNOWLEDGE REQUIREMENTS	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
Customer and Personal Service	30,619	100	59	1,528	100	67
English Language	13,119	97	56	553	97	63
Sales and Marketing	8,663	85	65	455	85	73
Education and Training	9,632	94	51	454	94	62
Mathematics	9,350	91	58	419	91	68
Clerical	9,511	88	64	391	76	71
Mechanical	5,874	76	61	352	79	67
Psychology	5,940	82	51	329	88	61
Administration and Management	6,330	79	57	311	73	66
Medicine and Dentistry	3,712	70	47	231	82	55

Of the selected knowledge items in Table 5, medicine and dentistry will account for the greatest amount of hiring activity due to growth. This knowledge element will account for approximately 45% of growth openings in occupations in which it is at least moderately important. The remaining 55% should be due to turnover. Jobs in which education and training, and psychology are at least moderately important round out the top three occupations where hiring is due to growth, with 38% and 39% respectively.

Knowledge elements differ at every training or degree level. Knowledge of customer service ranks in the top three of all levels except for the bachelor’s degree plus work experience. Bear in mind that the higher the index, the greater the anticipated need for acquisition of the knowledge requirement. This is necessary in order to provide qualified candidates for jobs where the knowledge item is considered moderately important. Across all work preparation levels, the most significant knowledge skill gaps are customer and personal service, English language, and education and training. Most of these elements represent a variety of jobs in the following categories: health technologists and technicians, engineering occupations, and management occupations. The demand for jobs with those particular knowledge elements is such that it is very likely training will need to occur to meet job growth expectations.

**WORK ACTIVITIES**

Establishing and maintaining interpersonal relationships should be the work activity with the highest demand in 1,888 additional job openings by 2012. This work activity is found in the high demand occupation, general maintenance and repair workers as well as in child care workers, counter and rental clerks, and tellers. Handling and moving objects and getting information needed to do the job are expected to produce a demand of over 2,200 additional jobs, although both these requirements are important in a number of occupations. For example, fire fighters, funeral directors, medical records and health information technicians, occupational therapists, and veterinary technologists and technicians are some of the occupations requiring both work activities at a moderate level or higher. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost due to attrition, but also for new entrants due to employment

growth in occupations using these work activities. The top three work activities in Table 6 are each expected to provide from 32% to 36% of employment growth opportunities.

**Table 6 Statewide to Region 10 Comparison**

PROJECTIONS HORIZON	2002-2012					
GEOGRAPHY	ALABAMA			WIA REGION 10		
JOB REQUIREMENTS	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
Establishing and maintaining interpersonal relationships	39,448	100	58	1,888	100	68
Handling and moving objects	22,513	85	62	1,159	85	66
Getting information needed to do the job	24,528	98	55	1,135	98	64
Communicating with supervisors, peers or subordinates	24,401	95	56	1,106	93	65
Working directly with the public	18,863	78	61	1,053	88	69
Updating and using job-relevant knowledge	22,010	90	55	1,045	95	62
Organizing, planning and prioritizing work	22,618	93	55	988	90	64
Making decisions and solving problems	18,324	88	52	850	83	62

### Summary

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth in the region and a minimum of five average annual job openings. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

*Region 10 is expected to maintain an average annual occupational growth rate of 0.75% from 2002 to 2012.* This growth depends on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill job openings. Many of the occupations listed in Table 7 require at least an associate’s degree or higher. A comprehensive list of occupational estimates and the associated preparation levels are provided in the above-referenced Occupational Projections for this region. Because these preparation levels tend to entail additional training, in order to sustain labor market growth and compete with other areas Region 10 should prepare workers to fill growth occupations beyond entry level positions.

*Region 10 can expect slower industrial growth than is projected for the state.* The largest growth should occur within administrative and waste remediation services industries, with 2.43% growth followed by real estate and rental and leasing at 1.91%. Although both these figures fall below state growth levels, when combined they are expected to contribute 1,620 new jobs to the area. The third largest growth sector is professional, scientific and technical services reporting a projected average annual growth rate of 1.86%. That translates into 440 additional jobs. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for *ongoing and diversified* growth in related industry fields. This will help offset losses in nondurable goods manufacturing and assist in providing flexible employment situations for presently skilled workers being forced out of their present manufacturing jobs.



**Table 7 Occupations in Region 10 Matching Critical Skills**

Occupations	2002-2012 Occupational Projections	
	Avg. Annual Growth Rate	Avg. Annual Job Openings
Accountants and Auditors	0.72	20
Advertising Sales Agents	1.34	5
Chief Executives	0.84	10
Computer and Information Systems Managers	2.44	5
Computer Support Specialists	2.36	5
<b>Computer Systems Analysts</b>	<b>1.06</b>	<b>5</b>
Cost Estimators	0.74	5
Dental Hygienists	2.76	5
<b>Education Administrators, Elementary and Secondary School</b>	<b>1.06</b>	<b>5</b>
Educational, Vocational, and School Counselors	0.74	5
Emergency Medical Technicians and Paramedics	1.93	5
Engineering Managers	0.69	5
<b>Fire Fighters</b>	<b>0.46</b>	<b>10</b>
First-Line Supervisors/Managers of Fire Fighting and Prevention W	1.55	5
First-Line Supervisors/Managers of Mechanics, Installers, and Rep	0.93	20
First-Line Supervisors/Managers of Police and Detectives	0.87	5
First-Line Supervisors/Managers of Retail Sales Workers	0.95	65
Food Service Managers	0.53	5
<b>General and Operations Managers</b>	<b>1.38</b>	<b>80</b>
<b>Heating, Air Conditioning, and Refrigeration Mechanics and Instal</b>	<b>1.66</b>	<b>10</b>
Industrial Production Managers	0.54	5
Insurance Sales Agents	0.21	10
Lawyers	0.76	10
Librarians	0.74	5
Licensed Practical and Licensed Vocational Nurses	1.41	55
<b>Loan Officers</b>	<b>1.18</b>	<b>10</b>
Management Analysts	0.87	5
Medical and Clinical Laboratory Technicians	1.41	10
<b>Medical and Health Services Managers</b>	<b>2.54</b>	<b>10</b>
Medical and Public Health Social Workers	1.02	5
Mental Health and Substance Abuse Social Workers	1.14	10
Personal and Home Care Aides	1.84	10
Public Relations Managers	2.26	5
<b>Purchasing Agents, Except Wholesale, Retail, and Farm Products</b>	<b>0.84</b>	<b>10</b>
Radiologic Technologists and Technicians	1.48	10
<b>Real Estate Sales Agents</b>	<b>0.49</b>	<b>5</b>
Recreation Workers	1.48	10
Registered Nurses	1.53	90
Respiratory Therapists	1.06	5
Sales Managers	1.26	15
Training and Development Specialists	0.65	5



# Skills Tomorrow in Jefferson County 2002-2012 Local Workforce Investment Area



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*This report was developed by the Labor Market Information Division of the Alabama Department of Industrial Relations in cooperation with the Projections Managing Partnership, sponsored by the US Department of Labor, Employment and Training Administration.*

## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

The SBP system also provides for a review of possible critical skills for an area. The main tool in the system to study this subject is the *skills gap index*. The purpose of the skills gap index is to see the potential for gaps between current supply and demand by measuring the difference between the two. *Demand refers to total projected openings; that is openings due to growth plus net replacement openings*. The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. *Skills with high skills gap indices are expected to be critical for the projected period*.

## What will be needed in Jefferson County?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

**Projected Demand** refers to *total projected openings*; calculated as the sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

**Skills Gap Index** for each job requirement is a standardized measure of the difference (gap) between the current supply and projected demand, calculated in four steps:

1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.

2. *Skill Weight Percent Change*: Employment change across the projection horizon, weighted by the percentage of total base-year employment.  $((\text{Projected Employment} - \text{Base Employment}) / \text{Base Employment}) * \text{Skill Weight}$ .

3. *Skill Weight Rank*: A rank score, of Skill Weight Percent Change, within a job requirement set.

4. *Skill Gap Index*: The Skill Weight Rank is standardized from 1 to 100.

**Replacement Index** is the *proportion of total openings due to net replacements* rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. As shown in Table 1, of the top twelve skills relating to the current occupational supply in Jefferson county, active listening, reading comprehension, speaking, writing, critical thinking, active learning, monitoring, and learning strategies all fall into the *basic* skills group. The emphasis on basic skills means that workers in 2012 will need to maintain a flexible view of the work environment as a place of continuous learning. Base year 2002 data shows that active listening is the top skill employed across occupations, with an employment base of over 196,700. Coordination, social perceptiveness and instructing, are *social* skills. These are the necessary competencies that help employees to successfully work together. Time management is a resource management skill which requires managing one’s own time and the time of others. The final skill judgment and decision making is a system skill which is defined as considering the relative costs and benefits of potential actions to choose the most appropriate one.

**Table 1 Current Skill Supply**

SKILL JOB REQUIREMENTS	CURRENT SUPPLY 2002	
	ALABAMA	JEFFERSON
Active Listening	823,698	196,719
Reading Comprehension	881,383	196,395
Speaking	703,203	162,882
Writing	620,025	148,294
Critical Thinking	608,553	143,117
Active Learning	549,925	127,579
Monitoring	485,121	113,579
Coordination	512,260	112,792
Learning Strategies	468,767	105,176
Social Perceptiveness	473,861	104,613
Time Mgmt	436,596	102,246
Instructing	474,708	101,496
Judgment and Decision Making	363,521	85,756

The current skill supply underscores efforts to remain competitive in regional and global economies where daily challenges require timely and effective business solutions. This kind of competition requires a workplace that not only facilitates independent learning, but is filled by workers who are able to effectively communicate by focusing on and understanding what is being said, asking appropriate questions and not interrupting the speaker. It also means socially literate workers can adjust their actions in relation to others’ and be able to use logical

reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

**Table 2 Selected Skills Overview**

PROJECTIONS HORIZON	2002-2012					
	ALABAMA			JEFFERSON		
GEOGRAPHY	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
SKILL JOB REQUIREMENTS	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
Active Listening	32,364	97	56	7,840	97	55
Reading Comprehension	33,159	100	54	7,730	100	53
Speaking	28,283	94	53	6,667	94	52
Writing	24,630	91	54	6,049	91	52
Critical Thinking	23,926	89	54	5,848	89	51
Active Learning	21,875	86	54	5,196	86	52
Monitoring	19,613	77	53	4,759	83	51
Coordination	19,299	71	53	4,619	80	51
Social Perceptiveness	19,810	80	52	4,498	77	51
Learning Strategies	19,310	74	52	4,451	71	51

By 2012, 7,840 job openings are projected in occupations requiring active listening. In other words, active listening is required at a moderate level or higher for occupations which will create 2,127 job openings. Reading comprehension, speaking, and critical thinking are skills that will also be needed to support the occupational demand in Jefferson County. The projected demand information in Table 2 shows how many job openings are anticipated *in addition* to the current skill supply. As explained previously, several skills together make up one occupation whereas this table shows the demand, or number of additional job openings, per individual skill.

The skills gap refers to the potential gap between the current supply and projected demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. Within Jefferson County, a skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet the demand. Registered nurses is a particular occupation where active listening, reading comprehension, speaking, writing, critical thinking, and active learning are among important skills. In Jefferson County, this occupation is expected to grow from 10,070 in the year 2002 to 12,570 in 2012. The skills gap indices are *anticipated* gaps that, for example, show a likely need to train in these identified skills that are required for registered nurses, since qualified workers will be essential to fill vacancies.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur due to turnover or those leaving the labor force. For example, 55% of the job openings with a high skill requirement in reading comprehension will occur due to replacement, resulting in just over 4,312 openings. The remaining 45% or about 3,328 job openings should be due to growth. Furthermore, 45 to 49 percent of the projected demand for all critical skills listed in table 2 will be due to growth openings. Forty to forty-five percent of the projected demand in the remaining skills is

expected to be in growth openings. The implication is to continue training programs that supports the acquisition of these skills.

Table 3 shows the top 10 skills with anticipated training needs by education level in Jefferson County. This table indicates an overwhelming demand for skills in the basic and social skills groups. The prominence of basic skills means that workers in 2012 will have to have a flexible view of the work environment as *a place of continuous learning*.

**Table 3 Selected Skill Gaps by Occupational Preparation in Jefferson County**

Short-term OJT	Reading Comprehension	Active Listening	Speaking	Critical Thinking	Social Perceptiveness	Monitoring	Writing	Instructing	Learning Strategies	Coordination
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Writing	Speaking	Reading Comprehension	Critical Thinking	Active Learning	Social Perceptiveness	Time Mgmt	Instructing	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Reading Comprehension	Installation	Troubleshooting	Critical Thinking	Writing	Active Listening	Speaking	Mathematics	Active Learning	Coordination
	100	97	94	91	89	86	83	80	77	74
Work Experience in Related	Reading Comprehension	Speaking	Mgmt of Personnel Resources	Monitoring	Active Listening	Time Mgmt	Writing	Coordination	Social Perceptiveness	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
Postsecondary Vocational Training	Learning Strategies	Speaking	Active Listening	Active Learning	Coordination	Social Perceptiveness	Reading Comprehension	Time Mgmt	Troubleshooting	Writing
	100	97	94	91	89	86	83	80	77	74
AA/AS	Reading Comprehension	Active Listening	Active Learning	Instructing	Critical Thinking	Learning Strategies	Writing	Speaking	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Active Listening	Speaking	Active Learning	Writing	Critical Thinking	Learning Strategies	Monitoring	Instructing	Judgment and Decision Making
	100	97	94	91	89	86	83	80	77	74
BA/BS + Work Experience	Speaking	Writing	Active Learning	Critical Thinking	Reading Comprehension	Monitoring	Coordination	Judgment and Decision Making	Active Listening	Mgmt of Personnel Resources
	100	97	94	91	89	86	83	80	77	74
MA/MS	Writing	Reading Comprehension	Speaking	Active Listening	Active Learning	Critical Thinking	Monitoring	Learning Strategies	Complex Problem Identification	Instructing
	100	97	94	91	89	86	83	80	77	74
Doctoral	Writing	Reading Comprehension	Critical Thinking	Active Learning	Speaking	Monitoring	Learning Strategies	Active Listening	Complex Problem Identification	Instructing
	100	97	94	91	89	86	83	80	77	74
1st Professional Degree	Reading Comprehension	Active Listening	Speaking	Writing	Social Perceptiveness	Critical Thinking	Active Learning	Judgment and Decision Making	Monitoring	Complex Problem Identification
	100	97	94	91	89	86	83	80	77	74
Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely										
Basic Skill	Complex Problem Solving	Social Skill			Technical Skill			Resource Management Skill		System Skill

Occupations requiring long-term on-the-job training will experience a greater need for training in technical skills, displaying high skills gaps in installation and troubleshooting. Machinists, millwrights, and heating, air conditioning, and refrigeration mechanics and installers are occupations within this training category that require both installation and troubleshooting at a moderate level or higher. Furthermore these occupations are projected to grow faster in Jefferson County than in the state as a whole through 2012.

Resource management skills appear in the top ten for occupations requiring work experience in a related occupation, postsecondary vocational training, or a bachelor's degree plus work experience. Most jobs falling into these training categories consist of supervisory or management occupations. Complex problem solving and

system skills are likely to require training in those occupations requiring education and experience beyond a bachelor’s degree.

In general, the data indicates the greatest gaps in occupations will be in basic skills *and* will occur across all preparation levels. Lower preparation levels have greater technical and social skill gaps than do the upper job preparation levels. In contrast, those at the upper levels need training in systems and complex problem solving skills.

**Table 4 Suggested Critical Skills for Jefferson County**

Projection Horizon	2002-2012				
	Critical Skills	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings
Reading Comprehension	7,730	100	53	4,097	3,633
Active Listening	7,840	97	55	4,312	3,528
Speaking	6,667	94	52	3,467	3,200
Writing	6,049	91	52	3,145	2,904
Critical Thinking	5,848	89	51	2,982	2,866
Active Learning	5,196	86	52	2,702	2,494
Monitoring	4,759	83	51	2,427	2,332
Coordination	4,619	80	51	2,356	2,263
Social Perceptiveness	4,498	77	51	2,294	2,204
Instructing	4,388	74	49	2,150	2,238
Learning Strategies	4,451	71	51	2,270	2,181
Time Mgmt	4,248	69	52	2,209	2,039

An analysis of critical skills is based on the Skills Gap Index and tempered by the Replacement Index. As already discussed, the skills gap incorporates anticipated changes over the ten- year projection period, to include hiring activity due to growth and turnover. Each type of hiring activity will have its own

implications for training and will depend on regional infrastructure and resources to implement action based on these indices. As shown in Table 4, there are 11 skills in Jefferson County with a skills gap rank score of 70 or more, each with a large number of expected job openings for that skill. The Replacement Index shows the percentage of job openings that should occur as turnover/lateral movement or people leaving the labor force. The inverse value shows demand due to growth. This allows us to calculate replacement and growth openings. These are included in Table 4 to show the potential impact of each skill on job openings associated with that single skill through 2012. It is up to the reader to determine if the skills listed in Table 4 are *critical* skills.

For example, occupations with a skill requirement in reading comprehension are expected to provide 7,730 openings. Approximately 4,097 of these openings (53%) should result as turnover and the balance of 47%, or about 3,633 openings are expected to be due to growth. These results in a skill gap index of 100, indicating a very high likelihood that skill training in reading comprehension should be addressed. Instructing is the only skill listed which will produce more growth openings than replacement openings.

**KNOWLEDGE**

Most work situations require a specific set of learned facts and standard job requirements. Knowledge job requirements, like skills are found in occupations as a ‘set’ that help to define the workers in an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as the skills and later on in this report, the work activities sections; projected demand, skills gap index, and replacement index.



Table 5 describes some knowledge elements for Jefferson County that are expected to be in highest demand in 2012. Occupations that require one or more of these knowledge elements are: Elementary School Teachers, Except Special Education; Licensed Practical and Licensed Vocational Nurses; Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products; and Computer Software Engineers, Systems Software. Each of these occupations is also either fast-growing or high-demand in this area.

Skills gap values are similar in comparing Jefferson County to the state, although Jefferson County is expected to have a slightly greater need for training in Mathematics, computers and electronics, and medicine and dentistry. In Jefferson County, the replacement indices indicate that the openings will be more turnover than growth; however replacement indices are consistently lower when comparing them to the state as a whole. Sales and marketing knowledge has an exact comparison with a replacement index of 65% for the state and Jefferson County. Public relations specialist is an occupation that utilizes this knowledge, and in Jefferson County public relations specialists should experience a 2.72% average annual growth rate compared to the state rate of 2.23%. This underscores the need for acquisition of demand knowledge job requirements in order to compete for jobs.

**Table 5 Selected Knowledge Job Requirements Compared to State**

PROJECTIONS HORIZON	2002-2012					
	ALABAMA 2012			JEFFERSON		
GEOGRAPHY	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX	PROJECTED DEMAND	SKILLS GAP INDEX	REPLACEMENT INDEX
<b>KNOWLEDGE REQUIREMENTS</b>						
<b>Customer and Personal Service</b>	<b>30,619</b>	<b>100</b>	<b>59</b>	<b>7,497</b>	<b>100</b>	<b>57</b>
<b>English Language</b>	<b>13,119</b>	<b>97</b>	<b>56</b>	<b>3,055</b>	<b>97</b>	<b>54</b>
<b>Mathematics</b>	<b>9,350</b>	<b>91</b>	<b>58</b>	<b>2,304</b>	<b>94</b>	<b>56</b>
<b>Education and Training</b>	<b>9,632</b>	<b>94</b>	<b>51</b>	<b>2,005</b>	<b>91</b>	<b>50</b>
Clerical	9,511	88	64	2,396	88	62
<b>Sales and Marketing</b>	<b>8,663</b>	<b>85</b>	<b>65</b>	<b>2,163</b>	<b>85</b>	<b>65</b>
<b>Psychology</b>	<b>5,940</b>	<b>82</b>	<b>51</b>	<b>1,406</b>	<b>82</b>	<b>48</b>
Administration and Management	6,330	79	57	1,379	79	55
Computers and Electronics	5,444	73	59	1,372	76	56
<b>Medicine and Dentistry</b>	<b>3,712</b>	<b>70</b>	<b>47</b>	<b>1,003</b>	<b>73</b>	<b>45</b>

Of the selected knowledge items in Table 5, medicine and dentistry will account for the greatest percentage of hiring activity due to growth. This knowledge element will account for approximately 55% of growth openings in occupations in which it is at least moderately important. The remaining 45% should be due to turnover or people leaving the labor force. This is a reflection of the expected demand for workers in the healthcare industry in the coming years. Jobs in which education and training, and psychology are at least moderately important round out the top three occupations where hiring is due to growth, with 50% and 52% respectively.

Knowledge elements differ at every training or degree level. Knowledge of customer service ranks in the top three of all levels except for the bachelor’s degree plus work experience and higher. Bear in mind that the higher the index, the greater the anticipated need for acquisition of the knowledge requirement. This is necessary in order to provide qualified candidates for jobs where the knowledge item is considered moderately important. Across all work preparation levels, the most significant knowledge skill gaps are customer and personal service, English language, and mathematics. Most of these elements represent a variety of jobs in the following categories: Health Technologists and Technicians and Engineering occupations. The demand for jobs with those particular knowledge elements is such that it is very likely training will need to occur to meet job growth expectations.

## WORK ACTIVITIES

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and maintaining them over time, is the top work activity projected through 2012 in Jefferson County. This work activity is expected to produce 9,179 job openings in occupations that use it at a moderate level or higher. This work activity is found in the high demand occupations, general maintenance and repair workers, child care workers, and counter and rental clerks. Communicating with supervisors, peers or subordinates will also be needed in over 5,895 additional employment opportunities. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost due to attrition, but also for new entrants due to employment growth in occupations using these work activities. Demand for the top three work activities is expected to be due to growth of between 43% and 47%.

**Table 6 Selected Work Activity Job Requirements Compared to State**

Projections Horizon Geography	2002-2012					
	Alabama 2012			Jefferson		
Work Activity Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
<b>Establishing and maintaining interpersonal relationships</b>	<b>39,448</b>	<b>100</b>	<b>58</b>	<b>9,179</b>	<b>100</b>	<b>57</b>
<b>Communicating with supervisors, peers or subordinates</b>	<b>24,401</b>	<b>95</b>	<b>56</b>	<b>5,895</b>	<b>98</b>	<b>54</b>
<b>Getting information needed to do the job</b>	<b>24,528</b>	<b>98</b>	<b>55</b>	<b>5,841</b>	<b>95</b>	<b>53</b>
Organizing, planning and prioritizing work.	22,618	93	55	5,550	93	53
Updating and using job-relevant knowledge	22,010	90	55	5,262	90	53
<b>Making decisions and solving problems</b>	<b>18,324</b>	<b>88</b>	<b>52</b>	<b>4,755</b>	<b>88</b>	<b>50</b>
<b>Identifying objects, actions, and events</b>	<b>16,069</b>	<b>83</b>	<b>50</b>	<b>3,967</b>	<b>85</b>	<b>47</b>
<b>Monitoring processes, materials or surroundings</b>	<b>15,797</b>	<b>80</b>	<b>50</b>	<b>3,848</b>	<b>83</b>	<b>48</b>
Working directly with the public	18,863	78	61	4,351	80	60
Processing information	14,301	76	57	3,707	78	54
Handling and moving objects	22,513	85	62	4,321	76	61
Resolving conflicts and negotiating with others	12,238	68	55	3,122	73	53
Communicating with persons outside the organizations	13,184	71	57	3,075	71	55

Of the selected work activity elements in Table 6, identifying objects, actions, and events will account for the greatest amount of hiring due to growth with 53%, and is expected to have a slightly greater need for training than the state as a whole. This means occupations requiring this work activity are projected to most likely experience growth in Jefferson County. The remaining demand of 47% will be due to turnover in occupations employing this activity. High-demand and growing jobs in which identifying objects, actions, and events are at least moderately important are security guards and registered nurses.

When comparing all the high demand work activities in Jefferson County to the state, there are some slight differences. Jefferson County is expected to need training in some work activities more than the state. On the other hand, the work activity getting information needed to do the job is expected to need more training in the

state as a whole, than in the region, with skills gaps of 98 and 95 respectively. One factor that is consistent across all the work activities is that the replacement indices for Jefferson County appear slightly lower than those for the state. This indicates Jefferson County should experience a bit more growth than the state as a whole.

## Summary

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth and job openings in the region. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

Table 7 Occupations in Jefferson County Matching Critical Skills

Region Jefferson WIA	2002-2012 Occupational Projections	
Occupations	Avg. Annual Growth Rate	Avg. Annual Job Openings
<b>Accountants and Auditors</b>	2.22	185
Administrative Services Managers	1.80	40
Advertising Sales Agents	1.43	20
Chief Executives	1.96	55
Child, Family, and School Social Workers	2.31	15
Civil Engineers	0.91	15
Compensation, Benefits, and Job Analysis Specialists	1.52	20
Computer and Information Systems Managers	2.52	40
Computer Software Engineers, Applications	2.63	40
<b>Computer Software Engineers, Systems Software</b>	<b>3.45</b>	<b>25</b>
Computer Support Specialists	2.51	65
Computer Systems Analysts	2.15	80
Cost Estimators	1.74	20
Database Administrators	2.66	15
<b>Dental Hygienists</b>	<b>3.39</b>	<b>20</b>
Education Administrators, Elementary and Secondary School	1.31	15
Education Administrators, Postsecondary	2.03	25
Educational, Vocational, and School Counselors	1.59	15
Electrical Engineers	1.28	20
<b>Emergency Medical Technicians and Paramedics</b>	<b>3.94</b>	<b>20</b>
Employment, Recruitment, and Placement Specialists	2.46	15
Engineering Managers	1.23	15
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	1.41	80
<b>First-Line Supervisors/Managers of Retail Sales Workers</b>	<b>1.34</b>	<b>205</b>
Food Service Managers	1.12	35
<b>General and Operations Managers</b>	<b>1.79</b>	<b>360</b>
Health Specialties Teachers, Postsecondary	1.73	45
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	2.66	60
Human Resources Managers	1.87	20
Insurance Sales Agents	0.94	70
Lawyers	1.82	80
Librarians	1.51	15
<b>Licensed Practical and Licensed Vocational Nurses</b>	<b>2.75</b>	<b>215</b>

Region Jefferson WIA	2002-2012 Occupational Projections	
Occupations	Avg. Annual Growth Rate	Avg. Annual Job Openings
Loan Officers	1.79	45
Management Analysts	2.19	55
Marketing Managers	1.95	20
Medical and Clinical Laboratory Technicians	2.23	40
Medical and Health Services Managers	2.18	35
Medical and Public Health Social Workers	1.97	20
Mental Health Counselors	1.95	20
<b>Network Systems and Data Communications Analysts</b>	<b>3.57</b>	<b>25</b>
<b>Occupational Therapists</b>	<b>3.19</b>	<b>15</b>
<b>Personal and Home Care Aides</b>	<b>3.17</b>	<b>35</b>
<b>Physical Therapist Assistants</b>	<b>3.36</b>	<b>15</b>
<b>Physical Therapists</b>	<b>3.00</b>	<b>15</b>
Public Relations Managers	2.57	25
Public Relations Specialists	2.72	15
Purchasing Agents, Except Wholesale, Retail, and Farm Products	1.93	25

Jefferson County is expected to maintain an average annual occupational growth rate of 1.45% per year from 2002 to 2012, which is only slightly higher than the state average of 1.32%. This growth depends on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill job openings. Many of the occupations listed in Table 7 require at least an associate’s degree or higher. A comprehensive list of occupational estimates and the associated preparation levels are provided in the above-referenced occupational projections for this region. Because these preparation levels tend to entail additional training, in order to sustain labor market growth and compete with other areas the Jefferson County WIA should prepare workers to fill growth occupations beyond entry level positions.

The largest industry growth in Jefferson WIA should occur within administrative and waste remediation services industries, with 3.15% growth followed by health care and social assistance at 2.55%. Although both these figures fall below state growth levels, when combined they are expected to contribute over 24,000 new industry jobs to the area. The third largest growth sector is projected to be in Arts, Entertainment, and Recreation reporting a projected annual average growth rate of 2.32%, which translates into 950 new jobs over the ten-year period. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for *ongoing and diversified* growth in related industry fields. This will help offset losses in nondurable goods manufacturing and assist in providing flexible employment situations for already-skilled workers being forced out of their present manufacturing jobs.

# Skills *for* Tomorrow in *Mobile County 2002-2012* Local Workforce Investment Area



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## Introduction and Methodology

The 21<sup>st</sup> century has introduced an increased interest into the skills that are attached to occupations. A skill is defined as a developed aptitude or ability and is usually important in many occupations. Likewise, an occupation requires employees to possess a variety of skills. In the late 1990's the Occupational Information Network (O\*NET) was introduced to provide a common language for describing occupations. This database contains occupational information about knowledge aspects, skills, abilities, interests, general work activities, and work context.

Public officials, educators, economic developers and others frequently asked the question: What industries or occupations will be in demand over the next ten years? These entities also want to know *which skills will be in demand* and how these skills rank in importance to various occupations and occupational groups. To assist in answering some of these questions, the Projections Managing Partnership, sponsored by the U.S. Department of Labor (USDOL) Employment and Training Administration (ETA), developed the Skills-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with the O\*NET database. The SBP system applies three dimensions of the O\*NET job requirements: skills, knowledge, and generalized work activities. O\*NET provides 35 different types of skills and 33 elements of knowledge, both considered *worker-oriented descriptors*. Generalized work activities are typical activities which are performed across occupational groups and are classified as *job-oriented descriptors*. Each of these three dimensions is measured in terms of its importance and level required to perform the duties in each occupation. If an element is of moderate importance and moderately required to perform the duties of an occupation, the element is assigned to the occupation.

The system matches the occupation in employment projections to the occupation in O\*NET. Using this match, the application distributes current employment and projected employment to the particular skills, knowledge elements, and work activities that are at least moderately important or moderately required for the occupation. As a result of this match, the system can produce skills sets for occupational supply using projections' base year employment data. It can also produce skills sets for occupational demand using the projected year's employment data from the occupational projections. Because the skills are matched up with occupational projections, the application only produces data for employed persons. This system does not include the present or projected supply of training completers or dislocated workers. Analysis is currently underway to provide some base supply data through other methods.

The SBP system also provides for a review of possible critical skills for an area. The main tool in the system to study this subject is the *skills gap index*. The purpose of the skills gap index is to see the potential for gaps between current supply and demand by measuring the difference between the two. *Demand refers to total projected openings; that is openings due to growth plus net replacement openings*. The result produces a ranking on a scale from 1-100, such that the greater the score the higher the possibility of a skills gap. *Skills with high skills gap indices are expected to be critical for the projected period*.

## What will be needed in Mobile County?

This will be answered by reviewing the worker and job oriented descriptors as well as reviewing critical skills for the region. The following units of analysis apply to each area of discussion mentioned above.

**Current Supply** is an *employment count* of occupations where the skill, knowledge, or work activity is at least moderately important for the job in which it occurs. An occupation has many of these job requirements and as a result it is very likely that the occupation will be counted multiple times. Just as one occupation has many skills, so too does a single skill, knowledge or work activity exist across multiple occupations.

**Projected Demand** refers to *total projected openings*; calculated as the sum of annualized growth plus net replacement openings. When employment change is negative across the projections horizon, growth is zero and the projected demand equals net replacement openings.

**Skills Gap Index** for each job requirement is a standardized measure of the difference (gap) between the current supply and projected demand, calculated in four steps:

1. *Skill Weight*: The proportion of the total current labor supply meeting specific job requirement criteria. It is calculated as the job requirement base-year employment divided by total base-year employment.
2. *Skill Weight Percent Change*: Employment change across the projection horizon, weighted by the percentage of total base-year employment.  $((\text{Projected Employment} - \text{Base Employment}) / \text{Base Employment}) * \text{Skill Weight}$ .
3. *Skill Weight Rank*: A rank score, of Skill Weight Percent Change, within a job requirement set.
4. *Skill Gap Index*: The Skill Weight Rank is standardized from 1 to 100.

**Replacement Index** is the *proportion of total openings due to net replacements* rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

## SKILLS

O\*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical skills. As shown in Table 1, of the top skills relating to the current occupational supply in Mobile County, the top seven and learning strategies, all fall into the *basic* skills group. The emphasis on basic skills means that workers in 2012 will need to maintain a flexible view of the work environment as a place of continuous learning. Base year 2002 data shows that reading comprehension is the top skill employed across occupations, with an employment base of over 881,000. Social perceptiveness, coordination, and instructing, are *social* skills. These are the necessary competencies that help employees to successfully work together. Time management is a resource management skill which requires managing one's own time and the time of others. The final skill judgment and decision making is a system skill which is defined as considering the relative costs and benefits of potential actions to choose the most appropriate one.

**Table 1 Current Skill Supply**

Skill Job Requirements	Current Supply 2002	
	Alabama	Mobile
Reading Comprehension	881,383	84,249
Active Listening	823,698	80,499
Speaking	703,203	68,291
Writing	620,025	61,278
Critical Thinking	608,553	60,290
Active Learning	549,925	53,838
Monitoring	485,121	48,191
Social Perceptiveness	473,861	48,141
Coordination	512,260	47,335
Learning Strategies	468,767	45,390
Instructing	474,708	44,981
Time Mgmt	436,596	43,829
Judgment and Decision Making	363,521	35,040

The current skill supply underscores efforts to remain competitive in regional and global economies where daily challenges require timely and effective business solutions. This kind of competition requires a workplace that not only facilitates independent learning, but is filled by workers who are able to effectively communicate by

focusing on and understanding what is being said, asking appropriate questions and not interrupting the speaker. It also means socially literate workers can adjust their actions in relation to others' and be able to use logical reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

**Table 2 Selected Skills Overview**

Projections Horizon	2002-2012					
Geography	Alabama			Mobile		
Skill Job Requirements	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Reading Comprehension	33,159	100	54	2,992	100	58
Active Listening	32,364	97	56	2,902	97	60
Speaking	28,283	94	53	2,501	94	58
Writing	24,630	91	54	2,246	91	58
Critical Thinking	23,926	89	54	2,210	89	57
Active Learning	21,875	86	54	1,961	86	58
Social Perceptiveness	19,810	80	52	1,853	83	58
Instructing	19,913	83	51	1,718	80	55
Monitoring	19,613	77	53	1,783	77	57
Learning Strategies	19,310	74	52	1,713	74	56

By 2012, 2,992 job openings are projected in occupations requiring reading comprehension. In other words, reading comprehension is required at a moderate level or higher for occupations which will create 2,992 job openings. Active listening, speaking, and writing are skills that will also be needed to support the occupational demand in Mobile County. The projected demand information in Table 2 shows how many job openings are

anticipated *in addition* to the current skill supply. As explained previously, several skills together make up one occupation whereas this table shows the demand, or number of additional job openings, per individual skill.

The skills gap refers to the potential gap between the current supply and projected demand in occupations requiring these skills over a moderate level. A large *skills gap* does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. Within Mobile County, a skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet the demand. A management analyst is a particular occupation where all of the skills listed above with the exception of social perceptiveness are at least moderately important to job performance. In Mobile County, this occupation is expected to grow from 450 in the year 2002 to 560 in 2012. The skills gap indices are *anticipated* gaps that, for example, show a likely need to train in the identified skills that are required for management analysts, since qualified workers will be essential to fill vacancies.

Skill gap information should be tempered by the size of the *projected demand* and the *replacement index* which shows the percentage of job openings expected to occur due to turnover or people leaving the labor force. For example, 60% of the job openings with a high skill requirement in active listening will occur due to replacement, resulting in just over 1,700 openings. The remaining 40% or about 1,161 job openings should be due to growth. Forty to forty-five percent of the projected demand in the remaining skills is expected to be in growth openings. The implication is to continue training programs that supports the acquisition of these skills.

Table 3 shows the top 10 skills with anticipated training needs by education level in Mobile County. This table indicates an overwhelming demand for skills in the basic and social skills groups. The prominence of basic skills means that workers in 2012 will have to maintain a flexible view of the work environment as *a place of continuous learning*.



**Table 3 Selected Skill Gaps by Occupational Preparation in Mobile County**

Short-term OJT	Reading Comprehension	Active Listening	Speaking	Critical Thinking	Social Perceptiveness	Monitoring	Writing	Learning Strategies	Instructing	Coordination
	100	97	94	91	89	86	83	80	77	74
Moderate-term OJT	Active Listening	Writing	Reading Comprehension	Speaking	Critical Thinking	Active Learning	Social Perceptiveness	Time Mgmt	Service Orientation	Instructing
	100	97	94	91	89	86	83	80	77	74
Long-term OJT	Installation	Reading Comprehension	Troubleshooting	Active Learning	Critical Thinking	Active Listening	Writing	Speaking	Equipment Maintenance	Coordination
	100	97	94	91	89	86	83	80	77	74
Work Experience in Related	Speaking	Reading Comprehension	Mgmt of Personnel Resources	Monitoring	Active Listening	Time Mgmt	Coordination	Writing	Social Perceptiveness	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
Postsecondary Vocational Training	Equipment Maintenance	Learning Strategies	Troubleshooting	Active Listening	Speaking	Active Learning	Social Perceptiveness	Reading Comprehension	Monitoring	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
AA/AS	Reading Comprehension	Active Listening	Active Learning	Instructing	Critical Thinking	Learning Strategies	Writing	Speaking	Coordination	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	74
BA/BS	Reading Comprehension	Speaking	Active Listening	Learning Strategies	Instructing	Active Learning	Writing	Monitoring	Critical Thinking	Coordination
	100	97	94	91	89	86	83	80	77	74
BA/BS + Work Experience	Speaking	Writing	Active Learning	Critical Thinking	Monitoring	Judgment and Decision Making	Reading Comprehension	Active Listening	Coordination	Mgmt of Personnel Resources
	100	97	94	91	89	86	83	80	77	74
MA/MS	Writing	Reading Comprehension	Active Learning	Speaking	Active Listening	Critical Thinking	Monitoring	Learning Strategies	Complex Problem Identification	Instructing
	100	97	94	91	89	86	83	80	77	74
Doctoral	Speaking	Monitoring	Learning Strategies	Writing	Reading Comprehension	Critical Thinking	Active Learning	Active Listening	Instructing	Judgment and Decision Making
	100	97	94	91	89	86	83	80	77	74
1st Professional Degree	Reading Comprehension	Active Listening	Speaking	Writing	Social Perceptiveness	Critical Thinking	Active Learning	Learning Strategies	Judgment and Decision Making	Service Orientation
	100	97	94	91	89	86	83	80	77	74
Skills Gap Ranking = '100' Very High Likelihood of Training Need-----'1' Need for Training is Not Likely										
Basic Skill	Complex Problem Solving		Social Skill		Technical Skill		Resource Management Skill		System Skill	

Occupations requiring long-term on-the-job training and postsecondary training are expected to have a great need for training in technical skills. Installation, equipment maintenance, and troubleshooting have high skills gap indices in these training categories. Machinists, millwrights, and heating, air conditioning, and refrigeration mechanics and installers are occupations within this training category that require all three of these critical technical skills at a moderate level or higher. Furthermore these occupations are projected to grow very close to the state average.

Resource management skills appear in the top ten for occupations requiring work experience in a related occupation, postsecondary vocational training, or a bachelor's degree plus work experience. Most jobs falling

into these training categories consist of supervisory or management occupations. Time management falls into this category, and consists of managing one’s own time plus the time of others. Management of personnel resources involves motivating, developing, and directing people as they work, identifying the best people for the job. Complex problem solving and system skills are likely to require training in those occupations requiring education and experience beyond a bachelor’s degree.

In general, the data indicates the greatest gaps in occupations will be in basic skills *and* will occur across all preparation levels. Lower preparation levels have greater technical and social skill gaps than do the upper job preparation levels. In contrast, those at the upper levels need training in systems and complex problem solving skills.

**Table 4 Suggested Critical Skills for Mobile County**

Projection Horizon Critical Skills	2002-2012				
	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings	Growth Openings
Reading Comprehension	2,992	100	58	1,735	1,257
Active Listening	2,902	97	60	1,741	1,161
Speaking	2,501	94	58	1,451	1,050
Writing	2,246	91	58	1,303	943
Critical Thinking	2,210	89	57	1,260	950
Active Learning	1,961	86	58	1,137	824
Social Perceptiveness	1,853	83	58	1,075	778
Instructing	1,718	80	55	945	773
Monitoring	1,783	77	57	1,016	767
Learning Strategies	1,713	74	56	959	754
Coordination	1,679	71	57	957	722
Time Mgmt	1,581	69	58	917	664

An analysis of critical skills is based on the Skills Gap Index and tempered by the Replacement Index. As already discussed, the skills gap incorporates anticipated changes over the ten-year projection period, *to include* hiring activity due to growth and turnover. Each type of hiring activity will have its own implications for training and will depend on regional infrastructure and resources to implement action based on these indices. As shown in Table 4, there are 11 skills in Mobile County with a skills gap rank score of 70 or more, each with a large number of expected job openings for that skill. The Replacement Index shows the percentage of job openings that should occur as turnover/lateral movement or people leaving the labor force. The inverse value shows demand due to growth. This allows us to calculate replacement and growth openings. These are included in Table 4 to show the potential impact of each skill on job openings associated with that single skill through 2012. It is up to the reader to determine if the skills listed in Table 4 are *critical* skills.

For example, occupations with a skill requirement in instructing are expected to provide 1,718 openings. Approximately 945 of these openings (55%) should result as turnover and the balance of 45%, or about 773 openings are expected to be due to growth. These results in a skill gap index of 80, indicating a high likelihood that skill training in instruction should be addressed. Instructing is the one skill in Mobile County which produces the highest openings due to growth rather than replacements.

## KNOWLEDGE

Most work situations require a specific set of learned facts and standard job requirements. Knowledge job requirements, like skills are found in occupations as a ‘set’ that help to define the workers in an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as the skills and later on in this report, the work activities sections; projected demand, skills gap index, and replacement index.

Table 5 describes some knowledge elements for Mobile County that are expected to be in highest demand in 2012. The top three knowledge requirements; customer and personal service; English language; and education and training, displays the same skills gap indices as those for the state. However the replacement rates for these knowledge areas are five points higher in the area than in the state. This indicates that the demand for those knowledge areas will be more due to replacements in Mobile County than in the state. Occupations such as human resource managers, public relations managers, and social and human service assistants require knowledge in all three of these areas above a moderate level. In addition, these occupations appear on the fast-growing list for the Mobile county area. This underscores the need for acquisition of demand knowledge job requirements in order to compete for jobs.

Skills gap values are similar in comparing Mobile County to the state, although Mobile County is expected to have a slightly greater need for training in the knowledge of psychology, mechanics, and medicine and dentistry. In Mobile County, the replacement indices indicate that the openings will be more turnover than growth. Furthermore, the area’s replacement rates are consistently higher for the area than for the state as a whole, reinforcing the fact that Mobile County’s growth rate is somewhat less than the state.

**Table 5 Selected Knowledge Job Requirements Compared to State**

Projections Horizon	2002-2012					
	Alabama 2012			Mobile County		
Geography	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Knowledge Requirements						
Customer and Personal Service	30,619	100	59	2,808	100	64
English Language	13,119	97	56	1,111	97	61
Education and Training	9,632	94	51	797	94	56
Mathematics	9,350	91	58	793	91	61
Clerical	9,511	88	64	904	88	67
Psychology	5,940	82	51	548	85	54
Sales and Marketing	8,663	85	65	766	82	70
Mechanical	5,874	76	61	592	79	62
Administration and Management	6,330	79	57	539	76	62
Medicine and Dentistry	3,712	70	47	366	73	51

Of the selected knowledge items in Table 5, medicine and dentistry will account for the greatest percentage of hiring activity due to growth. This knowledge element will account for approximately 49% of growth openings in occupations in which it is at least moderately important. The remaining 51% should be due to turnover or people leaving the labor force. This is a reflection of the expected demand for workers in the healthcare industry in the coming years. Jobs in which psychology, and education and training are at least moderately important round out the top three occupations where hiring is due to growth, with 46% and 44% respectively.

Knowledge elements differ at every training or degree level. Knowledge of customer service ranks in the top three of all levels except for the bachelor’s degree plus work experience and higher. Bear in mind that the higher the index, the greater the anticipated need for acquisition of the knowledge requirement. This is necessary in order to provide qualified candidates for jobs where the knowledge item is considered moderately

important. Across all work preparation levels, the most significant knowledge skill gaps are customer and personal service, English language, and mathematics. Most of these elements represent a variety of jobs in the following categories: Health Technologists and Technicians and Engineering occupations. The demand for jobs with those particular knowledge elements is such that it is very likely training will need to occur to meet job growth expectations.

## WORK ACTIVITIES

Work activities are job behaviors in the work environment. Establishing and maintaining interpersonal relationships, which is developing constructive and cooperative working relationships with others and maintaining them over time, is the top work activity projected through 2012 in Mobile County. This work activity is expected to produce 3,592 job openings in occupations that use it at a moderate level or higher. This work activity is found in the high demand occupations, general maintenance and repair workers, child care workers, and counter and rental clerks. Communicating with supervisors, peers or subordinates will also be needed in over 2,158 additional employment opportunities. According to their respective skill gaps, training for all these activities will be necessary not only for workers replacing those lost due to attrition, but also for new entrants due to employment growth in occupations using these work activities. Demand for the top three work activities is expected to be due to growth of between 38% and 41%.

**Table 6 Selected Work Activity Job Requirements Compared to State**

Projections Horizon	2002-2012					
	Alabama 2012			Mobile County		
Geography	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Work Activity Job Requirement						
Establishing and maintaining interpersonal relationships	39,448	100	58	3,592	100	62
Getting information needed to do the job	24,528	98	55	2,144	98	59
Communicating with supervisors, peers or subordinates	24,401	95	56	2,158	95	59
Organizing, planning and prioritizing work	22,618	93	55	2,031	93	58
Updating and using job-relevant knowledge	22,010	90	55	1,957	90	58
Making decisions and solving problems	18,324	88	52	1,659	88	55
Handling and moving objects	22,513	85	62	2,040	85	64
Identifying objects, actions, and events	16,069	83	50	1,401	83	53
Monitoring processes, materials or surroundings	15,797	80	50	1,411	80	54
Working directly with the public	18,863	78	61	1,729	78	67
Performing general physical activities	16,109	73	62	1,437	76	64
Processing information	14,301	76	57	1,234	73	59
Resolving conflicts and negotiating with others	12,238	68	55	1,182	71	59

Of the selected work activity elements in Table 6, identifying objects, actions, and events will account for the greatest amount of hiring due to growth with 53%, and is expected to have a slightly greater need for training than the state as a whole. This means occupations requiring this work activity are most likely projected to experience growth in Jefferson County. The remaining demand of 47% will be due to turnover in occupations employing this activity. High-demand and growing jobs in which identifying objects, actions, and events are at least moderately important are security guards and registered nurses.

When comparing all the high demand work activities in Mobile County to the state, there are some slight differences. Mobile County is expected to need training in performing general physical activities and resolving conflicts and negotiating with others more than the state. On the other hand, the work activity processing information is expected to need more training in the state as a whole, than in the region, with skills gaps of 76 and 73 respectively. One factor that is consistent across all the work activities is that the replacement indices for

Mobile County appear higher than those for the state. This indicates Mobile County should experience a less growth through 2012 than the state as a whole. On the other hand, just because the replacement index indicates more openings will be due to turnover for a certain work activity, does not mean demand for training is any less than it is for the state. Notice the work activity, working directly with the public, has a replacement rate for Mobile County of 67, which is six points higher than the state, yet the skills gap for both areas are the same at 78.

## Summary

**Table 7 Occupations in Mobile County Matching Critical Skills**

Region Mobile WIA	2002-2012 Occupational Projections	
Occupations	Avg. Annual Growth Rate	Avg. Annual Job Openings
Accountants and Auditors	1.50	50
Administrative Services Managers	1.84	10
Advertising Sales Agents	1.41	10
Chief Executives	1.27	20
<b>Child, Family, and School Social Workers</b>	<b>2.07</b>	<b>10</b>
Coaches and Scouts	1.34	10
<b>Computer and Information Systems Managers</b>	<b>2.16</b>	<b>10</b>
<b>Computer Software Engineers, Applications</b>	<b>3.03</b>	<b>10</b>
<b>Computer Support Specialists</b>	<b>3.01</b>	<b>25</b>
Computer Systems Analysts	1.72	15
Cost Estimators	1.44	10
Educational, Vocational, and School Counselors	1.66	10
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	1.40	40
<b>First-Line Supervisors/Managers of Retail Sales Workers</b>	<b>1.00</b>	<b>100</b>
Food Service Managers	0.63	15
<b>General and Operations Managers</b>	<b>1.50</b>	<b>150</b>
<b>Heating, Air Conditioning, and Refrigeration Mechanics and Installers</b>	<b>2.62</b>	<b>30</b>
<b>Human Resources Managers</b>	<b>2.54</b>	<b>10</b>
Insurance Sales Agents	0.85	25
Lawyers	1.24	25
Librarians	1.34	10
<b>Licensed Practical and Licensed Vocational Nurses</b>	<b>1.74</b>	<b>75</b>
Loan Officers	1.77	10
<b>Management Analysts</b>	<b>2.21</b>	<b>15</b>
Marketing Managers	1.18	10
Medical and Clinical Laboratory Technicians	1.48	10
Medical and Health Services Managers	1.94	10
Medical and Public Health Social Workers	1.68	10
Nursing Instructors and Teachers, Postsecondary	1.64	10
<b>Personal and Home Care Aides</b>	<b>3.01</b>	<b>45</b>
<b>Public Relations Managers</b>	<b>2.26</b>	<b>10</b>
Purchasing Agents, Except Wholesale, Retail, and Farm Products	1.26	10
Radiologic Technologists and Technicians	1.30	10
Real Estate Sales Agents	0.46	10
Recreation Workers	1.10	10
<b>Registered Nurses</b>	<b>1.93</b>	<b>180</b>
<b>Sales Managers</b>	<b>2.03</b>	<b>20</b>
Social and Community Service Managers	1.12	10
<b>Training and Development Specialists</b>	<b>2.59</b>	<b>10</b>

Each of the selected occupations in Table 7 matched at least 80% of the 12 critical skills alone, and can be found in the Alabama Occupational Projections 2012 for Workforce Investment Areas by the Alabama Department of Industrial Relations, Labor Market Information Division. These occupations were selected due to anticipated occupational growth and job openings in the region. Information that is in bold identifies occupations that not only have critical skills, but are also fast-growing and/or high demand.

*Mobile County is expected to maintain an average annual occupational growth rate of 1.19% per year from 2002 to 2012, which is slightly lower than the state average of 1.32%. This growth depends on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill job openings. Many of the occupations listed in Table 7 require at least an associate's degree or higher. A comprehensive list of occupational estimates and the associated preparation levels are provided in the above-referenced occupational projections for this region. Because these preparation levels tend to entail additional training, in order to sustain labor market growth and compete with other areas the Mobile County WIA should prepare workers to fill growth occupations beyond entry level positions.*

The largest industry growth in Mobile WIA should occur within administrative and waste remediation services industries, with 2.94% growth followed by health care and social assistance at 1.94%. Although both these figures fall below state growth levels, when combined they are expected to contribute almost 8,900 new industry jobs to the area. The third largest growth sector is projected to be in arts, entertainment, and recreation reporting a projected annual average growth rate of 1.94%, which translates into 210 new jobs over the ten-year period. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain impetus for *ongoing and diversified* growth in related industry fields. This will help offset losses in nondurable goods manufacturing and assist in providing flexible employment situations for already-skilled workers being forced out of their present manufacturing jobs.

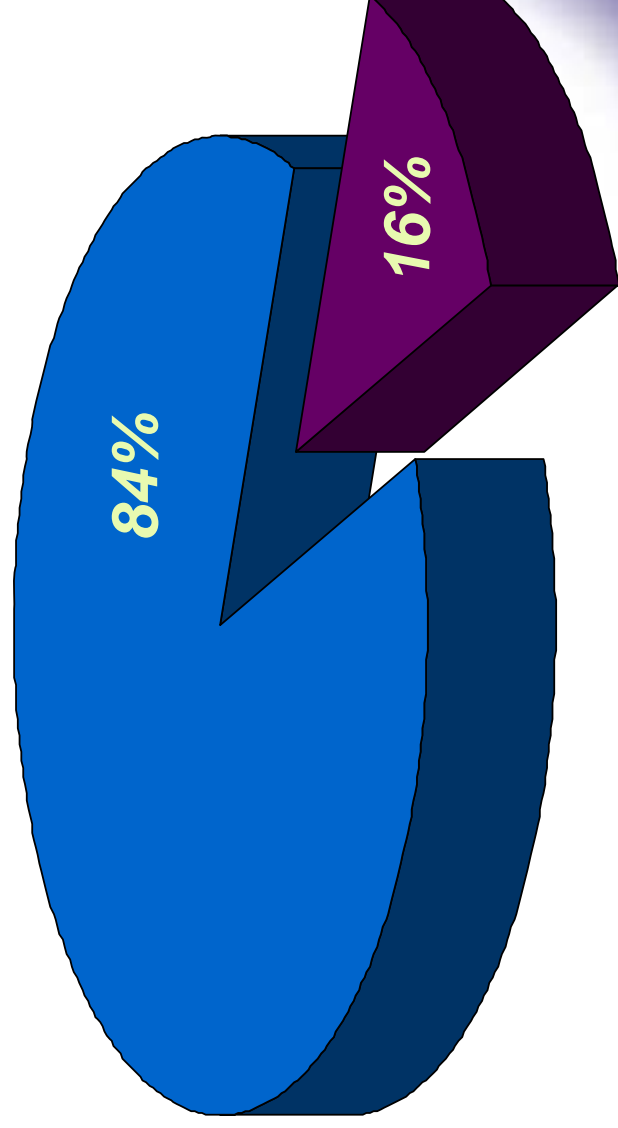
# LMI for Strategic Planning



WIA Advisory Area 1  
Meeting October 4, 2006  
Northwest Alabama Council of Local  
Governments in Muscle Shoals

# The Aging Workforce in Region 1

**According to 3<sup>rd</sup> Quarter 2005 data, 16% of the Workforce in Region 1 is over Age 55, accounting for 12,463 Employees.**

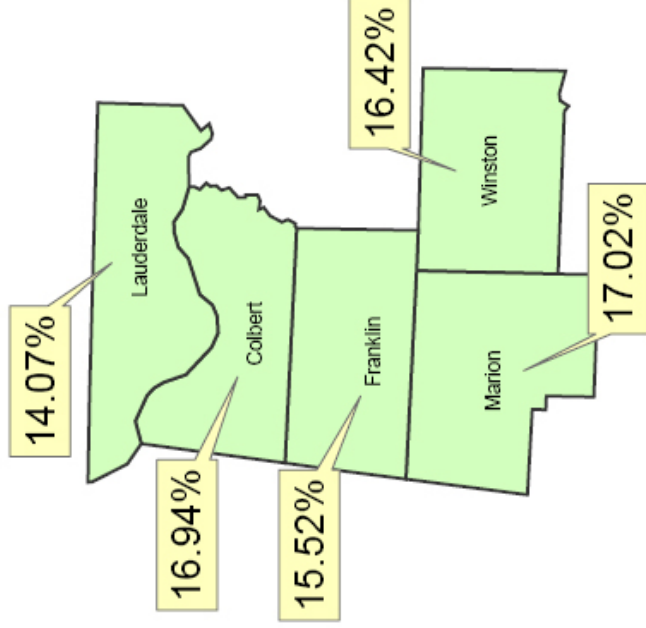




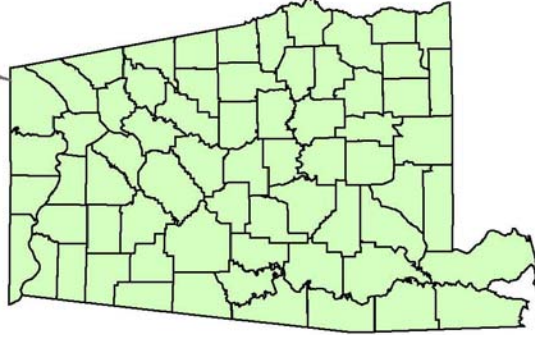
# Aging Workforce

## Region 1 and Alabama Percent of Workforce Ages 55 and Over Time Period: 3rd Quarter 2005

### Region 1



### Alabama



Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators

See websites: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi) or <http://lehd.dsd.census.gov>

# Aging Workforce

**REGION 1**  
Top 5 Industries  
Employing 55+ Workforce  
*2005 qtr. 3 Employment*

NAICS	INDUSTRY TITLE	REGION 1 EMP	REGION 1 55+ EMP	PERCENT 55+ OF INDUSTRY
331	Primary Metal Mfg.	1,302	338	25.96%
325	Chemical Mfg.	395	94	23.80%
332	Fabricated Metal Product Mfg.	1,554	296	19.05%
623	Nursing & Residential Care Facilities	2,428	461	18.99%
484	Truck Transportation	861	156	18.12%

# Aging Workforce

## REGION 1 Top 5 Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 1 55+ EMP	PROJECTED ANNUAL AVG. GROWTH RATE THROUGH 2014	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014
331	Primary Metal Mfg.	338	-10.16	-130
325	Chemical Mfg.	94	-11.43	-40
332	Fabricated Metal Product Mfg.	296	6.72	90
623	Nursing & Residential Care Facilities	461	13.64	300
484	Truck Transportation	156	14.29	130

# Aging Workforce

## Region 1 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 1 55+ EMP 2005 Qtr. 3	PROJECTED ANNUAL AVG. GROWTH RATE THROUGH 2014	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014
452	General Merchandise Stores	542	5.17	150
812	Personal & Laundry Services	120	6.54	70
524	Insurance Carriers & Related Activities	89	4.62	30
622	Hospitals	156	6.28	230
624	Social Assistance	107	22.22	160
522	Credit Intermediation & Related Activities	257	1.69	30
621	Ambulatory Health Care Services	453	24.92	760
326	Plastics & Rubber Products Mfg.	191	10.42	150
561	Administrative & Support Services	634	45.86	1,440

# Aging Workforce

## Region 1 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 1 55+ EMP 2005 Qtr. 3	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014	POTENTIAL IMPACT JOB OPENINGS THROUGH 2014
452	General Merchandise Stores	542	150	692
812	Personal & Laundry Services	120	70	190
524	Insurance Carriers & Related Activities	89	30	119
622	Hospitals	156	230	386
624	Social Assistance	107	160	267
522	Credit Intermediation & Related Activities	257	30	287
621	Ambulatory Health Care Services	453	760	1,213
326	Plastics & Rubber Products Mfg.	191	150	341
561	Administrative & Support Services	634	1,440	2,074

# Skills Needed to Fill Vacancies

## Region 1

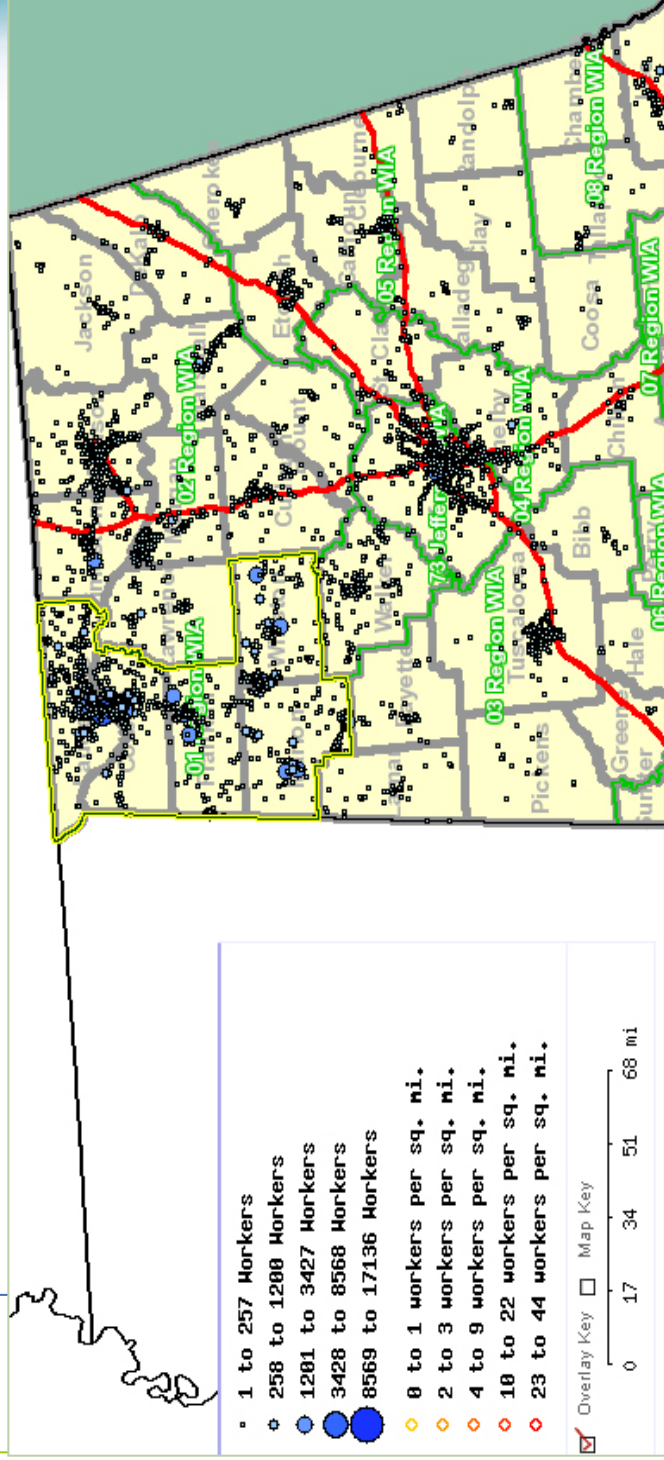
### Projected Critical Skills Through 2012

Critical Skill	Projected Demand	Replacement Openings	Growth Openings
Reading Comprehension	1,218	804	414
Active Listening	1,154	773	381
Speaking	1,055	686	369
Critical Thinking	869	565	304
Writing	844	549	295
Active Learning	803	530	273
Social Perceptiveness	787	504	283
Instructing	759	478	281
Monitoring	727	473	254
Coordination	713	456	257
Learning Strategies	702	456	246
Time Mgmt	633	418	215

# Commuting Patterns

## Commute Shed Report - Where Residents in Region 1 are Employed

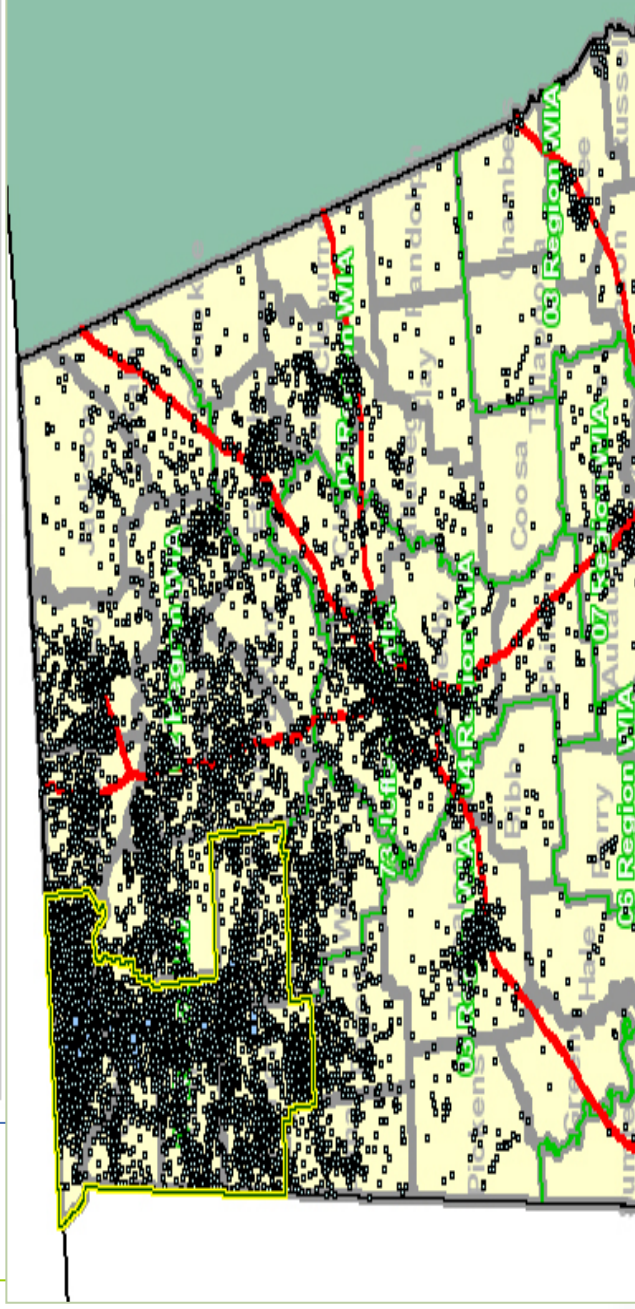
Counties Where Residents are Employed	2003		2002	
	Count	Share	Count	Share
* Lauderdale Co., AL	14,750	24.9%	14,817	25.2%
* Colbert Co., AL	10,796	18.2%	11,032	18.7%
* Marion Co., AL	5,330	9.0%	5,171	8.8%
* Winston Co., AL	5,104	8.6%	5,527	9.4%
* Franklin Co., AL	5,019	8.5%	4,760	8.1%
* All Other Locations	18,236	30.8%	17,606	29.9%



# Commuting Patterns

## Labor Shed Report - Where Workers Live that are Employed in Region 1

Counties Where Workers Live	2003		2002	
	Count	Share	Count	Share
* Lauderdale Co., AL	16,289	26.5%	16,483	27.0%
* Colbert Co., AL	10,673	17.4%	10,787	17.6%
* Marion Co., AL	6,037	9.8%	5,900	9.6%
* Franklin Co., AL	5,700	9.3%	5,764	9.4%
* Winston Co., AL	4,193	6.8%	4,408	7.2%
* All Other Locations	18,517	30.2%	17,803	29.1%



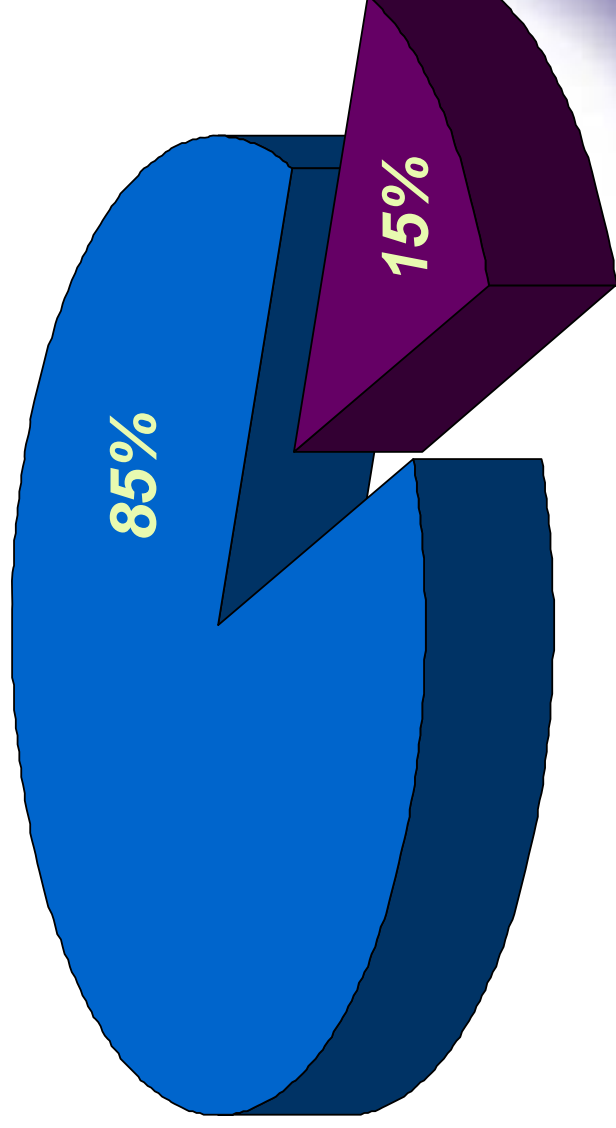


# LMI for Strategic Planning

WIA Advisory Area 2  
Meeting October 5, 2006  
Calhoun Community College Campus in Huntsville

## The Aging Workforce in Region 2

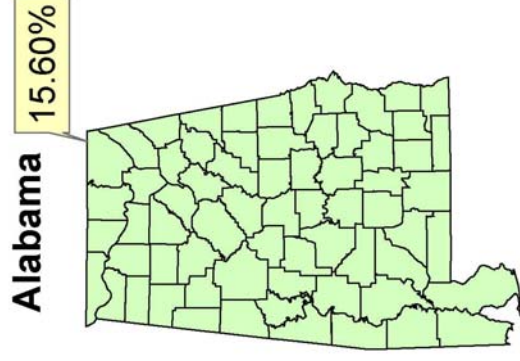
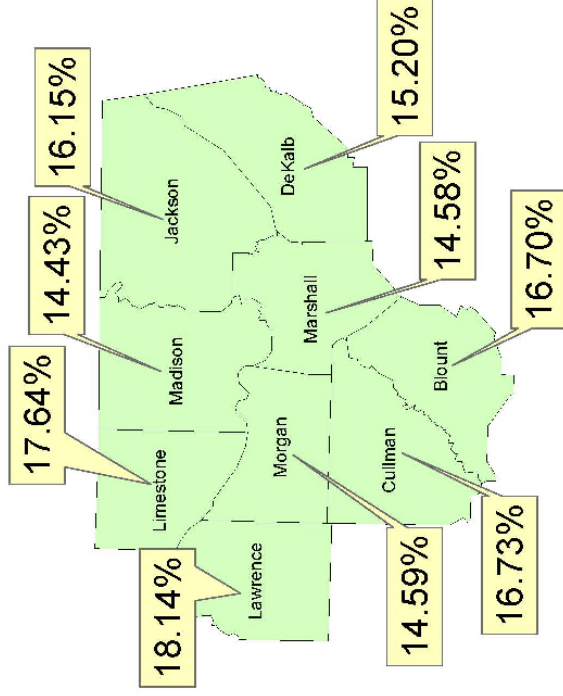
**According to 3<sup>rd</sup> Quarter 2005 data, 15% of the Workforce in Region 2 is over Age 55, accounting for 52,566 Employees.**



# Aging Workforce

## Region 2 and Alabama Percent of Workforce Ages 55 and Over Time Period: 3rd Quarter 2005

### Region 2



# Aging Workforce

**REGION 2**  
**Top 5 Industries**  
**Employing 55+ Workforce**  
*2005 qtr. 3 Employment*  
*Projected Growth in Industries Through 2014*

NAICS	Industry	Region 2 EMP	Region 2 55+ EMP	Percent 55+ Of Industry	Projected Jobs Due To Growth In Industry Through 2014	Projected Annual Avg. Growth Rate Through 2014	Potential Impact Job Openings Through 2014
531	Real Estate	2,158	521	24.14%	320	1.52%	841
484	Truck Transportation	4,723	1,022	21.64%	1,460	2.67%	2,482
812	Personal & Laundry Services	2,358	469	19.89%	340	1.33%	809
541	Professional, Scientific, & Technical Services	31,013	5,854	18.88%	11,340	3.33%	17,194
454	Nonstore Retailers	514	96	18.68%	20	0.36%	116

# Aging Workforce

## Region 2 Other Top Industries Employing 55+ Workforce

2005 qtr. 3 Employment  
Projected Growth in Industries Through 2014

NAICS	Industry	Region 2 EMP	Region 2 55+ EMP	Percent 55+ Of Industry	Projected Jobs Due To Growth In Industry Through 2014	Projected Annual Avg. Growth Rate Through 2014	Potential Impact Job Openings Through 2014
453	Miscellaneous Store Retailers	2,102	372	17.70%	580	2.44%	952
221	Utilities	502	87	17.33%	450	6.53%	537
444	Building Material & Garden Equip. Dealers	4,059	699	17.22%	970	2.14%	1,669
524	Insurance Carriers & Related Activities	1,731	293	16.93%	210	1.06%	503
441	Motor Vehicle & Parts Dealers	6,002	1,015	16.91%	1,010	1.61%	2,025
314	Textile Product Mills	4,013	678	16.90%	-450	-1.33%	228
813	Religious, Grantmaking, Civic, Prof. Org.	994	167	16.80%	1,640	2.25%	1,807
624	Social Assistance	3,469	572	16.49%	1,800	3.75%	2,372
322	Paper Mfg.	3,078	504	16.37%	-210	-0.73%	294
237	Heavy & Civil Engineering Construction	2,081	337	16.19%	200	1.00%	537

# Aging Workforce

## Region 2 Other Top Industries Employing 55+ Workforce

2005 qtr. 3 Employment  
*Projected Growth in Industries Through 2014*

NAICS	Industry	Region 2 EMP	Region 2 55+ EMP	Percent 55+ Of Industry	Projected Jobs Due To Growth In Industry Through 2014	Projected Annual Avg. Growth Rate Through 2014	Potential Impact Job Openings Through 2014
623	Nursing & Residential Care Facilities	6,161	997	16.18%	1,600	2.20%	2,597
424	Wholesale Trade, Nondurable Goods	3,786	611	16.14%	480	1.15%	1,091
332	Fabricated Metal Product Mfg.	7,303	1,177	16.12%	490	0.68%	1,667
452	General Merchandise Stores	13,087	2,093	15.99%	2,000	1.61%	4,093
336	Transportation Equipment Mfg.	13,053	2,078	15.92%	460	0.35%	2,538
493	Warehousing & Storage	1,977	311	15.73%	430	2.51%	741
447	Gasoline Stations	2,847	446	15.67%	350	1.17%	796
423	Wholesale Trade, Durable Goods	6,857	1,070	15.60%	1,190	1.73%	2,260
236	Construction of Buildings	4,434	681	15.36%	410	1.09%	1,091
713	Amusement, Gambling, & Recreation Industries	1,940	297	15.31%	560	2.73%	857

# Skills Needed to Fill Vacancies

## Region 2

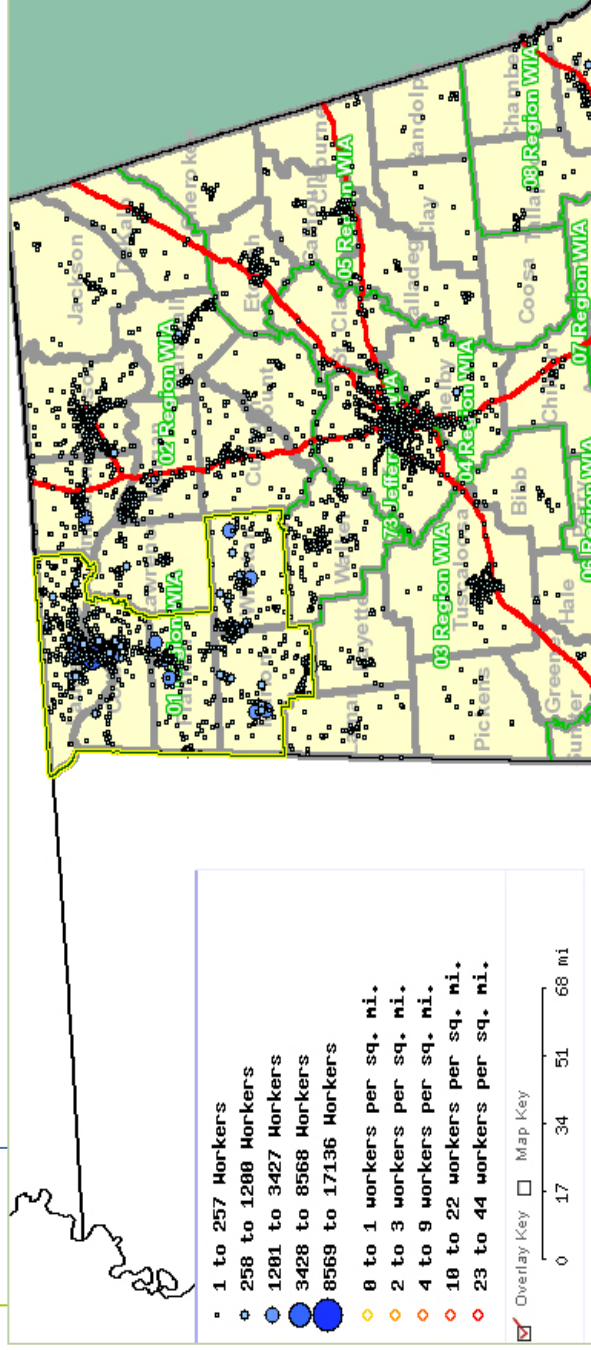
### Projected Critical Skills Through 2012

Critical Skills	Projected Demand	Replacement Openings	Growth Openings
Reading Comprehension	6298	3,275	3,023
Active Listening	5890	3,122	2,768
Speaking	5195	2,598	2,598
Writing	4607	2,396	2,211
Critical Thinking	4565	2,328	2,237
Active Learning	4258	2,172	2,086
Coordination	3873	1,975	1,898
Instructing	3799	1,786	2,013
Learning Strategies	3687	1,807	1,880
Monitoring	3672	1,836	1,836
Social Perceptiveness	3553	1,741	1,812
Time Mgmt	3266	1,666	1,600

# Commuting Patterns

## Commute Shed Report - Where Residents in Region 1 are Employed

<u>Countries Where Residents are Employed</u>	2003		2002	
	Count	Share	Count	Share
* Madison Co., AL	96,699	37.2%	94,714	36.5%
* Morgan Co., AL	30,652	11.8%	30,776	11.9%
* Jefferson Co., AL	22,962	8.8%	23,234	9.0%
* Marshall Co., AL	18,958	7.3%	18,999	7.3%
* Cullman Co., AL	16,535	6.4%	16,208	6.2%
* All Other Locations	74,201	28.5%	75,418	29.1%

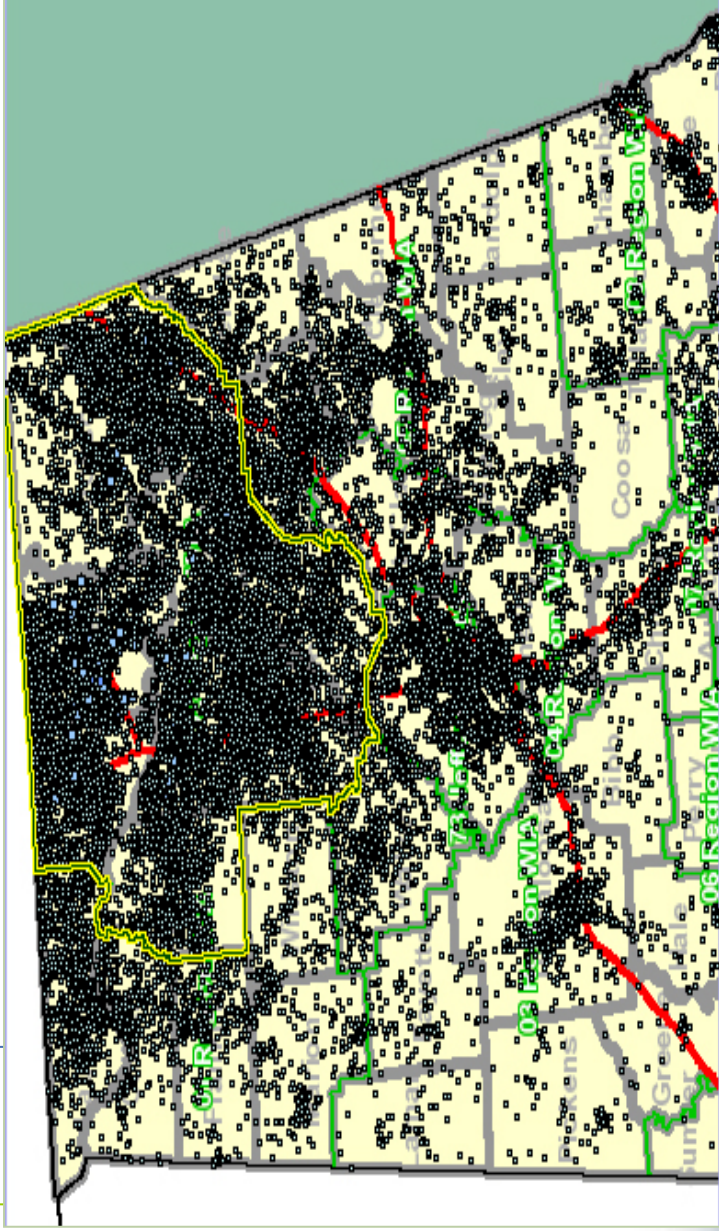




# Commuting Patterns

## Labor Shed Report - Where Workers Live that are Employed in Region 2

Counties Where Workers Live	2003		2002	
	Count	Share	Count	Share
* Madison Co., AL	85,539	30.3%	84,481	30.0%
* Morgan Co., AL	31,734	11.2%	32,280	11.5%
* Marshall Co., AL	21,290	7.5%	21,202	7.5%
* Cullman Co., AL	18,433	6.5%	18,363	6.5%
* Limestone Co., AL	17,914	6.3%	17,960	6.4%
* All Other Locations	107,802	38.1%	106,861	38.0%





# LMI for Strategic Planning

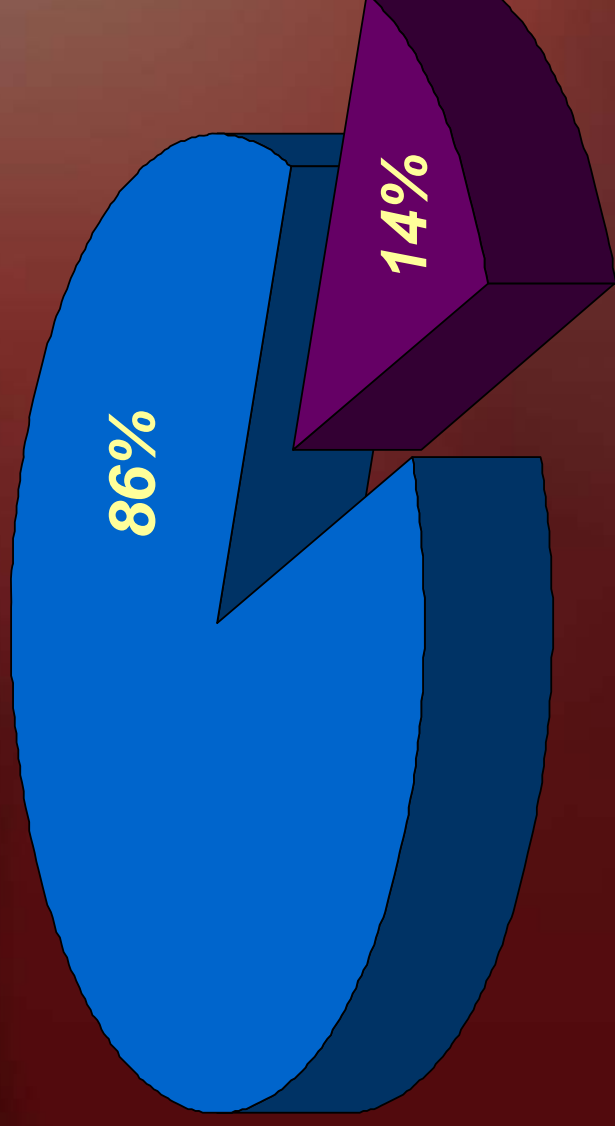
## **WIA Advisory Area 3**

Meeting October 26, 2006

**Tuscaloosa Alabama Power**

# The Aging Workforce in Region 3

**According to 3<sup>rd</sup> Quarter 2005 data, 14% of the Workforce in Region 3 is over Age 55, accounting for 13,698 Employees.**



# Aging Workforce

## REGION 3

Top 5 Industries  
Employing 55+ Workforce  
2005 qtr. 3 Employment

NAICS	INDUSTRY TITLE	REGION 3 EMP	REGION 3 55+ EMP	PERCENT 55+ OF INDUSTRY
212	Mining (except Oil & Gas)	2,184	557	25.50%
326	Plastics & Rubber Products Mfg.	1,498	299	19.96%
321	Wood Product Mfg.	2,127	373	17.54%
484	Truck Transportation	1,625	269	16.55%
531	Real Estate	1,020	162	15.88%

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations,  
Local Employment Dynamics Program

# Aging Workforce

## REGION 3

### Top 5 Industries

#### Employing 55+ Workforce

#### *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 3 55+ EMP 2005 Qtr. 3	PROJECTED ANNUAL AVG. GROWTH RATE THROUGH 2014	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014
212	Mining (except Oil & Gas)	557	5.26	10
326	Plastics & Rubber Products Mfg.	299	10.42	150
321	Wood Product Mfg.	373	13.12	660
484	Truck Transportation	269	14.29	130
531	Real Estate	162	8.33	20

# Aging Workforce

## Region 3 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 3 55+ EMP 2005 Qtr. 3	PROJECTED ANNUAL AVG. GROWTH RATE THROUGH 2014	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014
327	Nonmetallic Mineral Product Mfg.	94	12.00	30
452	General Merchandise Stores	447	5.17	150
444	Building Material & Garden Equip. Dealers	109	11.24	100
238	Specialty Trade Contractors	465	4.74	110
541	Professional, Scientific, & Technical Services	433	11.86	280
522	Credit Intermediation & Related Activities	218	1.69	30
333	Machinery Mfg.	145	-2.03	-30
624	Social Assistance	139	22.22	160
621	Ambulatory Health Care Services	417	24.92	760

## Region 3 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 3 55+ EMP 2005 Qtr. 3	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014	POTENTIAL IMPACT JOB OPENINGS THROUGH 2014
327	Nonmetallic Mineral Product Mfg.	94	30	124
452	General Merchandise Stores	447	150	597
444	Building Material & Garden Equip. Dealers	109	100	209
238	Specialty Trade Contractors	465	110	575
541	Professional, Scientific, & Technical Services	433	280	713
522	Credit Intermediation & Related Activities	218	30	248
333	Machinery Mfg.	145	-30	115
624	Social Assistance	139	160	299
621	Ambulatory Health Care Services	417	760	1,177

# Skills Needed to Fill Vacancies

## Region 3

### Projected Critical Skills Through 2012

Critical Skills	Projected Demand	Replacement Openings	Growth Openings
Reading Comprehension	1,854	1,020	834
Active Listening	1,711	975	736
Speaking	1,512	816	696
Writing	1,302	716	586
Critical Thinking	1,228	675	553
Active Learning	1,152	634	518
Instructing	1,120	582	538
Social Perceptiveness	1,087	587	500
Learning Strategies	1,058	571	487
Monitoring	1,024	553	471
Coordination	1,018	550	468
Time Mgmt	875	473	403

Data Source: Alabama Dept. of Industrial Relations, Labor Market Information Division  
in cooperation with the Projections Managing Partnership  
sponsored by The US Dept. of Labor, Employment & Training Administration



# LMI for Strategic Planning



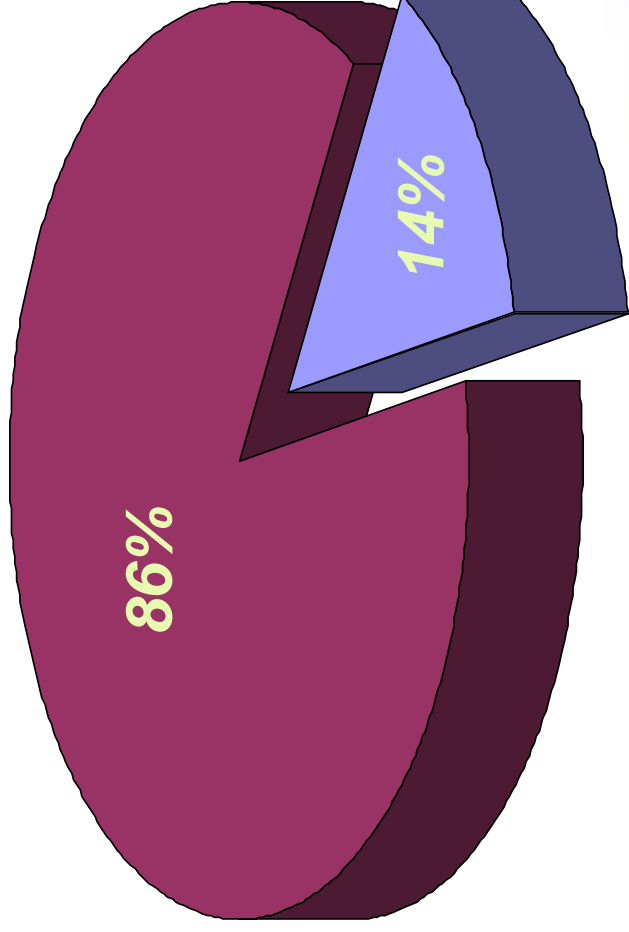
WIA Advisory Area 4

Meeting November 13, 2006

Virginia College School of Construction

## The Aging Workforce in Region 4

**According to 3<sup>rd</sup> Quarter 2005 data, 14% of the Workforce in Region 4 is over Age 55, accounting for 16,760 Employees.**



# Aging Workforce

## Region 4 Top 5 Industries Employing 55+ Workforce *2005 qtr. 3 Employment*

NAICS	INDUSTRY TITLE	All Age EMP	55+ EMP	% of Industry 55+
452	General Merchandise Stores	5,692	909	15.97%
561	Administrative & Support Services	5,946	868	14.60%
423	Merchant Wholesalers, Dur. Goods	4,153	723	17.41%
541	Profess., Scientific, & Tech. Services	5,429	705	12.99%
621	Ambulatory Health Care Svcs.	4,903	566	11.54%

Data for Private Firms Only

# Aging Workforce

## Region 4 Top 5 Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	55+ EMP 2005 Qtr. 3*	Annual Avg. Growth Rate Through 2014**	Projected Jobs Due to Growth in Industry Through 2014**
452	General Merchandise Stores	909	2.02	800
561	Administrative & Support Services	868	6.23	3,330
423	Merchant Wholesalers, Durable Goods	723	2.08	800
541	Professional, Scientific, & Tech. Svcs.	705	4.61	2,360
621	Ambulatory Health Care Services	566	4.42	1,880

• Data for Private Firms Only

\*\* Data for all firms

# Aging Workforce

## Region 4 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	55+ EMP 2005 Qtr. 3*	Projected Annual Avg. Growth Rate Through 2014**	Projected Jobs Due to Growth in Industry Through 2014**
236	Construction of Buildings	403	2.43	450
332	Fabricated Metal Product Manufacturing	390	1.14	300
441	Motor Vehicle & Parts Dealers	319	2.17	470
623	Nursing & Residential Care Facilities	314	3.35	820
425	Wholesale Electronic Markets & Agents & Brokers	227	1.81	220
622	Hospitals	207	3.38	1,290
551	Management of Companies & Enterprises	204	2.63	240
484	Truck Transportation	167	2.23	320
531	Real Estate	143	3.80	440

• Data for Private Firms Only

\*\* Data for all firms

# Aging Workforce

## Region 4 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	55+ EMP 2005 Qtr. 3*	Projected Jobs Due to Growth in Industry Through 2014**	Potential Impact Job Openings Through 2014**
236	Construction of Buildings	403	450	853
332	Fabricated Metal Product Manufacturing	390	300	690
441	Motor Vehicle & Parts Dealers	319	470	789
623	Nursing & Residential Care Facilities	314	820	1,134
425	Wholesale Electronic Markets & Agents & Brokers	227	220	447
622	Hospitals	207	1,290	1,497
551	Management of Companies & Enterprises	204	240	444
484	Truck Transportation	167	320	487
531	Real Estate	143	440	473

• Data for Private Firms Only

\*\* Data for all firms

# Skills Needed to Fill Vacancies

## Region 4

### Projected Critical Skills Through 2012

Critical Skills	Projected Demand	Replacement Openings	Growth Openings
Reading Comprehension	2,453	981	1,472
Active Listening	2,389	1,003	1,386
Speaking	2,127	851	1,276
Writing	1,774	727	1,047
Critical Thinking	1,667	683	984
Instructing	1,542	586	956
Active Learning	1,588	651	937
Learning Strategies	1,460	555	905
Social Perceptiveness	1,490	611	879
Monitoring	1,376	564	812
Coordination	1,322	529	793

# Skills Needed to Fill Vacancies

## Region 4

### Occupations Matching 80% of Critical Skills Through 2012

Network Systems and Data Communications Analysts  
Registered Nurses  
General and Operations Managers  
Medical Assistants  
Nursing Aides, Orderlies, and Attendants  
Water & Liquid Waste Treatment Plant & System Operators  
Industrial Truck and Tractor Operators  
Sales Representatives, Wholesale and Manufacturing



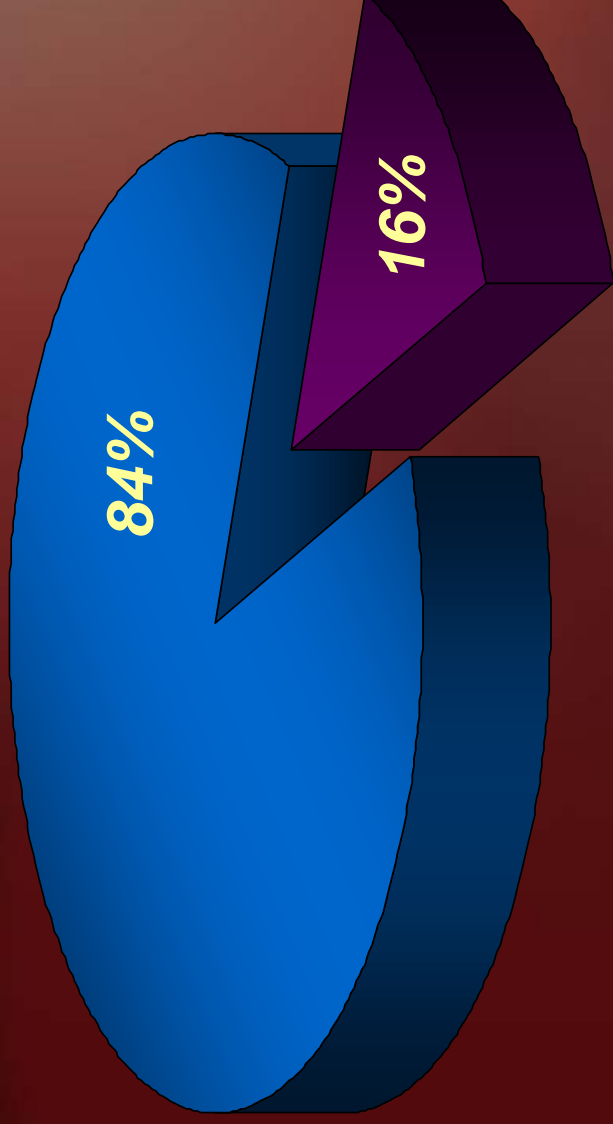
# LMI for Strategic Planning



**WIA Advisory Area 5**  
**Meeting September 29, 2006**  
**East Alabama Regional Planning**  
**& Development Commission**

# The Aging Workforce in Region 5

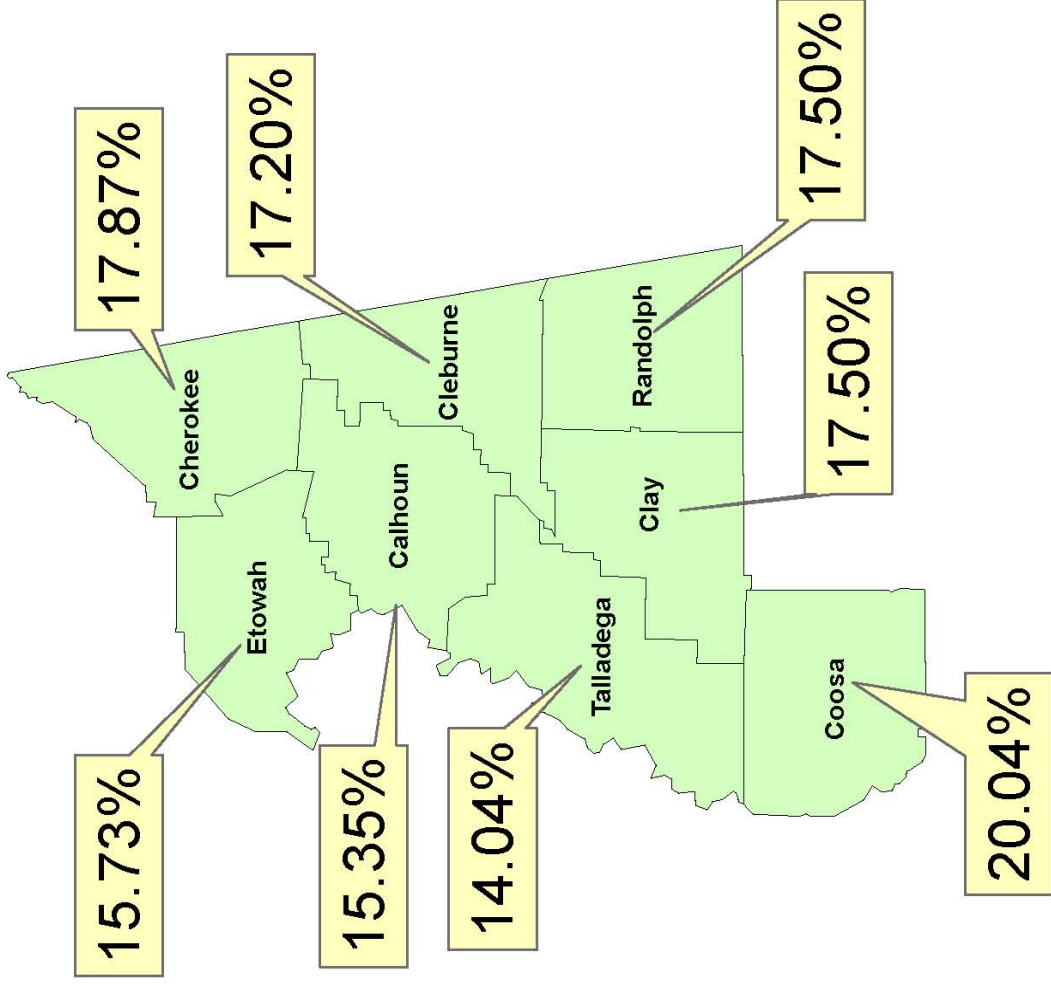
**According to 3<sup>rd</sup> Quarter 2005 data, 16% of the Workforce in Region 5 is over Age 55, accounting for 22,925 Employees.**



# Region 5 and Alabama Percent of Workforce Ages 55 and Over

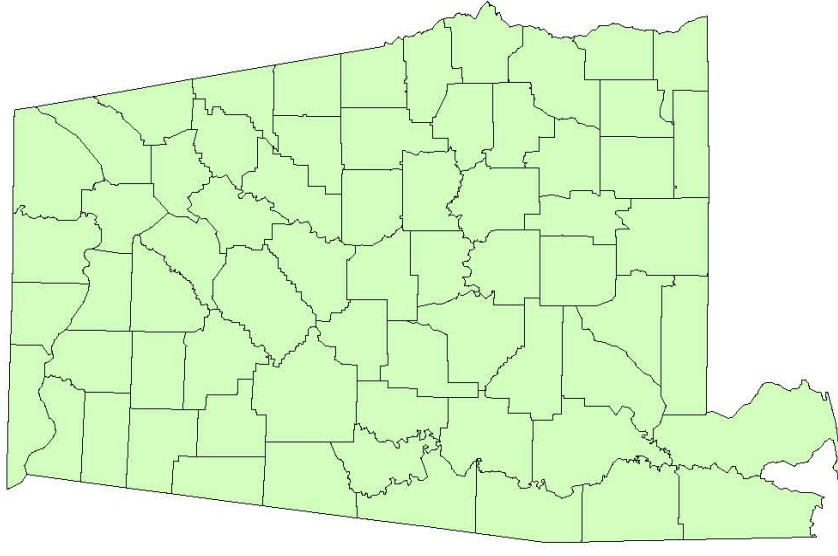
Time Period: 3rd Quarter 2005

## Region 5



## Alabama

15.60%



# Aging Workforce

## REGION 5

### Top 5 Industries Employing 55+ Workforce

Average Quarterly Employment (As of 3<sup>RD</sup> Quarter, 2005)

NAICS	Industry	All Age EMP	55+ EMP	% of Industry 55+
315	Apparel Manufacturing	4,660	851	18.26
452	General Merchandise Stores	5,443	877	16.11
623	Nursing and Residential Care Facilities	4,579	718	15.68
621	Ambulatory Health Care Services	6,288	853	13.57
561	Administrative and Support Services	7,970	828	10.39

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations,  
Local Employment Dynamics Program

# Aging Workforce

## REGION 5

### Top 5 Industries Employing 55+ Workforce Projected Growth in Industries Through 2014

NAICS	Industry	55+ EMP	Annual Avg Growth Rate Through 2014	Projected Jobs Due to Growth in Industry Through 2014
561	Administrative and Support Services	828	2.94	2,700
621	Ambulatory Health Care Services	853	3.02	1,980
623	Nursing and Residential Care Facilities	718	1.68	790
452	General Merchandise Stores	877	1.35	640
622	Hospitals	659	1.05	570
315	Apparel Manufacturing (this industry ranked #1 for employment of workers 55+)	851	-7.96	-2,120

# Aging Workforce

## Region 5 Other Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	Average Annual Growth Rate	Projected Jobs Due to Growth in Industry Through 2014	55+ EMP
541	Professional, Scientific, & Technical Services	2.15	810	594
722	Food Services & Drinking Places	1.17	1,420	592
332	Fabricated Metal Product Manufacturing	.70	250	582
484	Truck Transportation	1.88	430	461
441	Motor Vehicle & Parts Dealers	1.21	310	451
423	Merchant Wholesalers, Durable Goods	1.09	320	445
337	Furniture & Related Product Manufacturing	-0.05	-20	409
445	Repair & Maintenance	.72	220	356
812	Personal & Laundry Service	.96	90	83

# Aging Workforce

## Region 5 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	55+ EMP	Projected Jobs Due to Growth in Industry Through 2014	<u>POTENTIAL</u> <u>IMPACT</u> JOB OPENINGS THROUGH 2014
541	Professional, Scientific, & Technical Services	594	810	1,404
722	Food Services & Drinking Places	592	1,420	2,012
332	Fabricated Metal Product Manufacturing	582	250	832
484	Truck Transportation	461	430	891
441	Motor Vehicle & Parts Dealers	451	310	761
423	Merchant Wholesalers, Durable Goods	445	320	765
337	Furniture & Related Product Manufacturing	409	-20	389
445	Repair & Maintenance	356	220	576
812	Personal & Laundry Service	83	90	173

# Skills Needed to Fill Vacancies

## Region 5 Projected Critical Skills Through 2012

Critical Skills	Projected Demand	Replacement Openings	Growth Openings
Reading Comprehension	3,731	1,940	1,791
Active Listening	3,672	1,983	1,689
Speaking	3,098	1,580	1,518
Writing	2,695	1,401	1,294
Critical Thinking	2,631	1,342	1,289
Active Learning	2,379	1,237	1,142
Instructing	2,110	1,034	1,076
Social Perceptiveness	2,152	1,076	1,076
Coordination	2,135	1,068	1,068
Learning Strategies	2,092	1,025	1,067
Monitoring	2,130	1,086	1,044
Time Mgmt	1,936	987	949

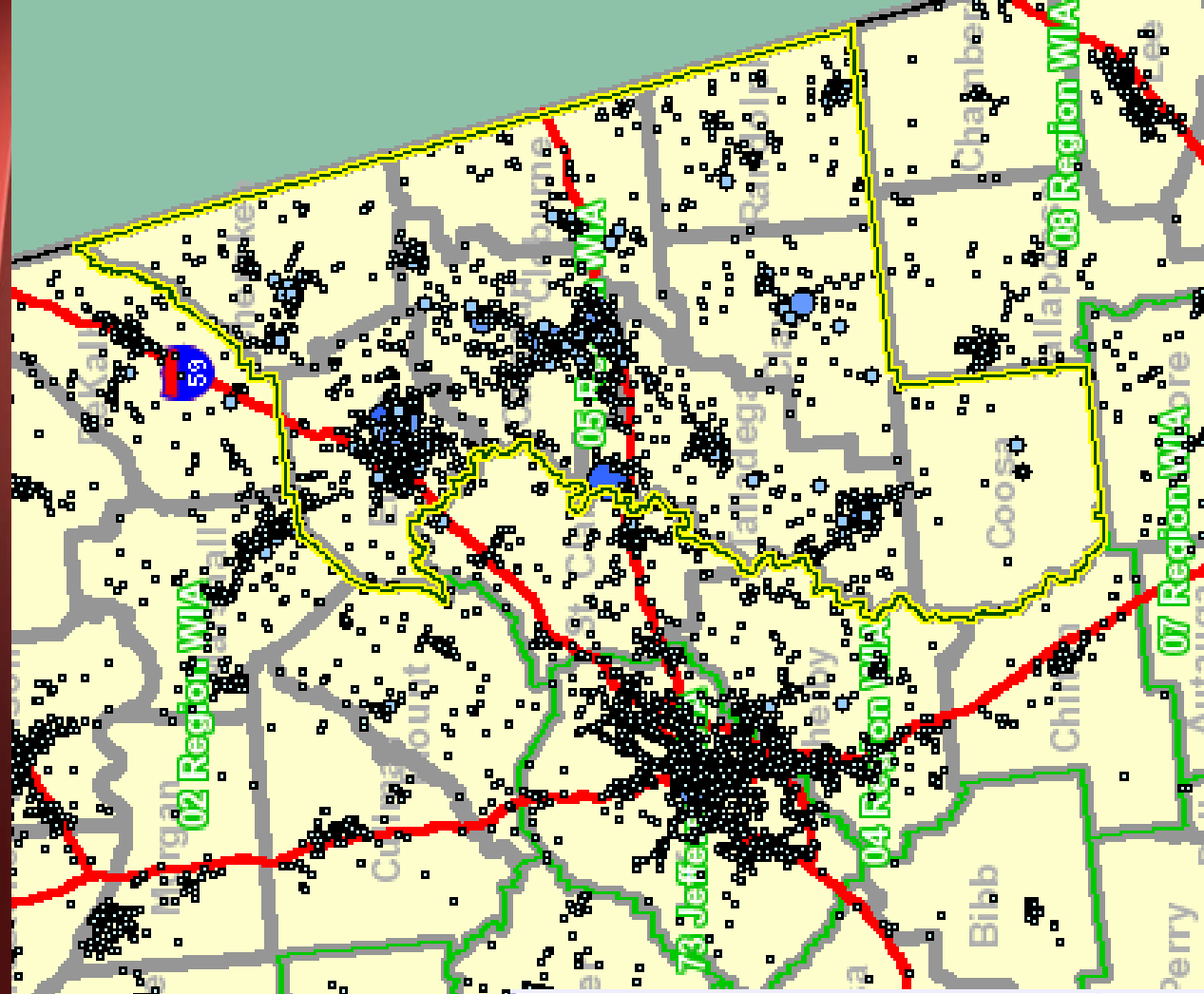


# Skills Needed to Fill Vacancies

## Occupations Matching 80% of Critical Skills Through 2012

General and Operations Managers  
Sales Managers  
Public Relations Managers  
Accountants and Auditors  
Computer Software Engineers, Applications  
Computer Software Engineers, Systems Software  
Industrial Engineers  
Child, Family, and School Social Workers  
Mental Health and Substance Abuse Social Workers  
Registered Nurses  
Dental Hygienists  
Emergency Medical Technicians and Paramedics  
Heating, Air Conditioning, and Refrigeration Mechanics and Installers  
First-Line Supervisors/Managers of Retail Sales Workers  
Personal and Home Care Aides  
Licensed Practical and Licensed Vocational Nurses

# Commute Shed Map - Where Region 5 Travels for Work

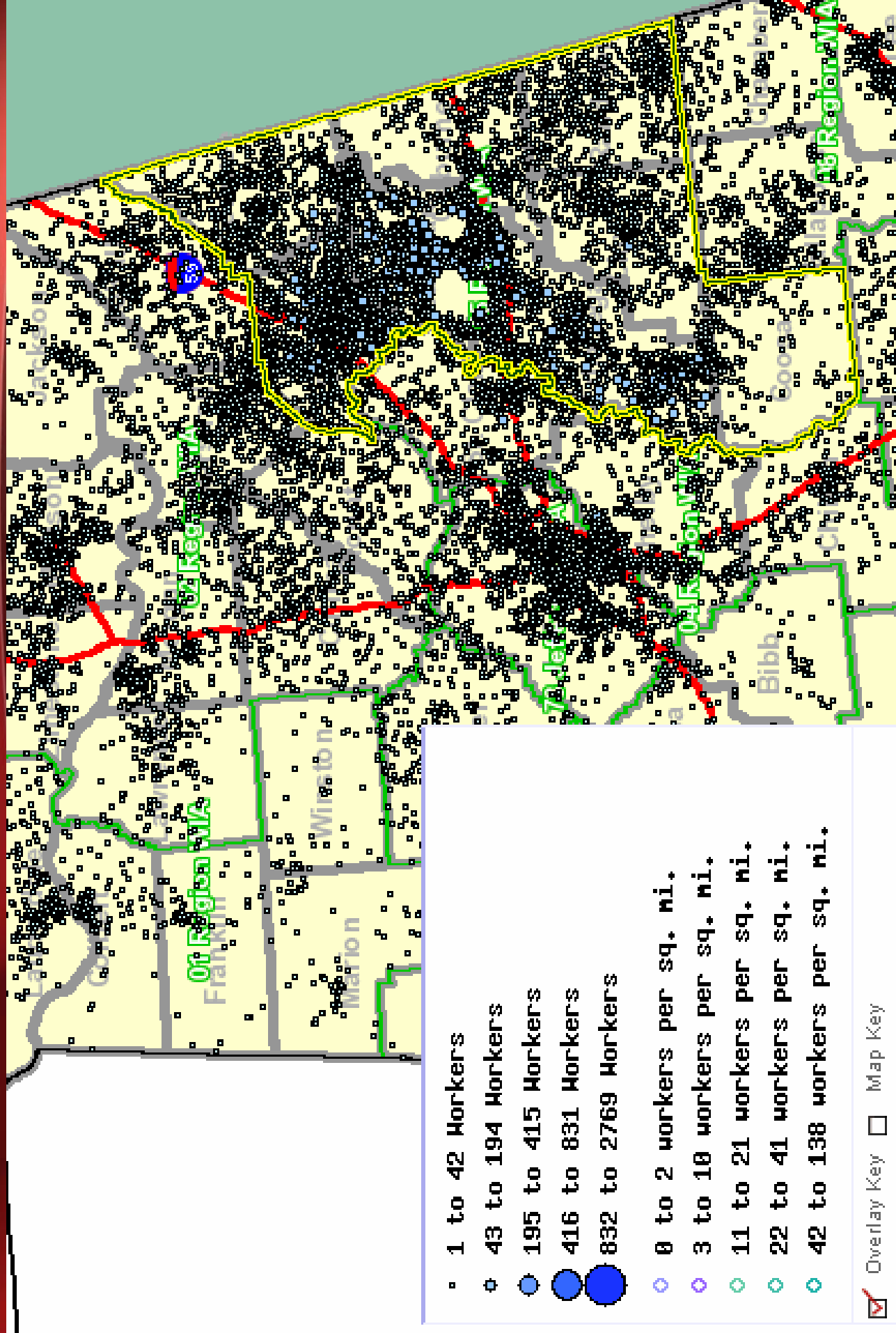


- 1 to 131 Workers
- 132 to 612 Workers
- 613 to 1748 Workers
- 1749 to 4369 Workers
- 4370 to 8738 Workers
- 0 to 3 workers per sq. mi.
- 4 to 14 workers per sq. mi.
- 15 to 39 workers per sq. mi.
- 40 to 97 workers per sq. mi.
- 98 to 194 workers per sq. mi.

Overlay Key  Map Key



# Labor Shed Map – Where Region 5 Workers Live



# LMI for Strategic Planning

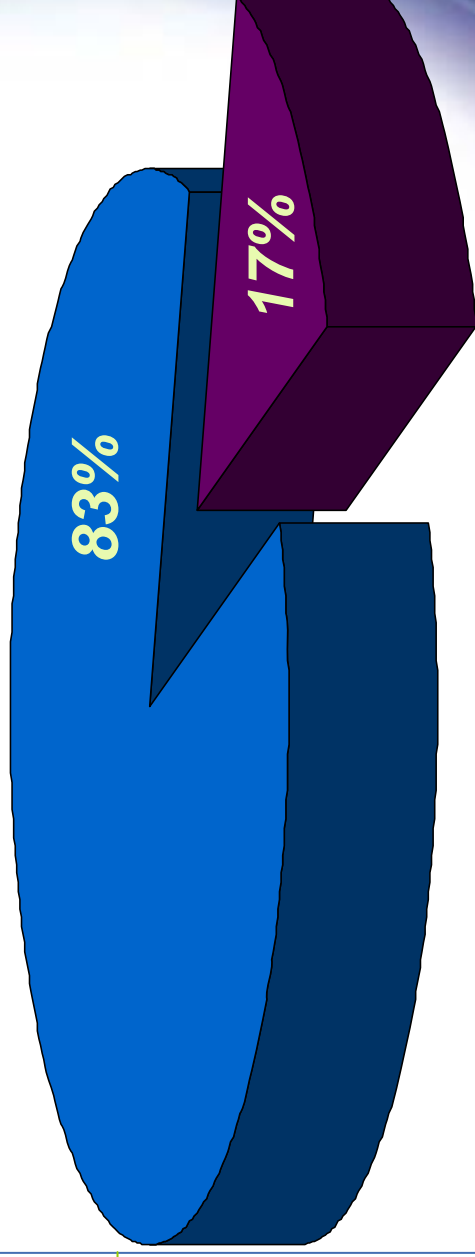
WIA Advisory Area 6

Meeting September 28, 2006

Selma/Dallas County Chamber of Commerce

## The Aging Workforce in Region 6

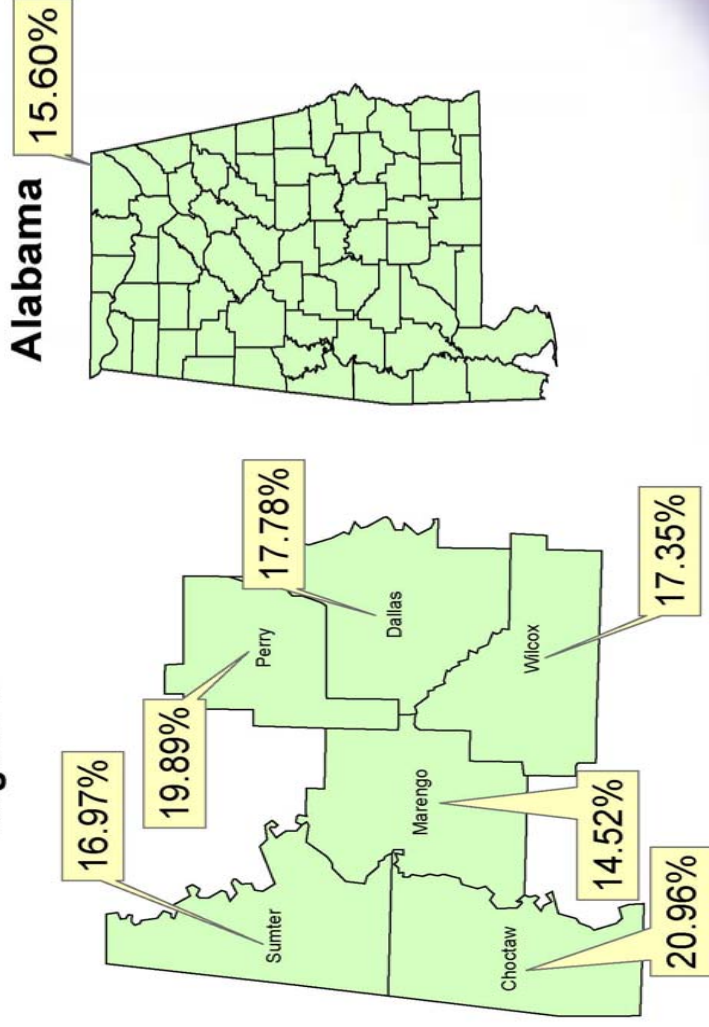
**According to 3<sup>rd</sup> Quarter 2005 data, 17% of the Workforce in Region 6 is over Age 55, accounting for 6,174 Employees.**



# Aging Workforce

**Perry, Dallas, Wilcox, and Sumter Counties have a higher percentage of workers ages 55 and over than the State according to 3<sup>rd</sup> Quarter 2005 data.**

Region 6



# Aging Workforce

## REGION 6 Top Industries Employing 55+ Workforce *2005 qtr. 3 Employment*

NAICS	Industry Title	All Emp	55+ Emp	% of Industry 55+
322	Paper Manufacturing	3072	658	21.42%
611	Educational Services	643	135	21.00%
623	Nursing and Residential Care Facilities	1061	120	11.31%
522	Credit Intermediation and Related Activities	954	106	11.11%
621	Ambulatory Health Care Services	1207	132	10.94%
321	Wood Product Manufacturing	1146	117	10.21%
452	General Merchandise Stores	890	83	9.33%
311	Food Manufacturing	1113	89	8.00%

# Aging Workforce

## REGION 6 Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	Industry Title	55+ Emp 2005 Qtr. 3	Annual Avg. Growth Rate Through 2014	Projected Jobs Due to Growth in Industry Through 2014
322	Paper Manufacturing	658	-12.88	-470
611	Educational Services	135	-2.76	-120
623	Nursing and Residential Care Facilities	120	4.1	50
522	Credit Intermediation and Related Activities	106	-9.68	-60
621	Ambulatory Health Care Services	132	12.31	160
321	Wood Product Manufacturing	117	-2.63	-40
452	General Merchandise Stores	83	-3	-30
311	Food Manufacturing	89	2.68	30



# Aging Workforce

## Region 6 Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	Industry Title	55+ Emp 2005 Qtr. 3	Projected Jobs Due to Growth in Industry Through 2014	Potential Impact Job Openings Through 2014
322	Paper Manufacturing	658	-470	188
611	Educational Services	135	-120	15
623	Nursing and Residential Care Facilities	120	50	170
522	Credit Intermediation and Related Activities	106	-60	46
621	Ambulatory Health Care Services	132	160	292
321	Wood Product Manufacturing	117	-40	77
452	General Merchandise Stores	83	-30	53
311	Food Manufacturing	89	30	119

# Skills Needed to Fill Vacancies

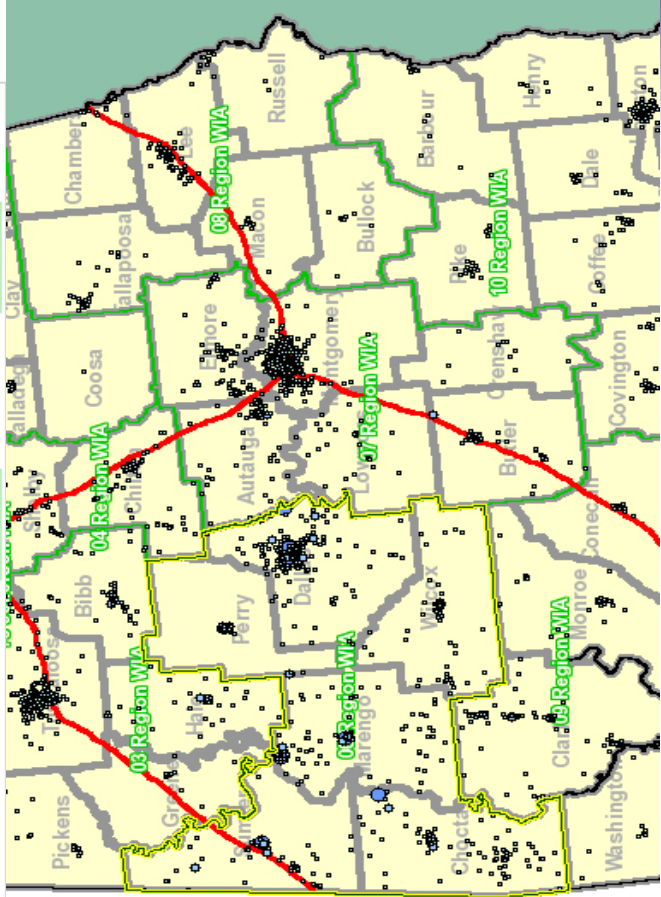
## Region 6 Projected Skills Through 2012

Skills	Projected Demand	Replacement Openings	Growth Openings
Coordination	89	83	6
Reading Comprehension	88	84	4
Instructing	84	79	5
Speaking	81	76	5
Active Listening	79	76	3
Critical Thinking	76	72	4
Social Perceptiveness	68	65	3
Monitoring	67	64	3
Active Learning	66	64	2
Writing	66	63	3
Time Mgmt	64	61	3
Judgment and Decision Making	51	49	2
Learning Strategies	46	43	3
Mathematics	44	44	0
Persuasion	43	43	0
Mgmt of Personnel Resources	40	37	3
Operation Monitoring	33	27	6
Service Orientation	31	30	1
Complex Problem Identification	28	27	1
Mgmt of Material Resources	22	21	1

# Commuting Patterns

## Commute Shed - Where Residents in Region 6 are Employed

Counties Where Residents are Employed	2003		2002	
	Count	Share	Count	Share
* Dallas Co., AL	8,034	30.8%	8,730	32.3%
* Marengo Co., AL	3,362	12.9%	3,359	12.4%
* Choctaw Co., AL	2,175	8.3%	2,282	8.4%
* Jefferson Co., AL	1,463	5.6%	1,449	5.4%
* Montgomery Co., AL	1,192	4.6%	1,314	4.9%
* All Other Locations	9,830	37.7%	9,930	36.7%



- 1 to 88 Workers
- ◊ 89 to 410 Workers
- 411 to 1171 Workers
- 1172 to 2928 Workers
- 2929 to 5855 Workers
- ◇ 0 workers per sq. mi.
- ◇ 1 worker per sq. mi.
- ◇ 2 workers per sq. mi.
- ◇ 3 to 6 workers per sq. mi.
- ◇ 7 to 12 workers per sq. mi.

Overlay Key    Map Key

0   14   28   42   56 mi

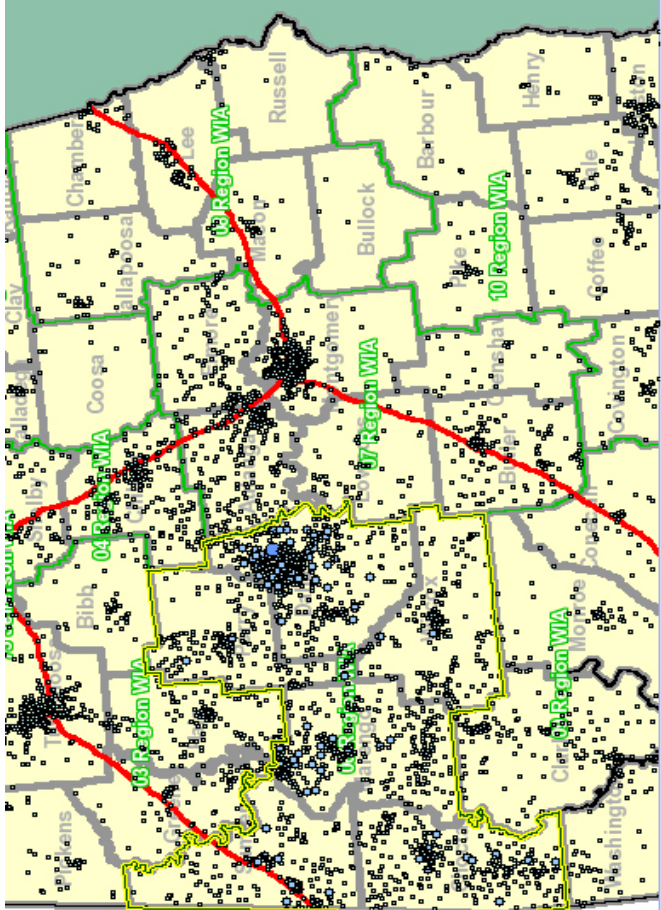
# Commuting Patterns

## Labor Shed - Where Workers Live that are Employed in Region 6

### Counties Where Workers Live

- \* Dallas Co., AL
- \* Marengo Co., AL
- \* Choctaw Co., AL
- \* Perry Co., AL
- \* Sumter Co., AL
- \* All Other Locations

2003		2002	
Count	Share	Count	Share
8,347	31.6%	9,009	32.9%
3,831	14.5%	3,917	14.3%
1,955	7.4%	2,029	7.4%
1,252	4.7%	1,227	4.5%
1,226	4.6%	1,212	4.4%
9,784	37.1%	10,019	36.6%



- 1 to 30 Workers
- 31 to 141 Workers
- 142 to 303 Workers
- 304 to 685 Workers
- 686 to 2017 Workers
- ◊ 0 to 1 workers per sq. mi.
- ◊ 2 to 4 workers per sq. mi.
- ◊ 5 to 9 workers per sq. mi.
- ◊ 10 to 19 workers per sq. mi.
- ◊ 20 to 62 workers per sq. mi.

Overlay Key  Map Key

0 14 28 42 56 mi

# LMI for Strategic Planning

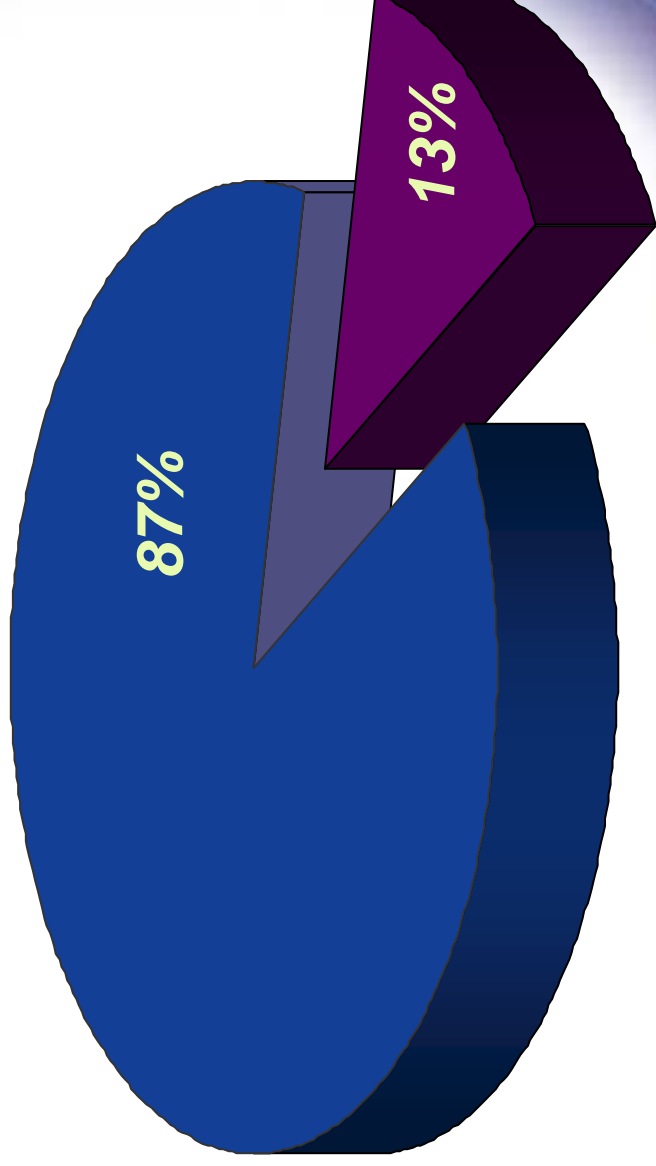
WIA Advisory Area 7

Meeting September 20, 2006

Montgomery Chamber of Commerce

## The Aging Workforce in Region 7

**According to 3<sup>rd</sup> Quarter 2005 data, 13% of the Workforce in Region 7 is over Age 55, accounting for 26,427 Employees.**



# Aging Workforce

**REGION 7**  
Top 5 Industries  
Employing 55+ Workforce  
*2005 qtr. 3 Employment*

NAICS	INDUSTRY TITLE	All Age EMP	55+ EMP	% of Industry 55+
611	Educational Services	2,533	648	25.58%
531	Real Estate	1,558	365	23.43%
236	Construction of Buildings	2,064	440	21.32%
113	Forestry and Logging	436	91	20.87%
237	Heavy and Civil Engineering Constr.	1,739	340	19.55%

# Aging Workforce

## REGION 7 Top 5 Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	Industry Title	55+ EMP 2005 Qtr. 3	Annual Avg. Growth Rate Through 2014	Projected Jobs Due to Growth in Industry Through 2014
611	Educational Services	648	1.84	2,600
531	Real Estate	365	1.47	250
236	Construction of Buildings	440	1.29	300
113	Forestry and Logging	91	0.00	0
237	Heavy and Civil Engineering Construction	340	1.03	170



# Aging Workforce

## Region 7 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 7 55+ EMP 2005 Qtr. 3	PROJECTED ANNUAL AVG. GROWTH RATE THROUGH 2014	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014
624	Social Assistance	409	4.20	1,420
813	Religious, Grantmaking, Civic, Professional, & Similar Org.	276	2.21	1,190
541	Professional, Scientific, and Technical Services	1,127	2.72	2,190
623	Nursing and Residential Care Facilities	507	2.54	1,090
621	Ambulatory Health Care Services	921	3.81	2,970
561	Administrative and Support Services	1,126	3.17	3,470
493	Warehousing and Storage	151	2.75	390
713	Amusement, Gambling, and Recreation Industries	105	3.02	430
336	Transportation Equipment Manufacturing	290	11.77	4,350

# Aging Workforce

## Region 7 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 7 55+ EMP 2005 Qtr. 3	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014	POTENTIAL IMPACT JOB OPENINGS THROUGH 2014
624	Social Assistance	409	1,420	1,829
813	Religious, Grantmaking, Civic, Professional, & Similar Org.	276	1,190	1,466
541	Professional, Scientific, and Technical Services	1,127	2,190	3,317
623	Nursing and Residential Care Facilities	507	1,090	1,597
621	Ambulatory Health Care Services	921	2,970	3,891
561	Administrative and Support Services	1,126	3,470	4,596
493	Warehousing and Storage	151	390	541
713	Amusement, Gambling, and Recreation Industries	105	430	535
336	Transportation Equipment Manufacturing	290	4,350	4,640

# Skills Needed to Fill Vacancies

## Region 7

### Projected Critical Skills Through 2012

Critical Skills	Projected Demand	Replacement Openings	Growth Openings
Reading Comprehension	3,731	1,940	1,791
Active Listening	3,672	1,983	1,689
Speaking	3,098	1,580	1,518
Writing	2,695	1,401	1,294
Critical Thinking	2,631	1,342	1,289
Active Learning	2,379	1,237	1,142
Instructing	2,110	1,034	1,076
Social Perceptiveness	2,152	1,076	1,076
Coordination	2,135	1,068	1,068
Learning Strategies	2,092	1,025	1,067
Monitoring	2,130	1,086	1,044
Time Mgmt	1,936	987	949

# Skills Needed to Fill Vacancies

Occupations Matching 80% of Critical Skills  
Through 2012

General and Operations Managers  
Sales Managers  
Public Relations Managers  
Accountants and Auditors  
Computer Software Engineers, Applications  
Computer Software Engineers, Systems Software  
Industrial Engineers  
Child, Family, and School Social Workers  
Mental Health and Substance Abuse Social Workers  
Registered Nurses  
Dental Hygienists  
Emergency Medical Technicians and Paramedics  
Heating, Air Conditioning, and Refrigeration Mechanics and Installers  
First-Line Supervisors/Managers of Retail Sales Workers  
Personal and Home Care Aides  
Licensed Practical and Licensed Vocational Nurses

# LMI for Strategic Planning

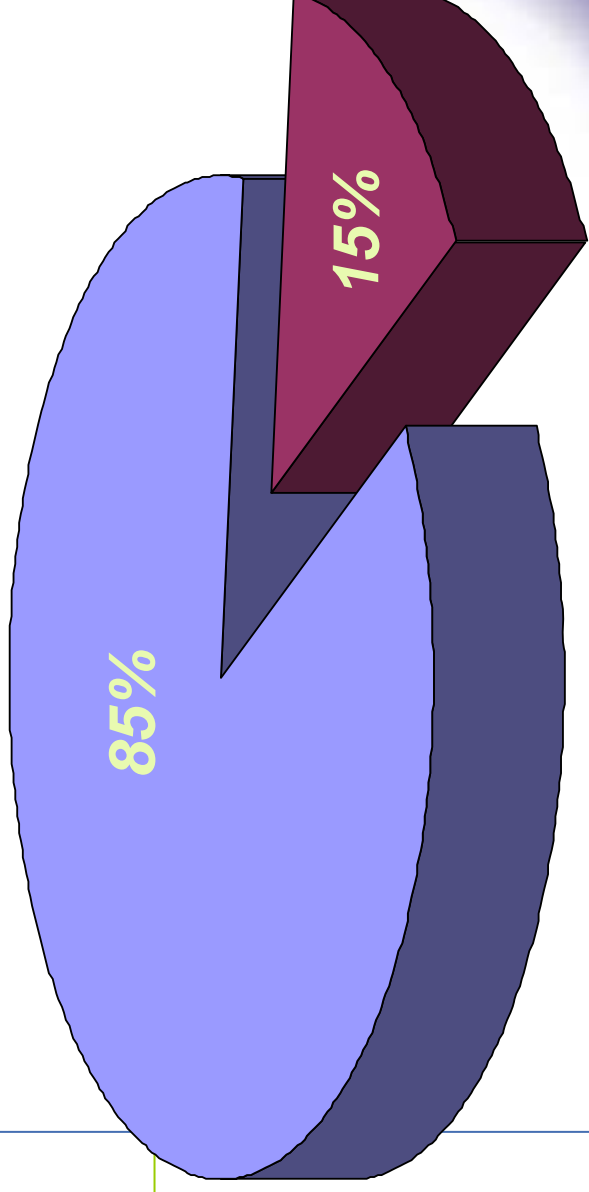
WIA Advisory Area 8

Meeting September 20, 2006

Auburn Training Connection

## The Aging Workforce in Region 8

**According to 3<sup>rd</sup> Quarter 2005 data, 15% of the Workforce in Alabama is over Age 55, accounting for 280,430 Employees.**



# Aging Workforce

## Alabama

Top 5 Industries  
Employing 55+ Workforce  
2005 qtr. 3 Employment

NAICS	INDUSTRY TITLE	All Age EMP	55+ EMP	% of Industry 55+
485	Transit & Ground Passenger Transp.	1,837	625	34.02%
531	Real Estate	14,470	2,429	24.20%
611	Educational Services	15,146	2,707	22.73%
212	Mining except Oil & Gas	6,535	1,312	22.28%
813	Religious, Grantmaking, Civic, Org.	10,028	1,621	21.35%

# Aging Workforce

## Alabama Top 5 Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	55+ EMP 2005 Qtr. 3	Annual Avg. Growth Rate Through 2014	Projected Jobs Due to Growth in Industry Through 2014
485	Transit & Ground Passenger Transp.	625	2.45	490
531	Real Estate	2,429	1.53	2,330
611	Educational Services	2,707	1.61	27,760
212	Mining except Oil & Gas	1,312	0.00	0
813	Religious, Grantmaking, Civic Org.	1,621	2.05	10,260



# Aging Workforce

## Region 8 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	55+ EMP 2005 Qtr. 3	Projected Annual Avg. Growth Rate Through 2014	Projected Jobs Due to Growth in Industry Through 2014
333	Machinery Manufacturing	133	2.01	300
452	General Merchandise Stores	381	1.50	420
541	Professional, Scientific, and Technical Services	145	2.38	380
561	Administrative Support Services	389	3.36	1,490
621	Ambulatory Health Care Services	209	3.01	660
623	Nursing and Residential Care Facilities	147	1.78	290
624	Social Assistance	122	3.13	440
722	Food Services and Drinking Places	310	1.61	1,210

# Aging Workforce

## Region 8 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	55+ EMP 2005 Qtr. 3	Projected Jobs Due to Growth in Industry Through 2014	Potential Impact Job Openings Through 2014
333	Machinery Manufacturing	133	1,420	1,553
452	General Merchandise Stores	381	1,190	1,571
541	Professional, Scientific, & Technical Services	145	2,190	2,335
561	Administrative and Support Services	389	1,090	1,479
621	Ambulatory Health Care Services	209	2,970	3,179
623	Nursing and Residential Care Facilities	147	3,470	3,617
624	Social Assistance	122	390	512
722	Food Services and Drinking Places	310	430	740

# Skills Needed to Fill Vacancies

## Region 8

### Projected Critical Skills Through 2012

Critical Skills	Projected Demand	Replacement Openings	Growth Openings
Reading Comprehension	1,331	839	492
Active Listening	1,300	832	468
Speaking	1,151	702	449
Writing	977	606	371
Critical Thinking	937	581	356
Active Learning	871	540	331
Instructing	845	507	338
Social Perceptiveness	836	510	326
Learning Strategies	822	501	321
Monitoring	794	484	310
Coordination	744	454	290
Time Mgmt	677	427	250

# Skills Needed to Fill Vacancies

## Region 8

### **Occupations Matching 80% of Critical Skills Through 2012**

Accountants and Auditors  
Educational, Vocational, and School Counselors  
Fire Fighters  
Gaming Supervisors  
General and Operations Managers  
Health Specialties Teachers, Postsecondary  
Heating, Air Conditioning, & Refrigeration Mechanics & Installers  
Librarians  
Licensed Practical and Licensed Vocational Nurses  
Purchasing Agents, Except Wholesale, Retail, & Farm Products  
Registered Nurses

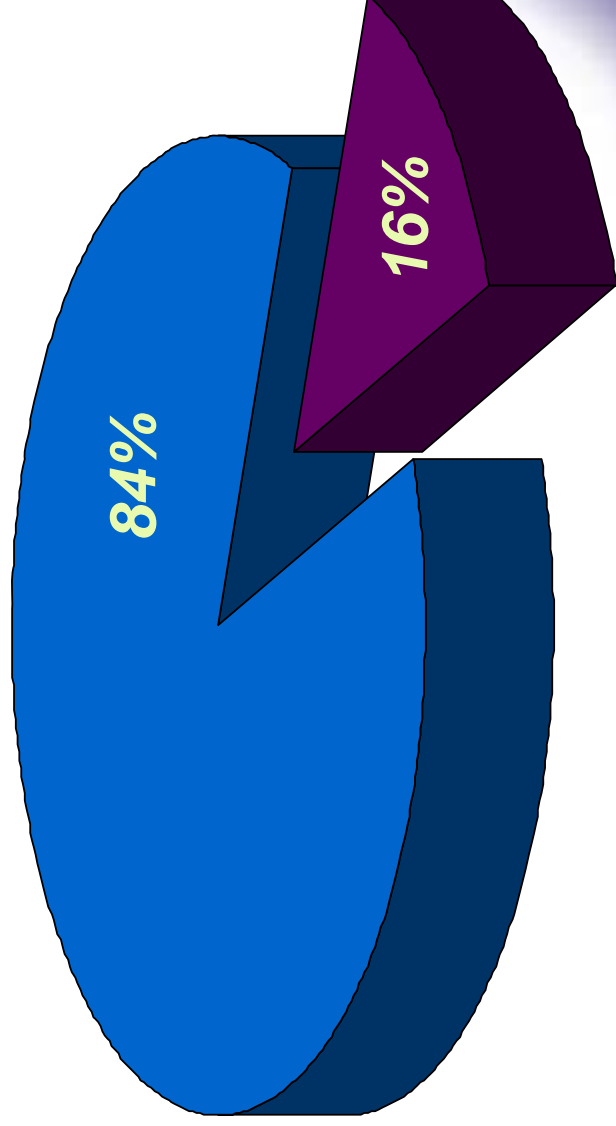
# LMI for Strategic Planning



WIA Advisory Area 9  
Meeting October 3, 2006  
Faulkner Community College in Bay Minette

## The Aging Workforce in Region 9

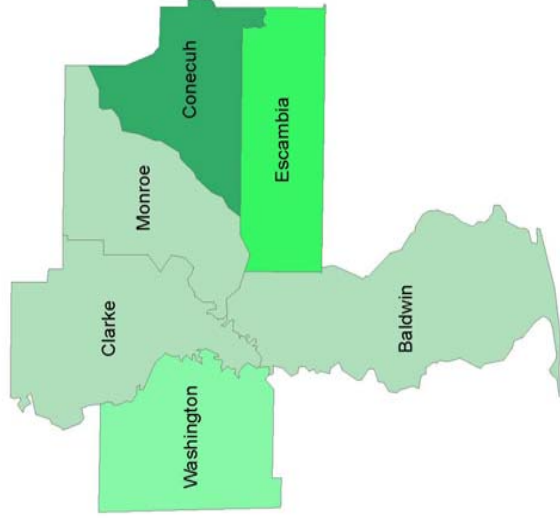
**According to 3<sup>rd</sup> Quarter 2005 data, 16% of the Workforce in Region 9 is over Age 55, accounting for 14,912 Employees.**



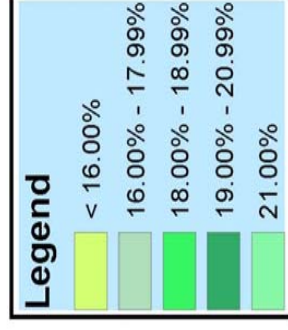
# Aging Workforce

## Region 9 and Alabama Percent of Workforce Ages 55 and Over Time Period: 4<sup>th</sup> Quarter 2005

Region 9



Alabama



Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators

See websites: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi) or <http://lehd.dsd.census.gov>

# Aging Workforce

## REGION 9 Top 5 Industries Employing 55+ Workforce *2005 qtr. 3 Employment*

NAICS	INDUSTRY TITLE	REGION 9 EMP	REGION 9 55+ EMP	PERCENT 55+ OF INDUSTRY
325	Chemical Mfg.	1,272	332	26.10%
531	Real Estate	1,678	427	25.45%
713	Amusement, Gambling, & Recreation Industries	1,042	215	20.63%
484	Truck Transportation	2,605	508	19.50%
322	Paper Mfg.	2,244	417	18.58%



# Aging Workforce

## REGION 9 Top 5 Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 9 55+ EMP 2005 Qtr. 3	PROJECTED ANNUAL AVG. GROWTH RATE THROUGH 2014	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014
325	Chemical Mfg.	332	-11.43	-40
531	Real Estate	427	8.33	20
713	Amusement, Gambling, & Recreation Industries	215	18.18	80
484	Truck Transportation	508	14.29	130
322	Paper Mfg.	417	5.71	40

# Aging Workforce

## Region 9 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 9 55+ EMP 2005 Qtr. 3	PROJECTED ANNUAL AVG. GROWTH RATE THROUGH 2014	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014
452	General Merchandise Stores	465	5.17	150
522	Credit Intermediation & Related Activities	272	1.69	30
315	Apparel Mfg.	252	-75.00	-480
524	Insurance Carriers & Related Activities	100	4.62	30
221	Utilities	102	0.00	0
561	Administrative & Support Services	409	45.86	1,440
314	Textile Product Mills	100	-11.43	-40
442	Furniture & Home Furnishings Stores	110	13.64	30
339	Miscellaneous Mfg.	93	6.25	10

# Aging Workforce

## Region 9 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	REGION 9 55+ EMP 2005 Qtr. 3	PROJECTED JOBS DUE TO GROWTH IN INDUSTRY THROUGH 2014	POTENTIAL IMPACT JOB OPENINGS THROUGH 2014
452	General Merchandise Stores	465	150	615
522	Credit Intermediation & Related Activities	272	30	302
315	Apparel Mfg.	252	-480	-228
524	Insurance Carriers & Related Activities	100	30	130
221	Utilities	102	0	102
561	Administrative & Support Services	409	1,440	1,849
314	Textile Product Mills	100	-40	60
442	Furniture & Home Furnishings Stores	110	30	140
339	Miscellaneous Mfg.	93	10	103

# Skills Needed to Fill Vacancies

## Region 9

### Projected Critical Skills Through 2012

Critical Skills	Projected Demand	Growth Openings	Replacement Openings
Reading Comprehension	1,802	937	865
Active Listening	1,701	868	833
Speaking	1,523	822	701
Writing	1,264	670	594
Critical Thinking	1,239	657	582
Social Perceptiveness	1,177	647	530
Instructing	1,114	624	490
Active Learning	1,105	575	530
Monitoring	1,050	567	483
Learning Strategies	1,023	563	460
Coordination	1,015	548	467
Time Mgmt	942	509	433

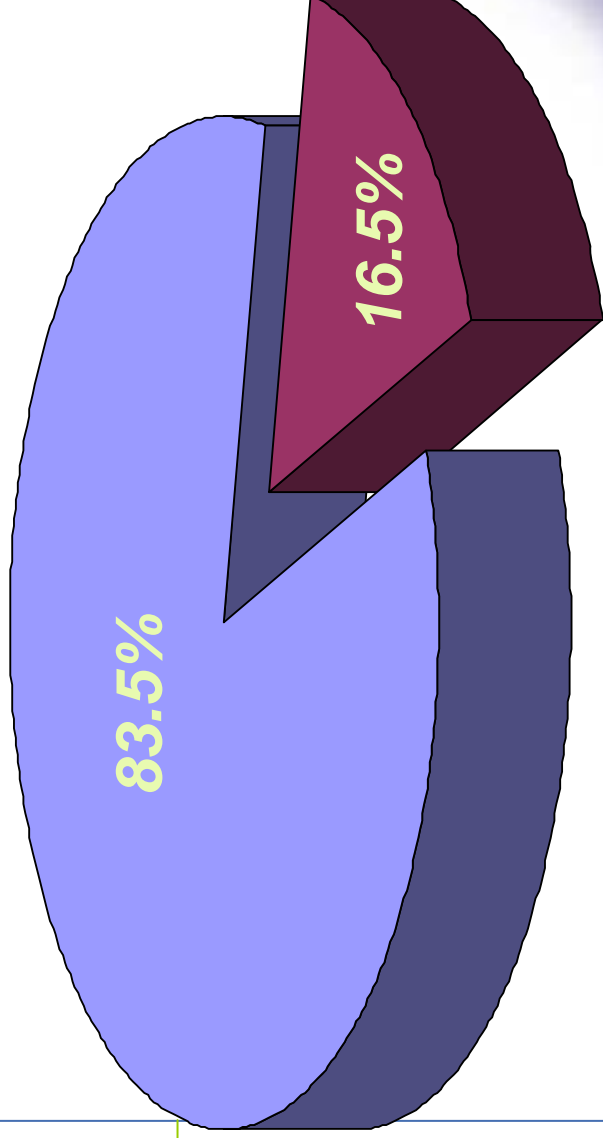
# LMI for Strategic Planning



WIA Advisory Area 10  
Meeting October 20, 2006  
Troy University in Dothan

# The Aging Workforce in Region 10

**According to 3<sup>rd</sup> Quarter 2005 data, 16.5% of the Workforce in Region 10 is over Age 55, accounting for 20,742 Employees.**



# Aging Workforce

## Region 10

### Top 5 Industries

#### Employing 55+ Workforce

2005 qtr. 3 Employment

NAICS	INDUSTRY TITLE	All Age EMP	55+ EMP	% of Industry 55+
336	Transportation Equipment Manuf.	5,440	1,222	22.46%
484	Truck Transportation	4,401	882	20.04%
311	Food Manufacturing	5,947	684	11.50%
452	General Merchandise Stores	4,086	640	15.66%
561	Administrative & Support Services	4,237	628	14.82%

Data for Private Firms Only

# Aging Workforce

## Region 10 Top 5 Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	55+ EMP 2005 Qtr. 3*	Annual Avg. Growth Rate Through 2014**	Projected Jobs Due to Growth in Industry Through 2014**
336	Transportation Equipment Manuf.	1,222	1.55	800
484	Truck Transportation	882	1.54	690
311	Food Manufacturing	684	0.57	330
452	General Merchandise Stores	640	0.96	420
561	Administrative & Support Services	628	2.81	1,360

• Data for Private Firms Only

\*\* Data for all firms



# Aging Workforce

## Region 10 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	55+ EMP 2005 Qtr. 3*	Projected Annual Avg. Growth Rate Through 2014**	Projected Jobs Due to Growth in Industry Through 2014**
621	Ambulatory Health Care Services	619	2.83	1,560
623	Nursing & Residential Care Facilities	521	1.23	440
541	Professional, Scientific, and Technical Services	476	2.01	640
722	Food Services & Drinking Places	457	1.53	1,500
423	Merchant Wholesalers, Durable Goods	429	1.13	240
611	Educational Services	329	1.25	1,340
622	Hospitals	321	1.03	700
444	Building Material & Garden Equip. & Supplies Dealer	303	1.29	230
332	Fabricated Metal Product Manufacturing	302	1.98	400

• Data for Private Firms Only

\*\* Data for all firms

# Aging Workforce

## Region 10 Other Top Industries Employing 55+ Workforce *Projected Growth in Industries Through 2014*

NAICS	INDUSTRY TITLE	55+ EMP 2005 Qtr. 3*	Projected Jobs Due to Growth in Industry Through 2014**	Potential Impact Job Openings Through 2014**
621	Ambulatory Health Care Services	619	1,560	2,179
623	Nursing & Residential Care Facilities	521	440	961
541	Professional, Scientific, & Technical Services	476	640	1,116
722	Food Services & Drinking Places	457	1,500	1,957
423	Merchant Wholesalers, Durable Goods	429	240	669
611	Educational Services	329	1,340	1,669
622	Hospitals	321	700	1,021
444	Building Material & Garden Equipment & Supplies Dealers	303	230	533
332	Fabricated Metal Product Manufacturing	302	400	702

• Data for Private Firms Only

\*\* Data for all firms

# Skills Needed to Fill Vacancies

## Region 10

### Projected Critical Skills Through 2012

Critical Skills	Projected Demand	Replacement Openings	Growth Openings
Reading Comprehension	1,544	973	571
Active Listening	1,479	961	518
Speaking	1,372	864	508
Critical Thinking	1,131	724	407
Writing	1,111	689	422
Social Perceptiveness	1,042	646	396
Active Learning	1,024	655	369
Instructing	984	610	374
Monitoring	965	608	357
Coordination	927	584	343
Learning Strategies	893	563	330
Time Mgmt	849	543	306

# Skills Needed to Fill Vacancies

## Region 10

### Occupations Matching 80% of Critical Skills Through 2012

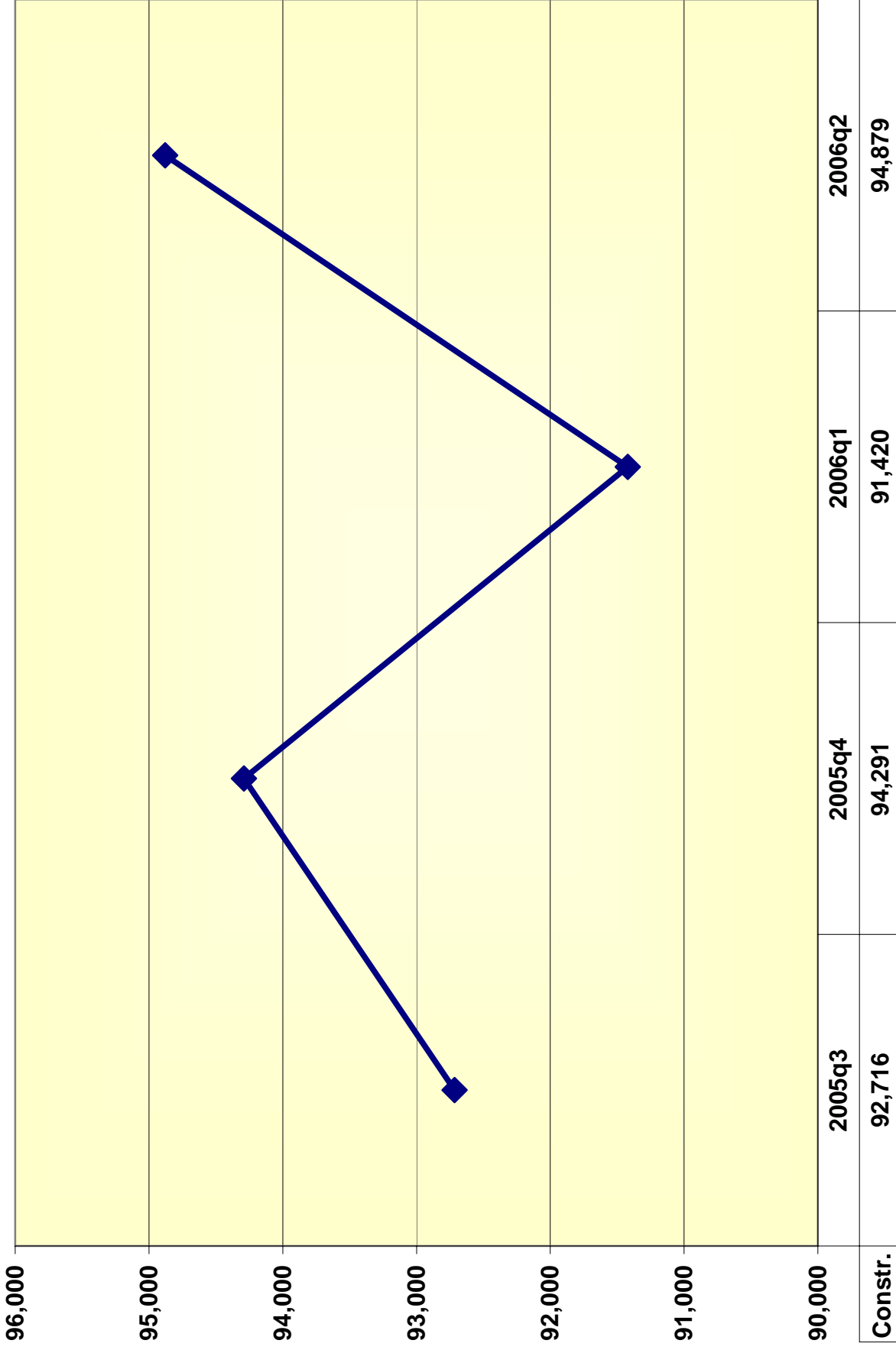
Accountants and Auditors  
Computer Systems Analysts  
Education Administrators, Elementary & Secondary Schools  
Fire Fighters  
General & Operations Managers  
Heating, Air Conditioning, & Refrigeration Mechanics & Installers  
Loan Officers  
Medical & Health Services Managers  
Purchasing Agents  
Real Estate Sales Agents

**President's High Growth Job Initiative Industries  
Construction  
Quarterly Workforce Indicators  
2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
23	Construction	2005 qtr 3	92,716	1,213	8,500	27,602	30,825	13.70%	\$3,106	\$2,288
		2005 qtr 4	94,291	645	8,049	26,825	31,919	13.60%	\$3,312	\$2,374
		2006 qtr 1	91,420	2,600	8,538	24,274	25,681	13.00%	\$3,054	\$2,238
		2006 qtr 2	94,879	1,257	9,044	27,727	30,788	13.70%	\$3,192	\$2,500

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
See website: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi)

**Construction  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**

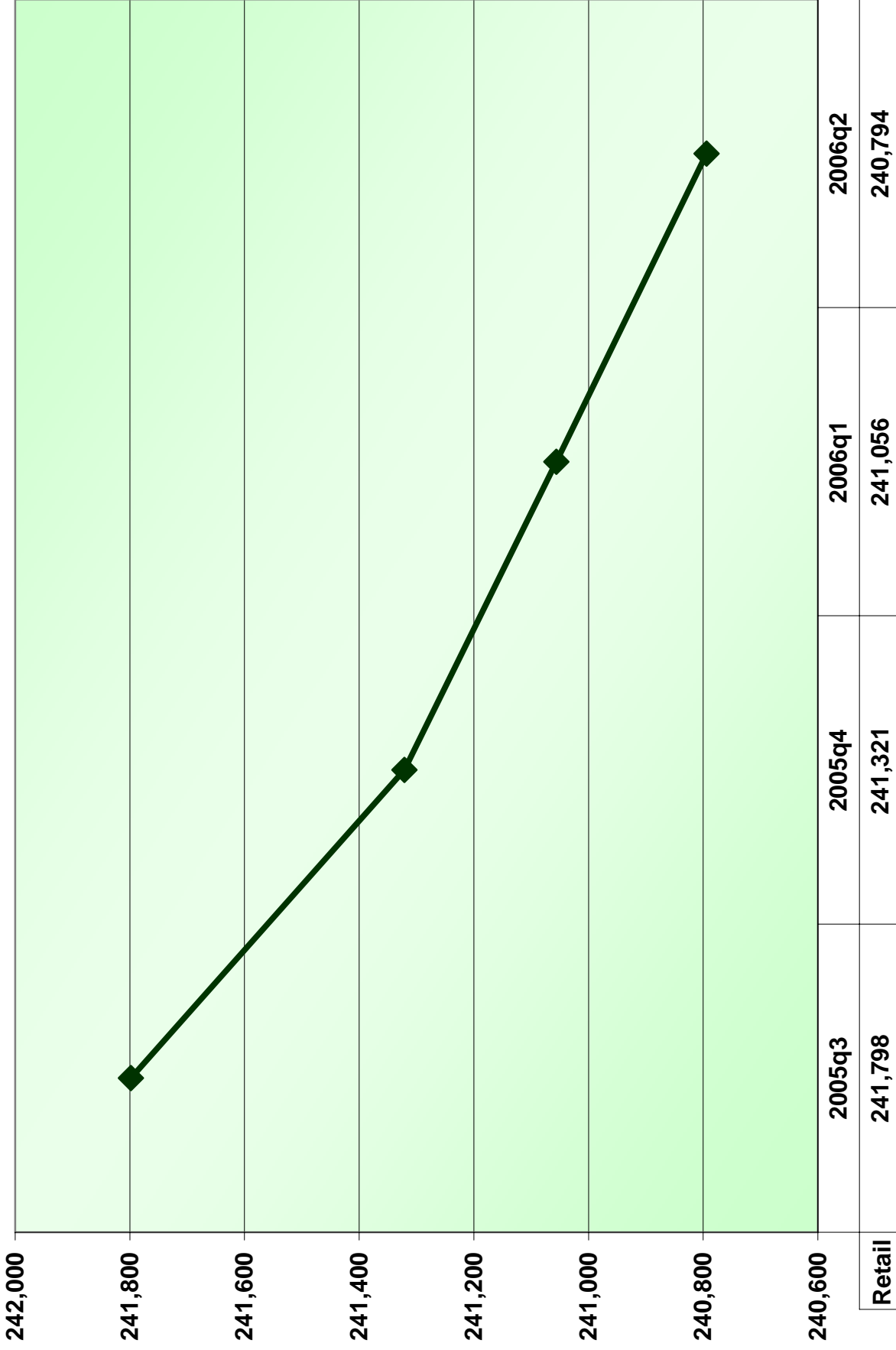


**President's High Growth Job Initiative Industries**  
**Retail Trade**  
**Quarterly Workforce Indicators**  
**2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
44-45	Retail Trade	2005 qtr 3	241,798	516	13,568	61,351	65,435	14.40%	\$2,064	\$1,367
		2005 qtr 4	241,321	9,122	19,778	66,595	63,795	13.80%	\$2,119	\$1,354
		2006 qtr 1	241,056	-3,475	12,325	47,039	55,135	13.80%	\$2,053	\$1,227
		2006 qtr 2	240,794	-1,353	12,020	58,192	64,120	14.10%	\$2,141	\$1,488

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations. Local Employment Dynamics Program, Quarterly Workforce Indicators.  
 See website: [www.dlr.alabama.gov/lmi](http://www.dlr.alabama.gov/lmi)

**Retail Trade  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**





**President's High Growth Job Initiative Industries**  
**Automotive**  
**Quarterly Workforce Indicators**  
**2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
3361	Motor Vehicle Manufacturing	2005 qtr 3	10,068	58	114	272	240	5.70%	\$5,442	\$3,996
		2005 qtr 4	10,805	129	154	322	289	6.00%	\$7,181	\$4,248
		2006 qtr 1	14,030	-98	113	306	415	5.40%	\$5,334	\$3,728
		2006 qtr 2	13,918	-75	102	299	392	3.30%	\$6,027	\$5,041
3362	Motor Vehicle Body and Trailer Manufacturing	2005 qtr 3	5,351	491	628	1,306	910	12.90%	\$2,868	\$2,204
		2005 qtr 4	5,778	132	235	792	724	13.20%	\$2,883	\$2,285
		2006 qtr 1	5,848	162	245	833	709	9.40%	\$2,844	\$2,166
		2006 qtr 2	6,118	10	216	813	843	9.90%	\$2,892	\$2,242
3363	Motor Vehicle Parts Manufacturing	2005 qtr 3	19,070	1,114	1,441	2,675	1,622	11.90%	\$4,156	\$2,956
		2005 qtr 4	19,798	699	934	1,902	1,479	8.70%	\$4,440	\$3,116
		2006 qtr 1	16,835	-368	585	1,496	1,952	10.50%	\$3,945	\$2,519
		2006 qtr 2	16,539	125	574	1,746	1,746	8.80%	\$4,071	\$2,820

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
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**Automotive  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**

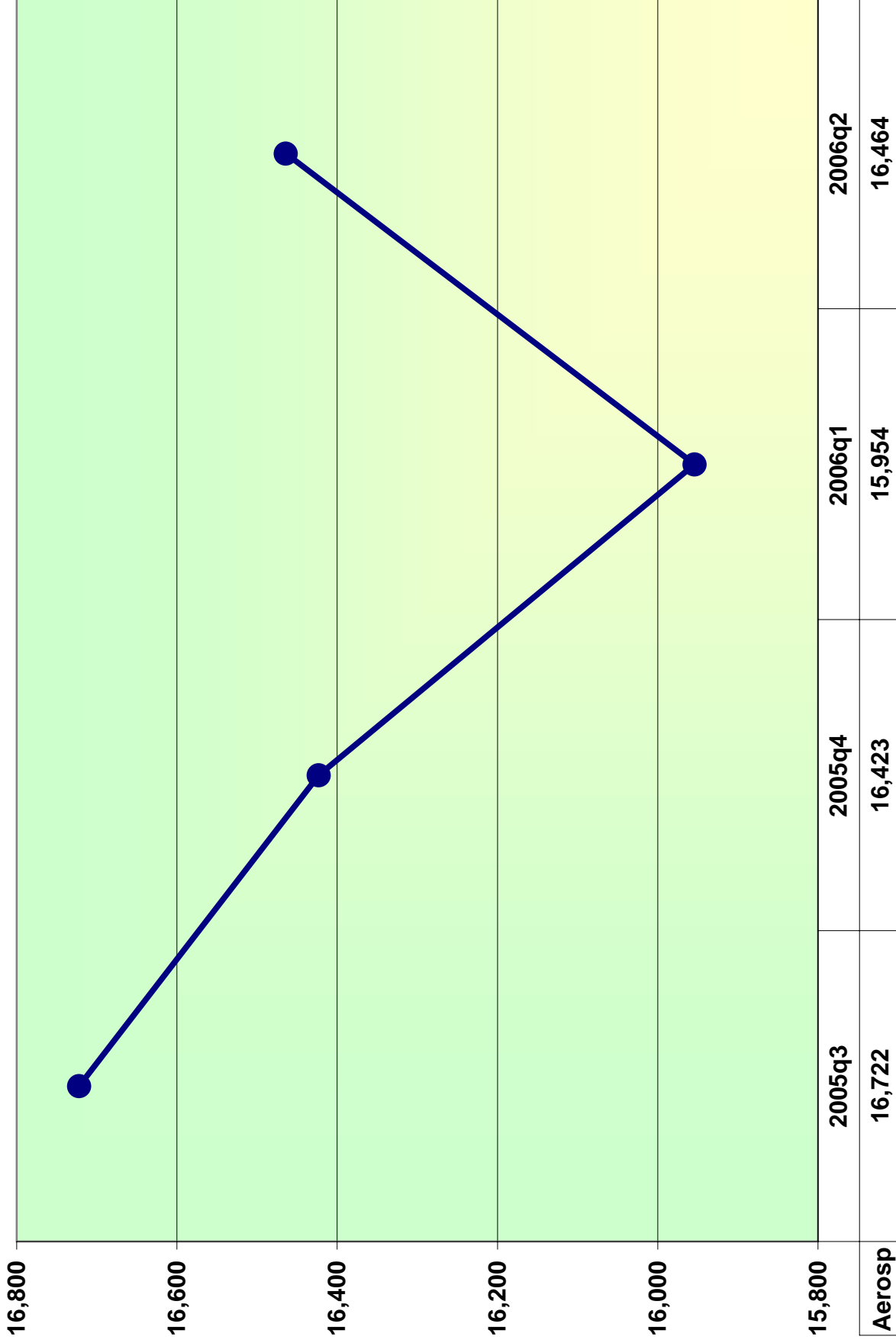


**President's High Growth Job Initiative Industries  
Aerospace  
Quarterly Workforce Indicators  
2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
3329	Other Fabricated Metal Product Manufacturing	2005 qtr 3	3,729	-36	92	344	432	9.20%	\$3,321	\$2,319
		2005 qtr 4	3,570	-32	60	363	477	9.30%	\$3,667	\$2,786
		2006 qtr 1	3,233	45	176	428	445	6.60%	\$3,800	\$2,493
		2006 qtr 2	3,279	-19	99	384	477	6.60%	\$3,803	\$2,641
3364	Aerospace Product & Parts Manufacturing	2005 qtr 3	12,993	-103	220	491	681	5.40%	\$5,118	\$3,471
		2005 qtr 4	12,853	298	348	658	498	4.30%	\$5,250	\$3,741
		2006 qtr 1	12,721	51	224	586	777	5.60%	\$5,613	\$4,931
		2006 qtr 2	13,185	14	247	616	688	4.80%	\$5,320	\$4,026

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
See website: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi)

**Aerospace  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**

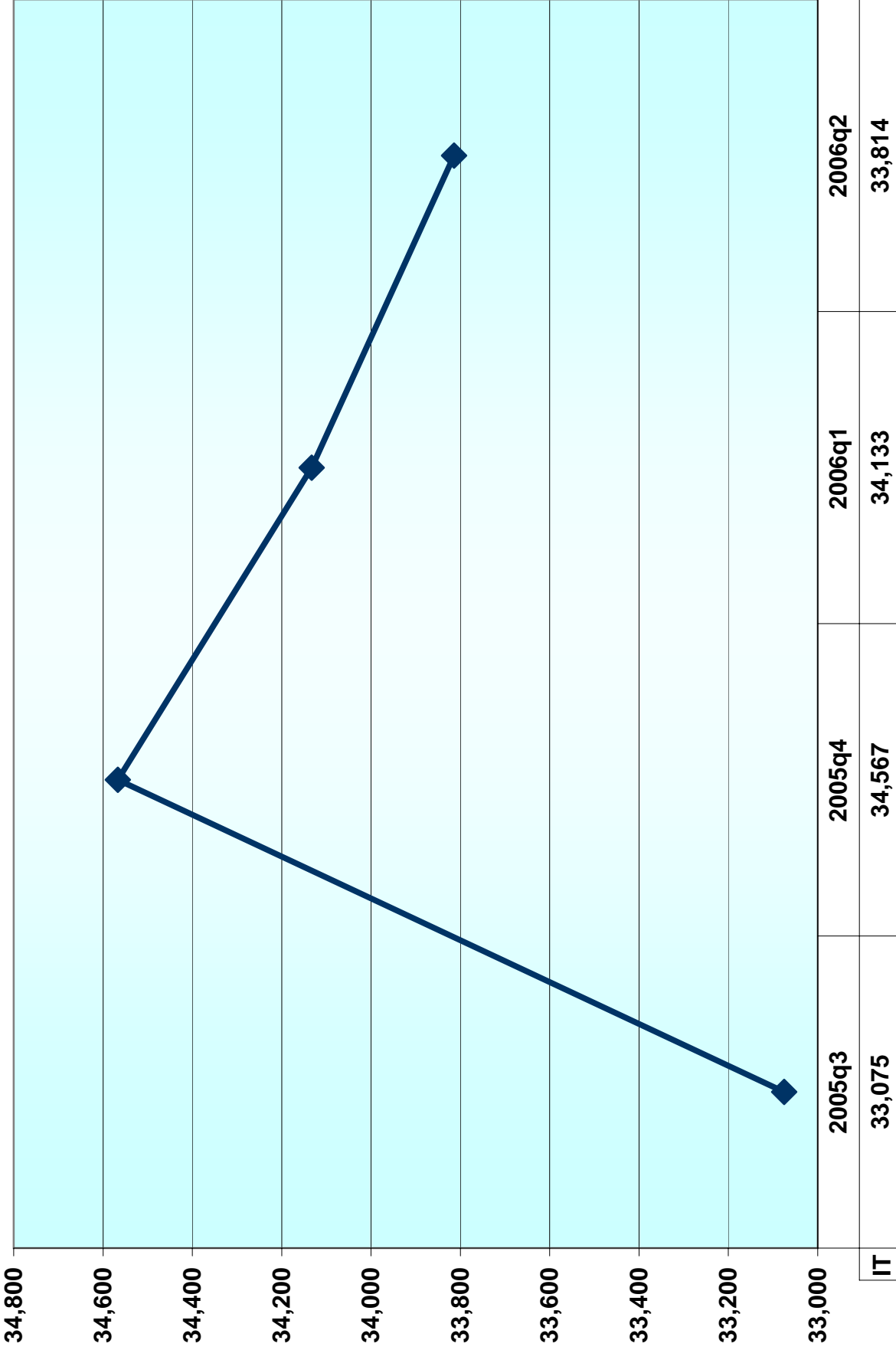


**President's High Growth Job Initiative Industries**  
**Information Technology**  
**Quarterly Workforce Indicators**  
**2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
5112	Software Publishers	2005 qtr 3	491	-44	14	45	95	20.50%	\$5,047	\$5,503
		2005 qtr 4	455	1	14	93	95	9.20%	\$5,168	\$3,235
		2006 qtr 1	446	39	51	33	41	6.80%	\$5,031	\$3,671
		2006 qtr 2	498	15	23	46	35	10.10%	\$5,522	\$5,013
5161	Internet Publishing & Broadcasting	2005 qtr 3	116	13	18	33	20	14.70%	\$3,163	\$4,065
		2005 qtr 4	126	11	15	23	16	13.80%	\$2,955	\$1,510
		2006 qtr 1	134	23	24	33	12	10.80%	\$2,609	\$1,224
		2006 qtr 2	163	15	19	55	46	16.00%	\$2,360	\$1,109
517	Telecommunications	2005 qtr 3	14374	884	1302	1673	1591	6.80%	\$4,374	\$2,945
		2005 qtr 4	15295	-40	432	1287	1465	10.20%	\$4,270	\$2,660
		2006 qtr 1	15202	-129	258	1378	1673	8.70%	\$4,700	\$3,264
		2006 qtr 2	14659	-476	316	1411	1911	8.60%	\$4,199	\$2,841
518	Internet Service Providers, Web Search Portals & Data Processing Services	2005 qtr 3	1821	25	108	261	272	10.90%	\$4,007	\$4,281
		2005 qtr 4	1831	-125	79	184	347	11.00%	\$3,774	\$2,802
		2006 qtr 1	1673	98	172	285	215	11.30%	\$3,864	\$3,525
		2006 qtr 2	1721	-25	132	329	392	13.00%	\$3,715	\$3,661
5415	Computer Systems Design & Related Services	2005 qtr 3	16273	280	906	2024	1999	8.90%	\$5,792	\$4,614
		2005 qtr 4	16860	189	933	1565	1773	8.60%	\$5,705	\$4,406
		2006 qtr 1	16678	290	763	1542	1364	8.60%	\$5,762	\$4,533
		2006 qtr 2	16773	149	825	1553	1539	8.20%	\$5,607	\$4,740

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
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**Information Technology  
Total Employment  
2005 QTR 3 - 2006 QTR 2**

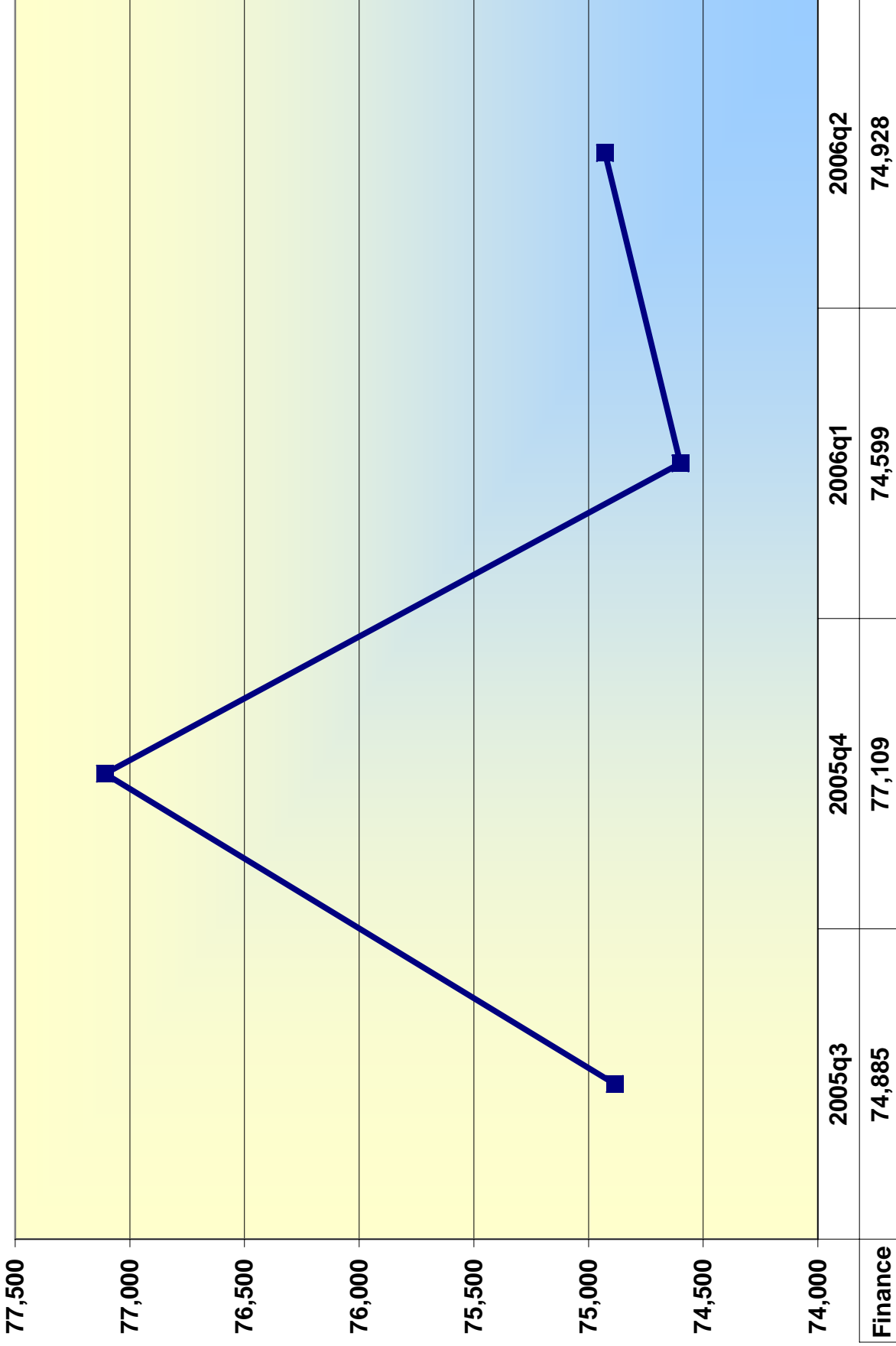


**President's High Growth Job Initiative Industries**  
**Finance**  
**Quarterly Workforce Indicators**  
**2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
52	Finance & Insurance	2005 qtr 3	74,885	2,450	4,734	10,810	9,796	7.60%	\$3,951	\$2,962
		2005 qtr 4	77,109	-805	2,274	8,841	10,861	7.80%	\$4,134	\$2,813
		2006 qtr 1	74,599	245	2,475	6,583	6,980	7.60%	\$4,386	\$3,142
		2006 qtr 2	74,928	52	2,302	6,973	7,770	8.00%	\$3,956	\$3,060

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
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**Finance**  
**Total Employment**  
**2005 Qtr 3 - 2006 Qtr 2**



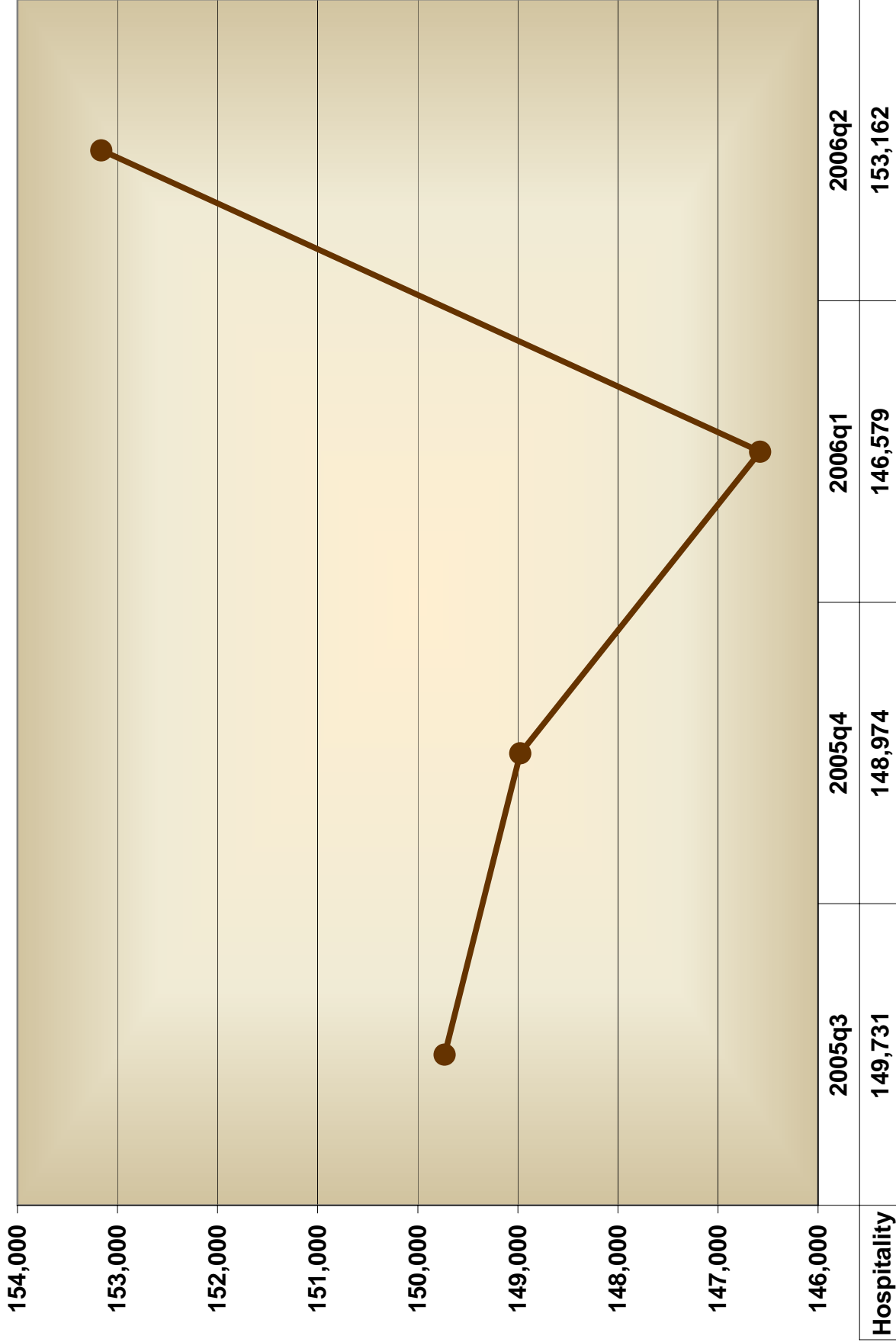


**President's High Growth Job Initiative Industries**  
**Hospitality**  
**Quarterly Workforce Indicators**  
**2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
721	Accommodation	2005 qtr 3	15,577	-81	1,151	6,723	7,382	19.40%	\$1,497	\$1,148
		2005 qtr 4	15,235	-536	771	4,603	5,580	20.10%	\$1,517	\$1,248
		2006 qtr 1	14,255	233	995	4,872	4,961	17.30%	\$1,470	\$1,187
		2006 qtr 2	14,625	876	1,643	6,681	6,458	17.70%	\$1,604	\$1,292
722	Food Services and Drinking Places	2005 qtr 3	134,154	-731	9,125	60,254	66,430	22.30%	\$1,145	\$751
		2005 qtr 4	133,739	1,465	9,689	56,933	60,505	21.10%	\$1,165	\$791
		2006 qtr 1	132,324	5,460	11,351	57,585	57,094	20.10%	\$1,140	\$778
		2006 qtr 2	138,537	-549	9,898	64,070	69,697	22.00%	\$1,188	\$826

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
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**Hospitality  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**

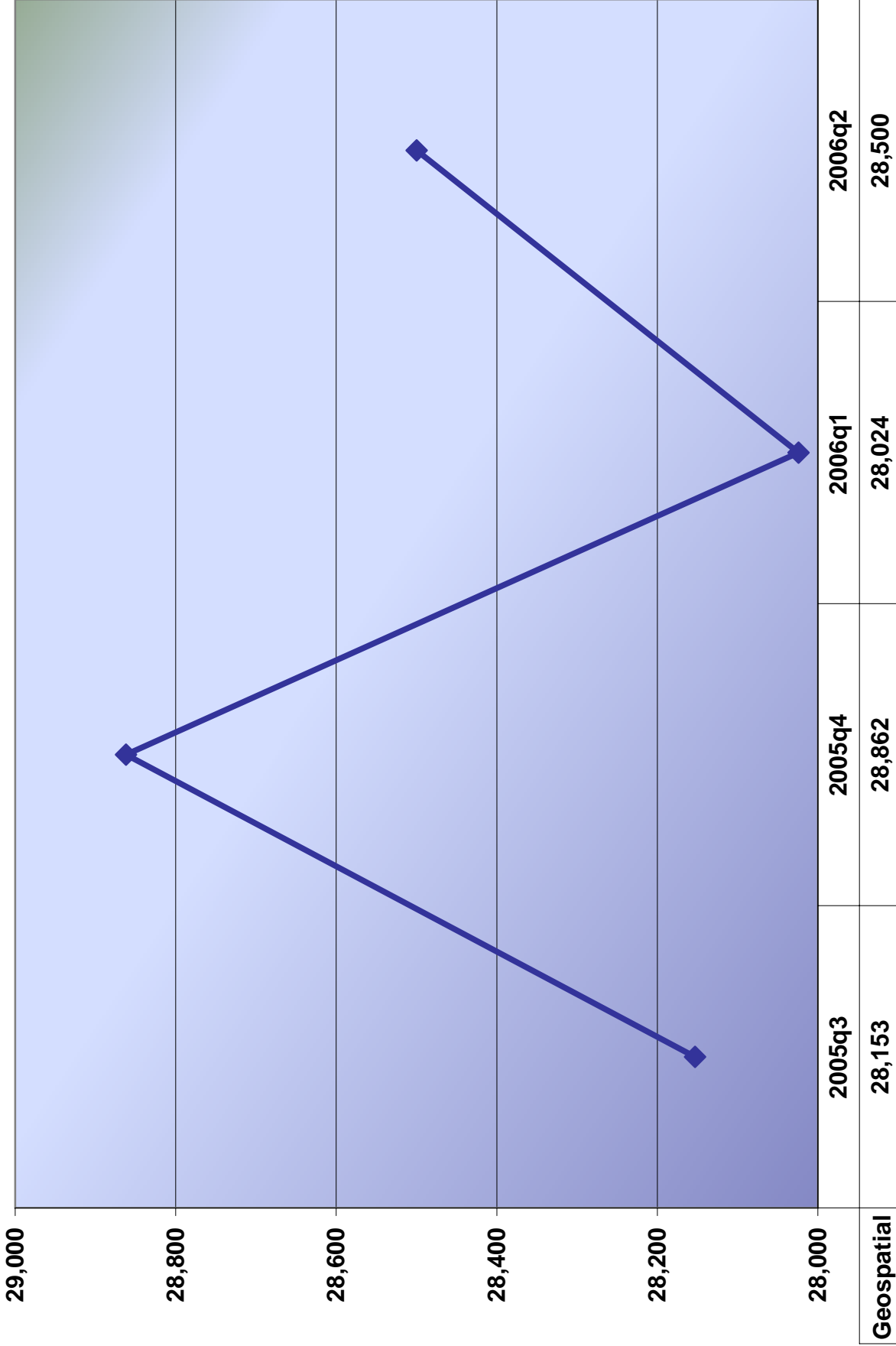


**President's High Growth Job Initiative Industries  
Geospatial  
Quarterly Workforce Indicators  
2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
3345	Navigational, Measuring, Electromedical & Control Instruments Manufacturing	2005 qtr 3	2,382	24	50	227	224	5.30%	\$4,406	\$2,716
		2005 qtr 4	2,462	-58	62	214	316	6.50%	\$4,603	\$4,087
		2006 qtr 1	2,322	64	125	288	237	4.50%	\$4,733	\$3,263
		2006 qtr 2	2,406	55	80	290	247	4.20%	\$4,552	\$2,685
5413	Architectural, Engineering & Related Services	2005 qtr 3	25,771	361	1,230	3,285	3,326	7.90%	\$4,958	\$3,447
		2005 qtr 4	26,400	-112	1,259	3,394	4,019	8.40%	\$5,049	\$3,666
		2006 qtr 1	25,702	583	1,465	3,349	3,169	9.30%	\$5,010	\$4,103
		2006 qtr 2	26,094	-155	1,430	3,664	4,234	10.20%	\$4,952	\$4,277

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
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**Geospatial  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**

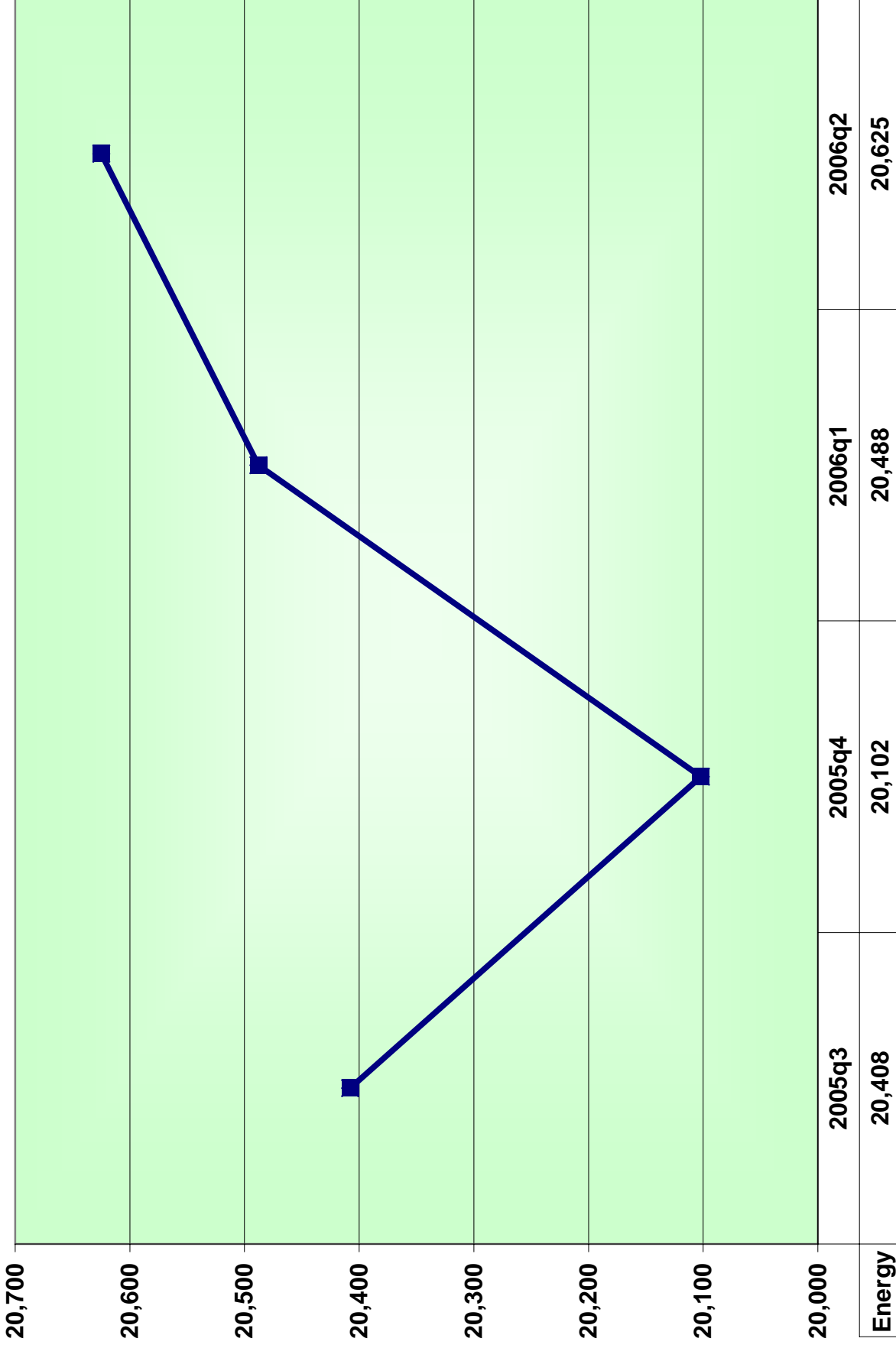


**President's High Growth Job Initiative Industries**  
**Energy**  
**Quarterly Workforce Indicators**  
**2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
2111	Oil and Gas Extraction	2005 qtr 3	461	3	9	17	17	4.40%	\$5,875	\$4,998
		2005 qtr 4	455	165	175	34	26	4.50%	\$6,111	\$5,675
		2006 qtr 1	576	1	9	23	24	21.00%	\$7,543	\$6,589
		2006 qtr 2	576	3	47	81	71	6.40%	\$6,056	\$8,028
2131	Support Activities for Mining	2005 qtr 3	981	39	113	296	306	16.60%	\$3,950	\$2,994
		2005 qtr 4	1,000	4	69	231	253	14.50%	\$4,062	\$3,286
		2006 qtr 1	943	41	114	325	319	14.50%	\$3,803	\$3,502
		2006 qtr 2	1,016	71	114	354	313	15.20%	\$4,215	\$4,065
221	Utilities	2005 qtr 3	18,966	-267	150	610	1,017	2.50%	\$4,886	\$3,376
		2005 qtr 4	18,647	256	400	547	716	2.40%	\$4,578	\$3,120
		2006 qtr 1	18,969	-49	267	619	947	3.40%	\$6,556	\$3,584
		2006 qtr 2	19,033	467	651	1,116	843	3.50%	\$4,536	\$3,349

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
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**Energy  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**

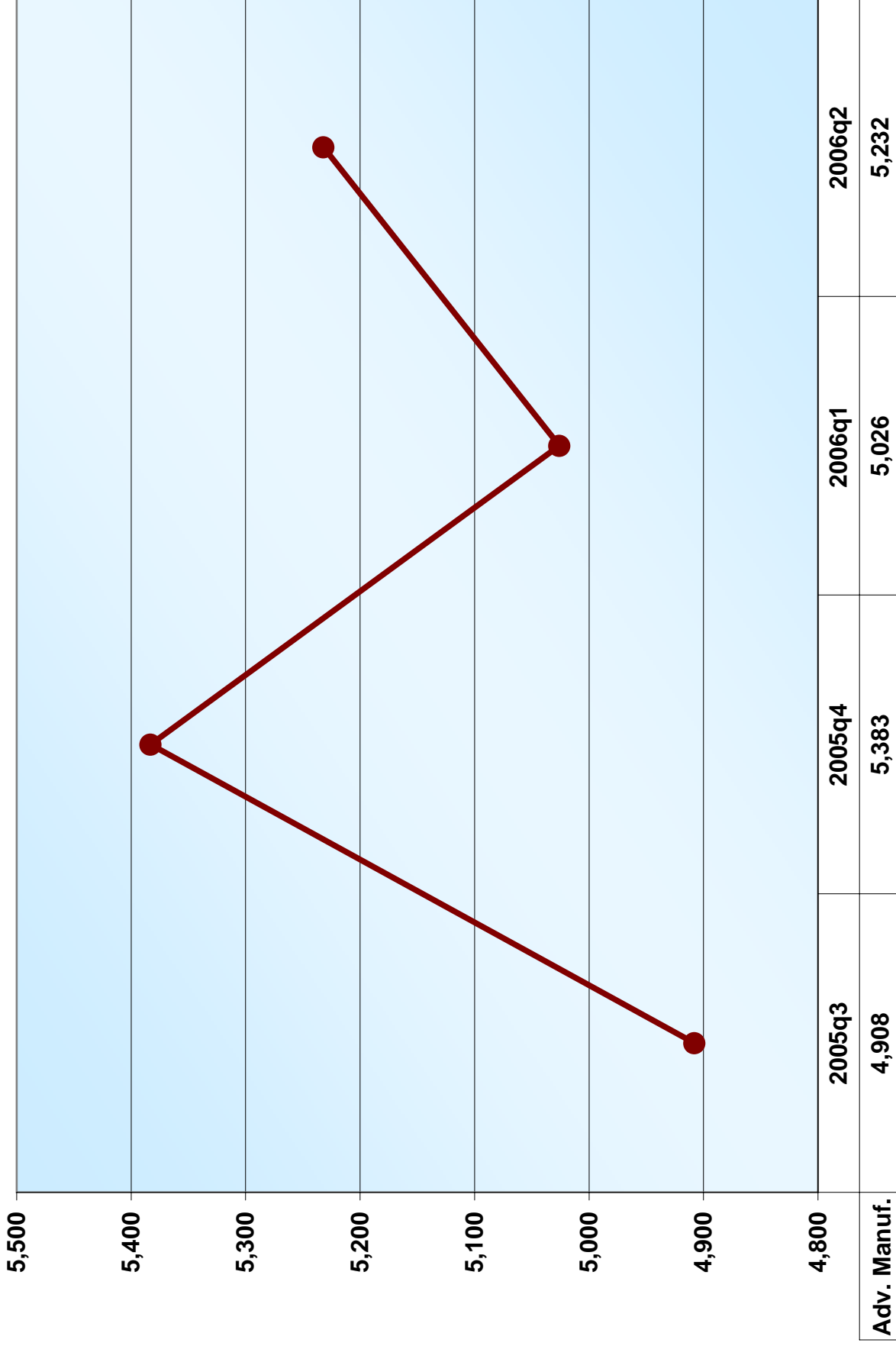


**President's High Growth Job Initiative Industries  
Advanced Manufacturing  
Quarterly Workforce Indicators  
2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
3344	Semiconductor & Other Electronic Component Manufacturing	2005 qtr 3	2,526	76	134	253	269	8.80%	\$2,949	\$1,983
		2005 qtr 4	2,921	11	130	313	348	13.60%	\$3,044	\$2,515
		2006 qtr 1	2,704	-57	36	208	284	14.00%	\$3,007	\$2,149
		2006 qtr 2	2,826	-45	42	355	423	9.80%	\$3,179	\$1,757
3345	Navigational, Measuring, Electromedical & Control Instruments Manufacturing	2005 qtr 3	2,382	24	50	227	224	5.30%	\$4,406	\$2,716
		2005 qtr 4	2,462	-58	62	214	316	6.50%	\$4,603	\$4,087
		2006 qtr 1	2,322	64	125	288	237	4.50%	\$4,733	\$3,263
		2006 qtr 2	2,406	55	80	290	247	4.20%	\$4,552	\$2,685

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
See website: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi)

**Advanced Manufacturing  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**



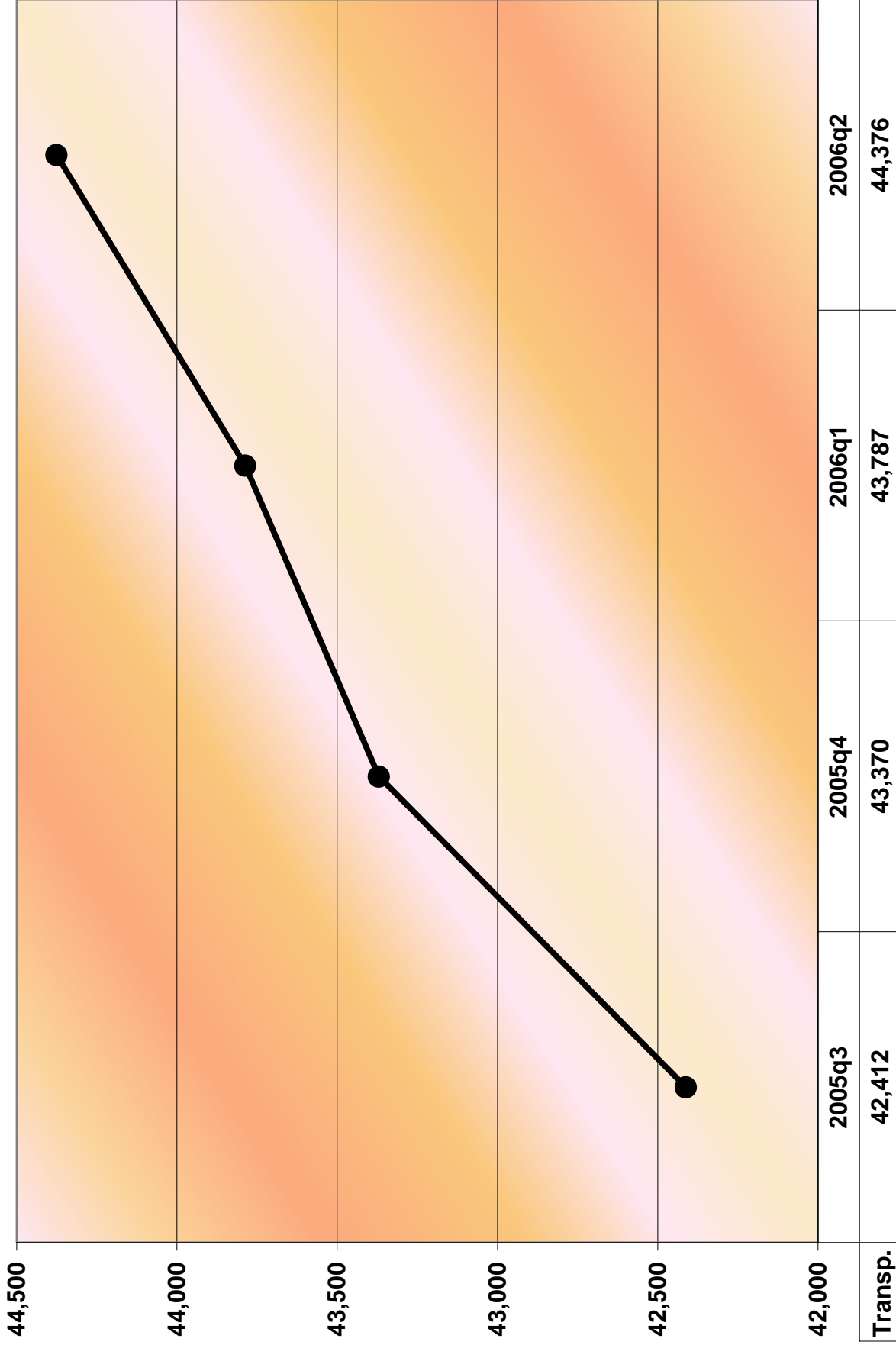


**President's High Growth Job Initiative Industries  
Transportation  
Quarterly Workforce Indicators  
2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
481	Air Transportation	2005 qtr 3	1,018	-24	31	90	130	12.40%	\$2,770	\$1,829
		2005 qtr 4	978	46	72	160	130	7.00%	\$2,673	\$1,848
		2006 qtr 1	1,019	6	35	116	122	9.90%	\$2,639	\$2,045
		2006 qtr 2	1,011	-10	24	81	98	8.90%	\$2,717	\$3,022
483	Water Transportation	2005 qtr 3	485	-12	14	83	103	8.50%	\$4,520	\$2,987
		2005 qtr 4	490	11	22	84	88	7.50%	\$4,573	\$3,102
		2006 qtr 1	477	1	29	107	112	14.40%	\$4,896	\$3,204
		2006 qtr 2	508	14	35	104	101	9.70%	\$4,488	\$3,123
484	Truck Transportation	2005 qtr 3	28,833	533	2,112	6,516	7,040	12.40%	\$3,236	\$2,514
		2005 qtr 4	29,298	490	1,818	5,592	6,040	12.30%	\$3,248	\$2,630
		2006 qtr 1	29,422	295	1,481	5,352	5,712	12.10%	\$3,132	\$2,560
		2006 qtr 2	29,734	907	2,210	6,555	6,387	12.10%	\$3,241	\$2,683
485	Transit & Ground Passenger Transportation	2005 qtr 3	5,159	104	225	726	709	7.80%	\$2,164	\$1,416
		2005 qtr 4	5,743	338	475	685	664	8.20%	\$2,271	\$1,874
		2006 qtr 1	5,769	64	158	543	553	7.40%	\$2,208	\$1,247
		2006 qtr 2	5,960	-197	143	521	863	6.90%	\$2,247	\$1,273
488	Support Activities for Transportation	2005 qtr 3	6,917	20	358	1,188	1,320	10.80%	\$3,444	\$2,643
		2005 qtr 4	6,861	120	449	1,217	1,349	10.70%	\$3,487	\$2,751
		2006 qtr 1	7,100	142	399	1,149	1,136	9.50%	\$3,423	\$2,634
		2006 qtr 2	7,163	236	488	1,265	1,201	9.70%	\$3,345	\$2,614

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
See website: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi)

**Transportation  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**

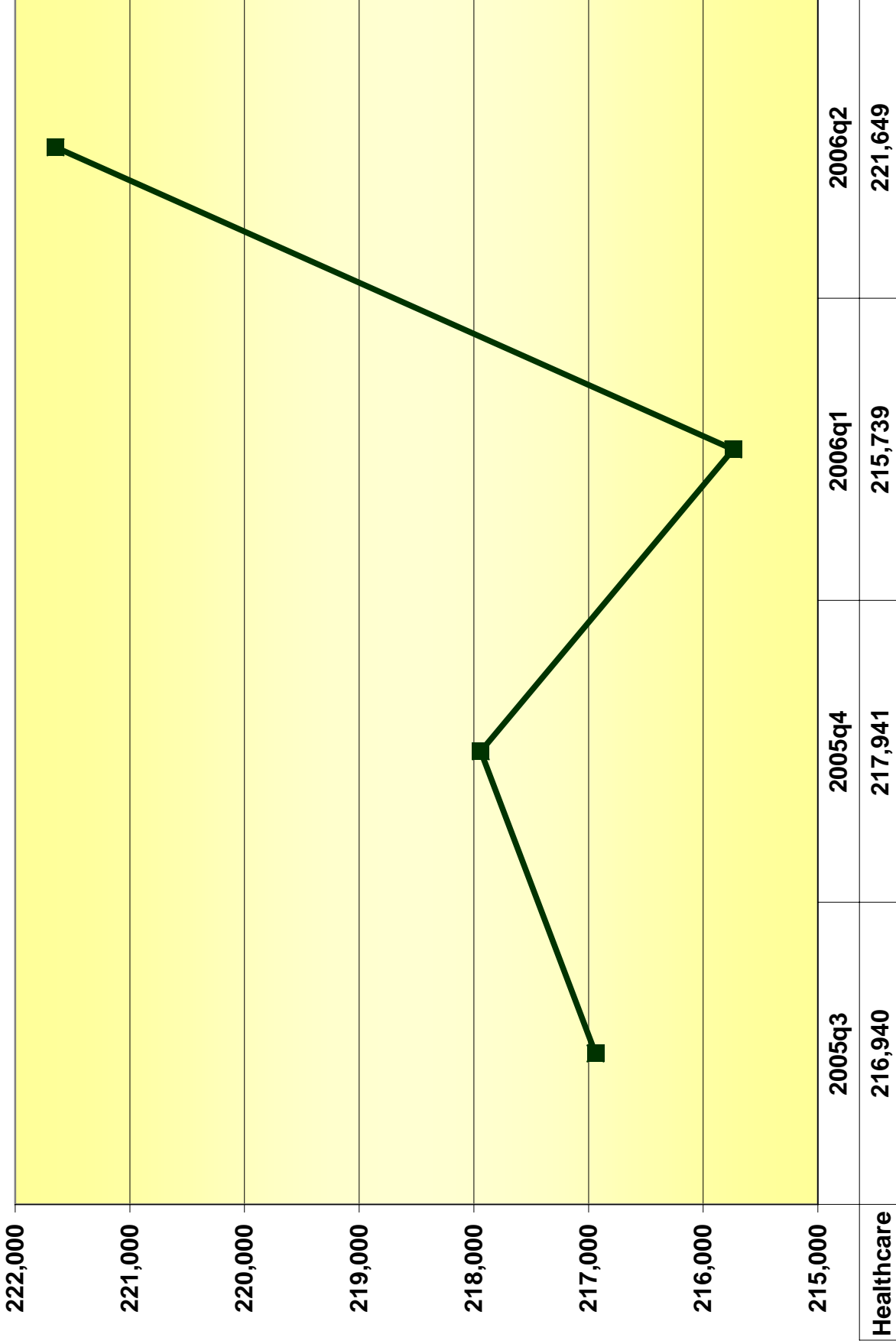


**President's High Growth Job Initiative Industries**  
**Healthcare**  
**Quarterly Workforce Indicators**  
**2005 QTR 3 to 2006 QTR 2**

NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
62	Health Care & Social Assistance	2005 qtr 3	216,940	641	7,522	29,662	32,407	10.10%	\$2,923	\$1,975
		2005 qtr 4	217,941	1,690	10,495	27,181	32,781	10.50%	\$2,922	\$1,990
		2006 qtr 1	215,739	4,162	10,396	29,634	28,342	10.30%	\$2,843	\$2,042
		2006 qtr 2	221,649	1,877	8,373	29,979	31,914	10.60%	\$2,940	\$2,309

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators.  
 See website: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi)

**Healthcare  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**

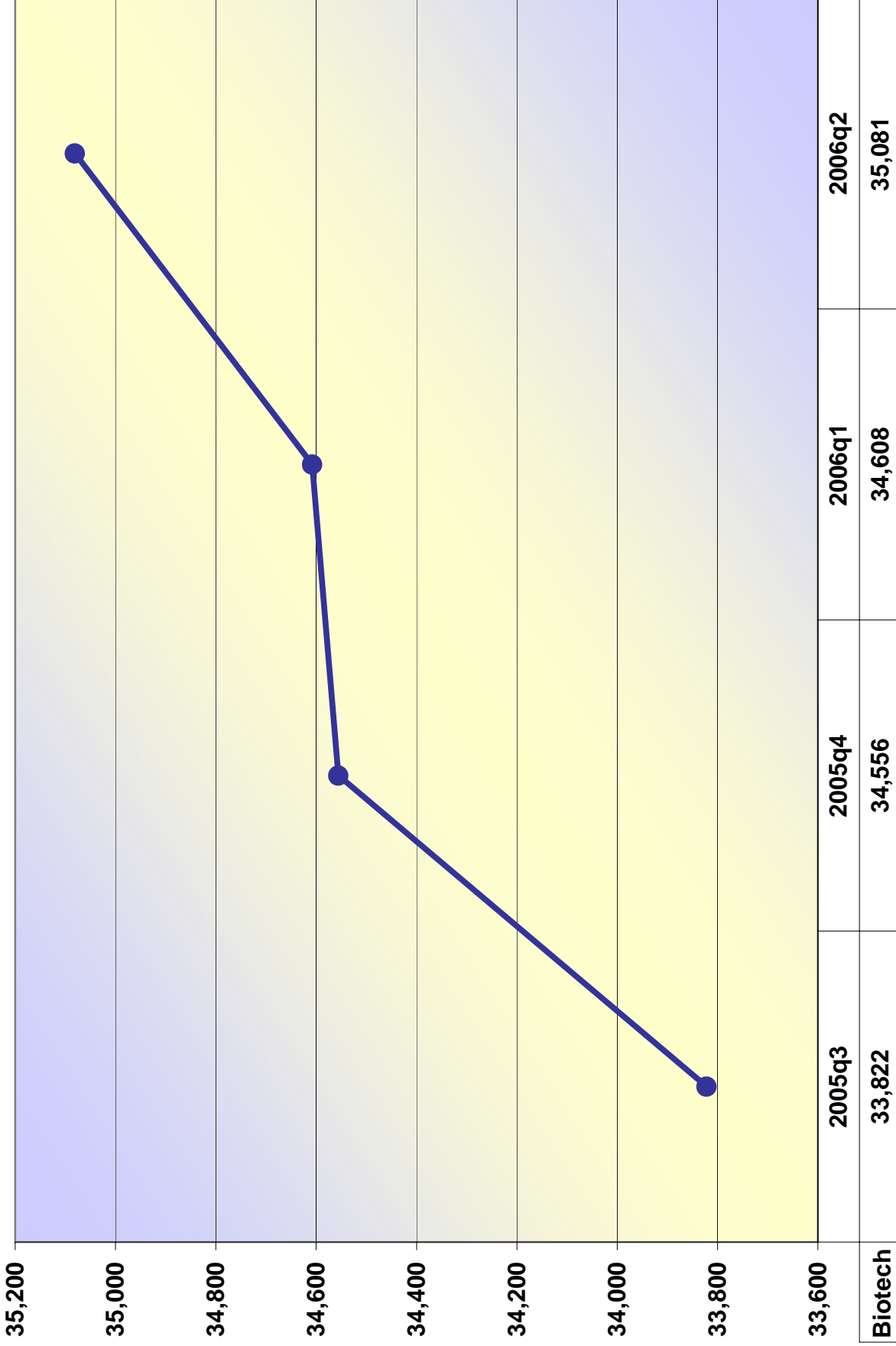


**President's High Growth Job Initiative Industries  
Biotechnology  
Quarterly Workforce Indicators  
2005 QTR 3 to 2006 QTR 2**

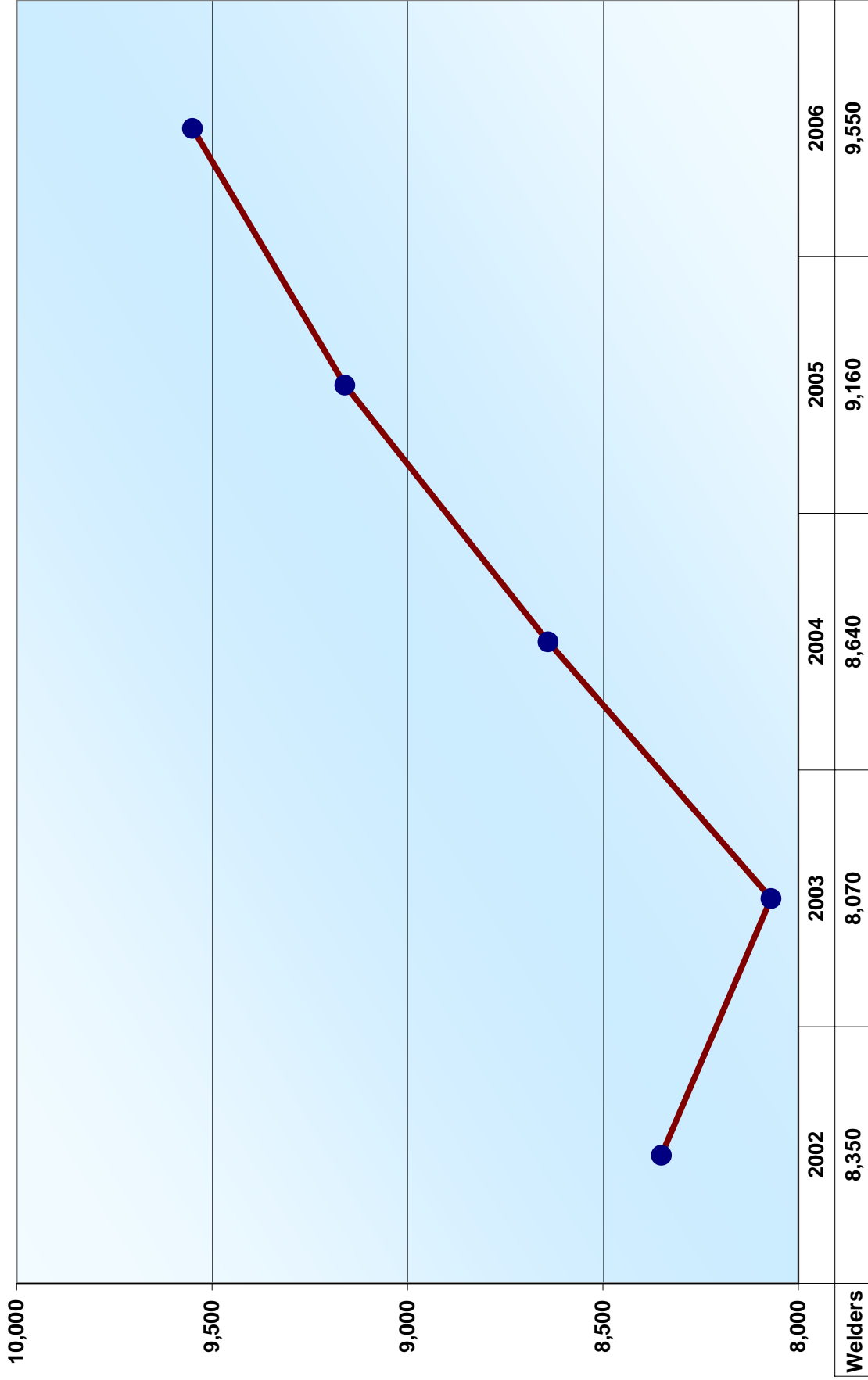
NAICS	Industry Title	Year/Qtr	Total Employment	Net Job Flows	Job Creation	New Hires	Separations	Turnover	Avg Monthly Earnings	Avg New Hire Earnings
3254	Pharmaceutical & Medicine Manufacturing	2005 qtr 3	549	19	24	64	49	8.90%	\$3,165	\$2,332
		2005 qtr 4	587	6	22	146	194	9.90%	\$3,341	\$3,001
		2006 qtr 1	591	26	29	73	50	8.90%	\$3,358	\$2,814
		2006 qtr 2	594	8	20	62	58	9.10%	\$3,276	\$2,656
5413	Architectural, Engineering & Related Services	2005 qtr 3	25,771	361	1,230	3,285	3,326	7.90%	\$4,958	\$3,447
		2005 qtr 4	26,400	-112	1,259	3,394	4,019	8.40%	\$5,049	\$3,666
		2006 qtr 1	25,702	583	1,465	3,349	3,169	9.30%	\$5,010	\$4,103
		2006 qtr 2	26,094	-155	1,430	3,664	4,234	10.20%	\$4,952	\$4,277
5417	Scientific Research & Development Services	2005 qtr 3	4,949	13	157	399	456	5.80%	\$5,850	\$4,776
		2005 qtr 4	5,030	7	123	327	418	5.60%	\$5,922	\$4,655
		2006 qtr 1	5,742	36	139	304	328	4.90%	\$5,899	\$4,501
		2006 qtr 2	5,782	67	207	382	386	5.40%	\$5,805	\$5,174
6215	Medical & Diagnostic Laboratories	2005 qtr 3	2,553	-1	77	318	342	8.70%	\$3,556	\$3,026
		2005 qtr 4	2,539	91	165	330	331	8.40%	\$3,677	\$2,864
		2006 qtr 1	2,573	74	130	270	228	9.00%	\$3,271	\$2,407
		2006 qtr 2	2,611	37	120	325	318	8.30%	\$3,654	\$2,890

Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations. Local Employment Dynamics Program, Quarterly Workforce Indicators.  
See website: [www.dlr.alabama.gov/lmi](http://www.dlr.alabama.gov/lmi)

**Biotechnology  
Total Employment  
2005 Qtr 3 - 2006 Qtr 2**

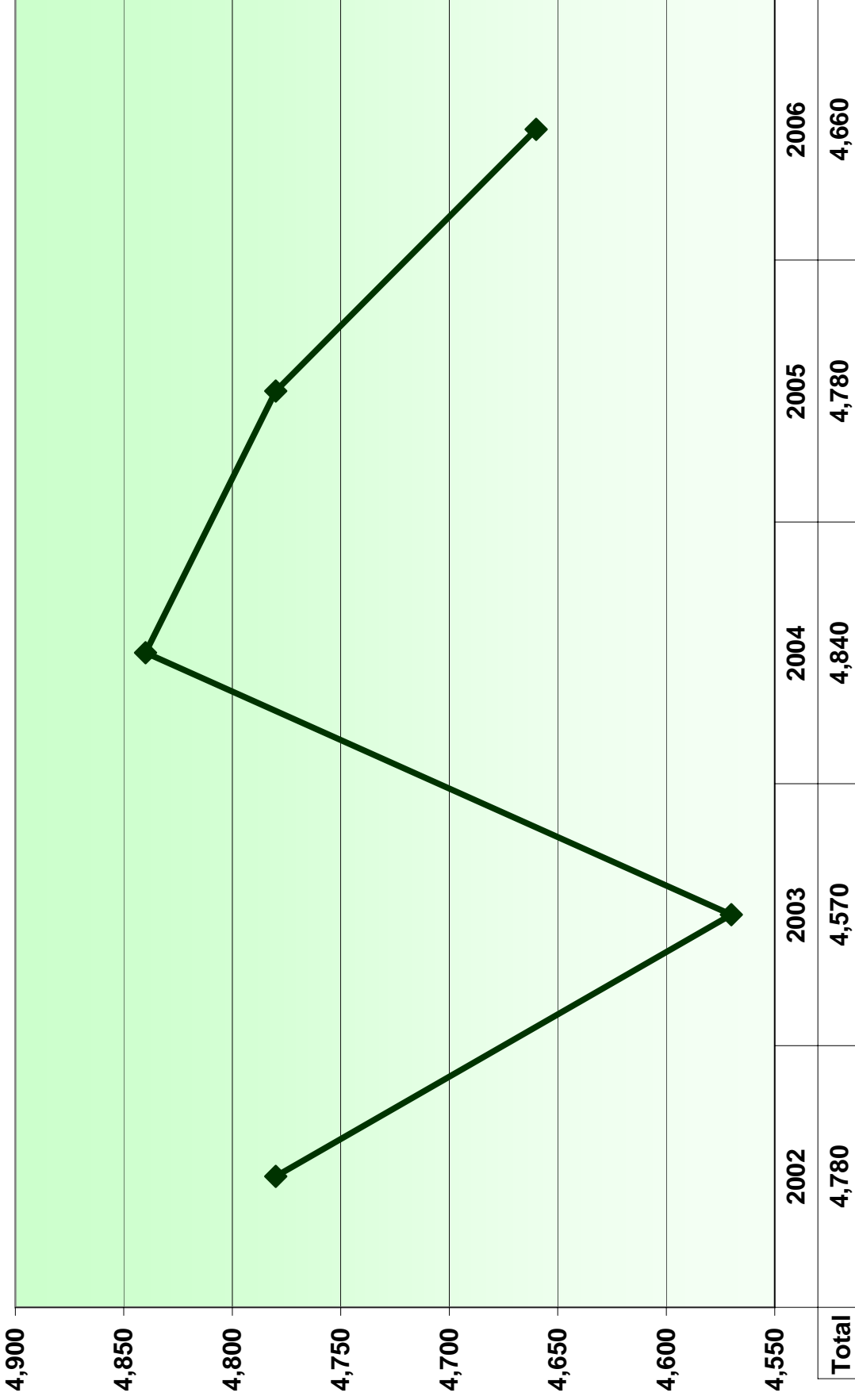


**Welders, Cutters, Solderers Brazers  
Average Annual Employment  
2002 - 2006**



Data Source: Alabama Occupational Projections, Alabama Dept. of Industrial Relations, Labor Market Information Division

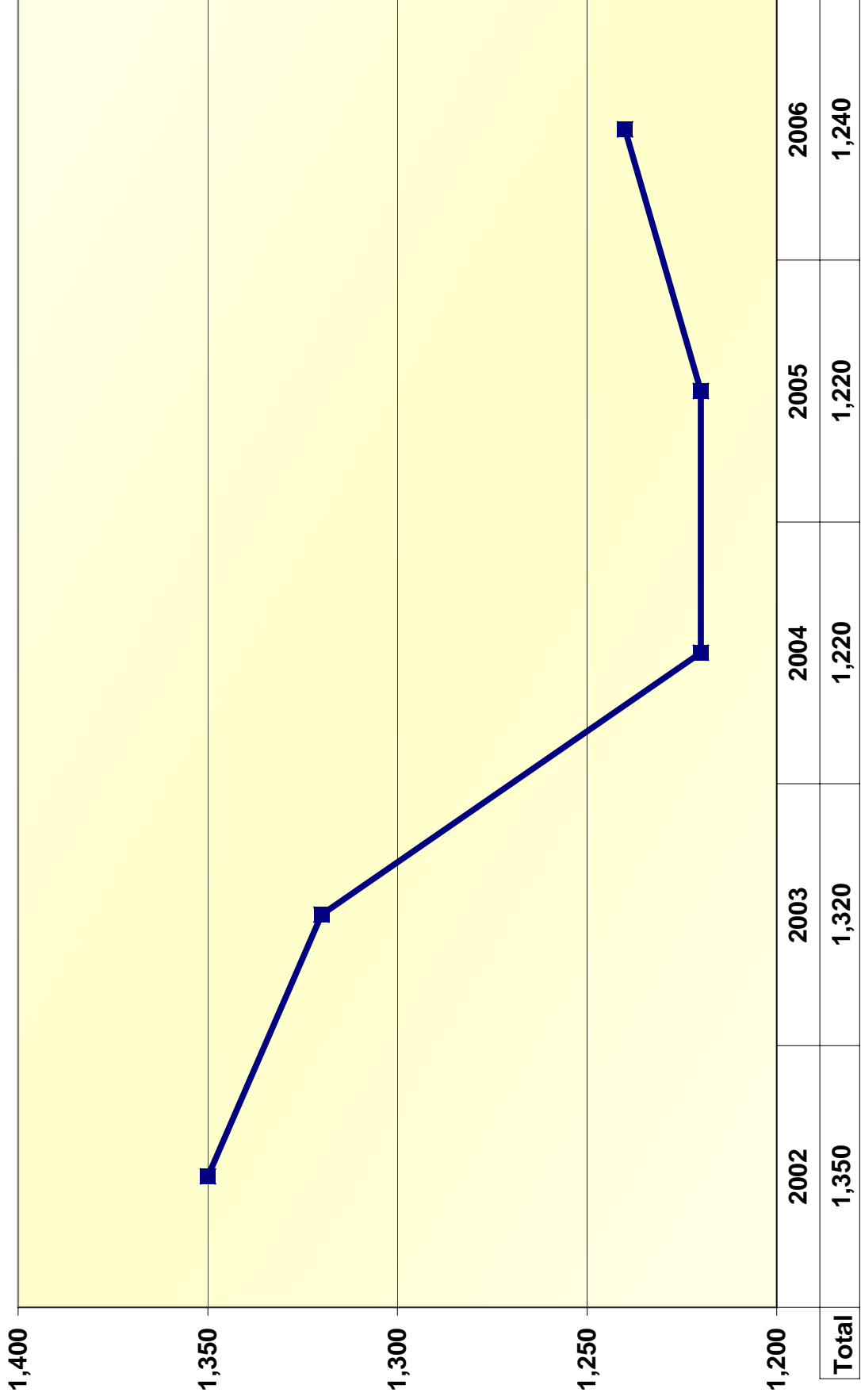
**Industrial Machinery Mechanics  
Average Annual Employment  
2002 - 2006**



Data Source: Alabama Occupational Projections, Alabama Dept. of Industrial Relations, Labor Market Information Division



**Electrical Electronics Repairers, Commercial Industrial Equip.  
Average Annual Employment  
2002 - 2006**



*Data Source: Alabama Occupational Projections, Alabama Dept. of Industrial Relations, Labor Market Information Division*



# HIGH-TECH in ALABAMA

*Changing the way  
Alabama does business*

*This is a product of the Alabama Department of Industrial Relations,  
Labor Market Information Division. Email us at [Imi@dir.alabama.gov](mailto:Imi@dir.alabama.gov)  
or call our office at 334/242-8855 for more information.*

**Alabama  
High Tech Level I  
Quarterly Workforce Indicators**

NAICS	Industry	Total Employment		Net Job Flows		Job Creation		New Hires		Separations		Turnover	
		2002	2005	2002	2005	2002	2005	2002	2005	2002	2005	2002	2005
3254	Pharmaceutical and medicine manufacturing	471	534	-75	28	15	36	47	97	120	85	34.6%	10.5%
3341	Computer and peripheral equipment manufacturing	4,751	3,712	-224	184	43	269	125	358	366	226	6.0%	7.7%
3342	Communications equipment manufacturing	2,006	2,053	-31	-9	15	18	82	100	118	121	4.0%	4.6%
3344	Semiconductor and other electronic component manuf.	4,398	2,672	-106	-31	99	100	278	250	453	336	13.5%	10.6%
3345	Navigational, measuring, electromedical, & control instruments manuf.	2,245	2,505	13	-2	42	60	110	264	104	293	8.0%	5.5%
3364	Aerospace product and parts manufacturing	13,223	13,141	233	112	489	348	810	644	689	643	5.7%	4.6%
5112	Software publishers	577	512	-23	-6	15	19	48	109	80	120	9.0%	14.5%
5161	Internet publishing and broadcasting	60	141	2	6	6	15	12	38	10	36	13.5%	16.2%
5179	Other telecommunications	50	44	-1	2	1	3	4	6	6	N/A	6.6%	9.5%
5181	Internet service providers and web search portals	382	292	1	-7	34	16	62	41	68	56	11.0%	11.8%
5182	Data processing, hosting, and related services	1,797	1,514	-31	-18	85	87	207	210	268	249	10.0%	10.9%
5413	Architectural, engineering, and related services	19,840	25,446	573	441	1,561	1,331	2,645	3,202	2,558	3,249	9.9%	8.0%
5415	Computer systems design and related services	14,527	16,309	25	326	723	954	1,302	1,778	1,504	1,692	9.3%	9.2%
5417	Scientific research and development services	6,418	4,935	-102	50	205	156	409	345	598	362	7.0%	5.7%

\* Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, *Monthly Labor Review*, "High-Technology Employment":

A NAICS-Based Update, " July 2005

\*\* Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, *Local Employment Dynamics Program, Quarterly Workforce Indicators*

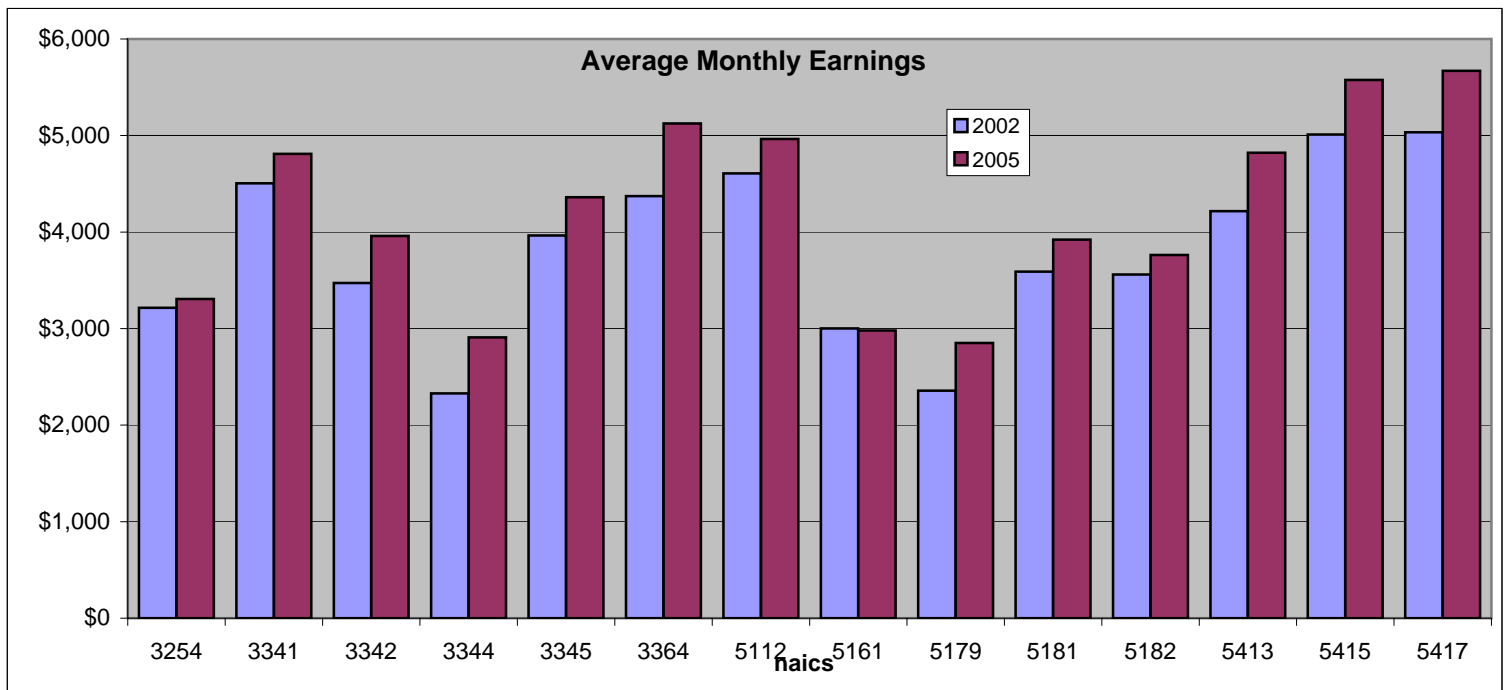
See website: [www.dlr.alabama.gov/lmi](http://www.dlr.alabama.gov/lmi)

**Alabama  
High Tech Level I  
Quarterly Workforce Indicators**

NAICS	Industry	Avg. Monthly Earnings		Avg. New Hire Earnings	
		2002	2005	2002	2005
3254	Pharmaceutical and medicine manufacturing	\$3,215.75	\$3,306.25	\$1,818.50	\$3,156.50
3341	Computer and peripheral equipment manufacturing	\$4,505.50	\$4,810.25	\$2,055.50	\$3,184.75
3342	Communications equipment manufacturing	\$3,472.75	\$3,959.25	\$1,981.50	\$2,966.50
3344	Semiconductor and other electronic component manuf.	\$2,328.75	\$2,908.50	\$1,457.00	\$2,151.50
3345	Navigational, measuring, electromedical, & control instruments manuf.	\$3,964.50	\$4,361.00	\$2,141.25	\$2,797.75
3364	Aerospace product and parts manufacturing	\$4,372.50	\$5,125.25	\$2,963.75	\$4,062.00
5112	Software publishers	\$4,608.25	\$4,964.25	\$2,804.25	\$4,337.00
5161	Internet publishing and broadcasting	\$3,001.50	\$2,980.50	\$1,349.50	\$2,360.50
5179	Other telecommunications	\$2,357.50	\$2,851.00	\$1,012.25	\$2,744.75
5181	Internet service providers and web search portals	\$3,589.50	\$3,922.00	\$2,685.25	\$2,749.25
5182	Data processing, hosting, and related services	\$3,559.75	\$3,762.50	\$1,755.00	\$3,438.25
5413	Architectural, engineering, and related services	\$4,216.50	\$4,822.25	\$2,701.00	\$3,495.50
5415	Computer systems design and related services	\$5,010.00	\$5,575.50	\$2,914.75	\$4,560.25
5417	Scientific research and development services	\$5,033.00	\$5,669.75	\$3,021.25	\$4,475.50

\* Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, *Monthly Labor Review*, "High-Technology Employment: A NAICS-Based Update," July 2005

\*\* Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators. See website: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi)



**Alabama**  
**High Tech Level II**  
**Quarterly Workforce Indicators**

NAICS	Industry	Total Employment		Net Job Flows		Job Creation		New Hires		Separations		Turnover	
		2002	2005	2002	2005	2002	2005	2002	2005	2002	2005	2002	2005
1131	Timber tract operations	275	260	3	6	14	16	23	36	21	37	4.8%	6.5%
1132	Forestry nursery and gathering forest products	39	51	2	3	9	N/A	14	20	17	20	16.2%	17.0%
2111	Oil and gas extraction	626	517	-1	12	10	59	20	36	26	64	4.5%	9.0%
2211	Electric power generation, transmission and distribution	12,927	11,879	54	8	163	127	295	268	395	424	2.1%	2.2%
3251	Basic chemical manufacturing	3,666	3,001	-33	12	27	75	71	87	119	122	2.2%	3.1%
3252	Resin, synthetic rubber, & artificial synthetic fibers & filaments manuf.	2,762	2,498	-39	-42	46	34	111	138	169	194	3.8%	4.7%
3332	Industrial machinery manufacturing	843	1,102	-11	38	52	68	163	203	195	179	10.9%	10.9%
3333	Commercial and service industry machinery manuf.	930	763	-1	-5	31	12	63	34	72	47	6.4%	5.0%
3343	Audio & video equipment manufacturing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.6%	25.9%
3346	Manufacturing and reproducing magnetic and optical media	3,721	4,370	34	-81	101	39	342	392	319	520	8.2%	9.2%
4234	Professional & commercial equipment & supply merchant wholesalers	4,597	4,762	-45	14	194	217	388	473	524	532	7.8%	8.0%
5416	Management, scientific, and technical consulting services	5,027	7,331	171	298	587	844	1,447	2,237	1,411	2,220	15.5%	15.5%

\* Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, *Monthly Labor Review*, "High-Technology Employment: A NAICS-Based Update," July 2005

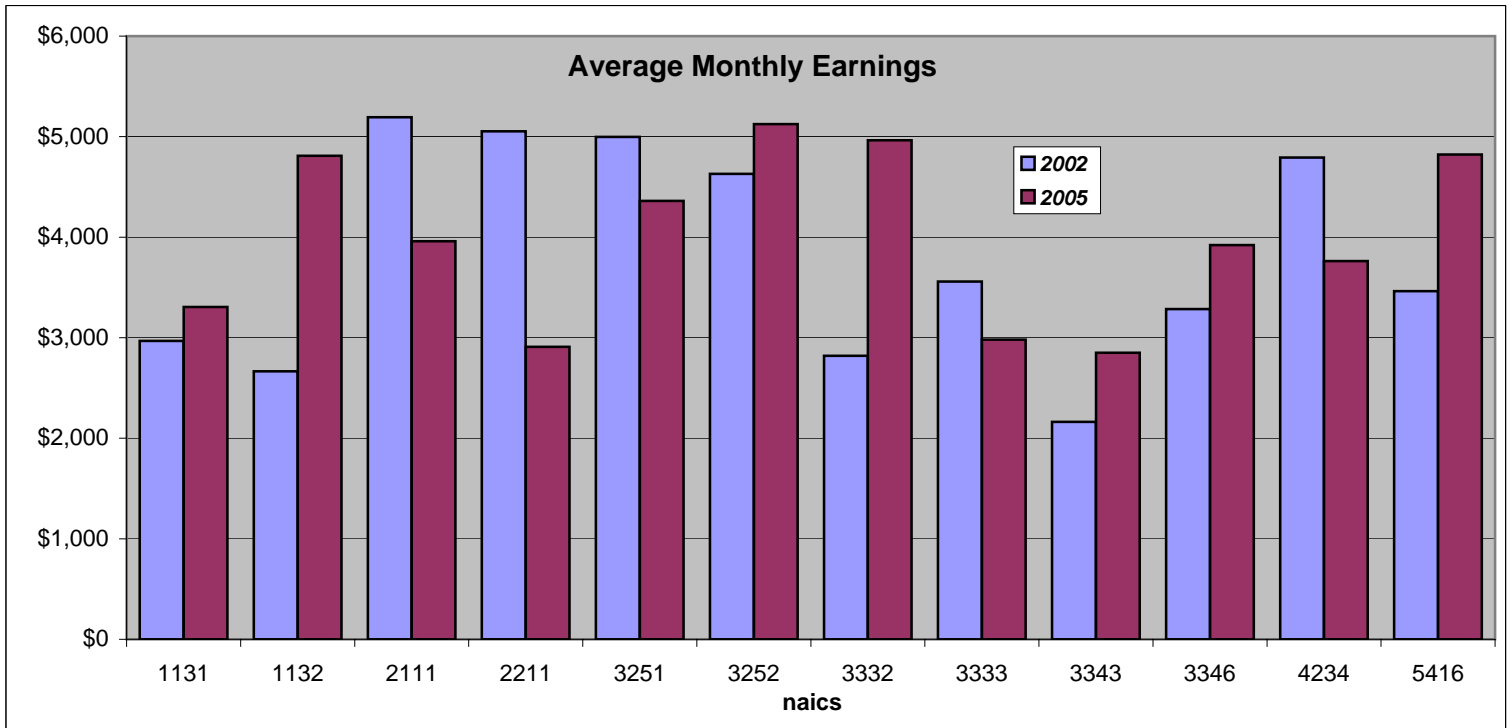
\*\* Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, *Local Employment Dynamics Program, Quarterly Workforce Indicators*  
 See website: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi)

**Alabama  
High Tech Level II  
Quarterly Workforce Indicators**

NAICS	Industry	Avg. Monthly Earnings		Avg. New Hire Earnings	
		2002	2005	2002	2005
1131	Timber tract operations	\$2,968.75	\$3,306.25	\$1,811.00	\$3,156.50
1132	Forestry nursery and gathering forest products	\$2,666.50	\$4,810.25	\$1,637.25	\$3,184.75
2111	Oil and gas extraction	\$5,192.50	\$3,959.25	\$3,730.25	\$2,966.50
2211	Electric power generation, transmission and distribution	\$5,053.00	\$2,908.50	\$2,494.00	\$2,151.50
3251	Basic chemical manufacturing	\$4,997.25	\$4,361.00	\$3,292.75	\$2,797.75
3252	Resin, synthetic rubber, & artificial synthetic fibers & filaments manuf.	\$4,629.00	\$5,125.25	\$2,360.50	\$4,062.00
3332	Industrial machinery manufacturing	\$2,820.00	\$4,964.25	\$1,646.00	\$4,337.00
3333	Commercial and service industry machinery manuf.	\$3,558.00	\$2,980.50	\$1,838.75	\$2,360.50
3343	Audio & video equipment manufacturing	\$2,163.00	\$2,851.00	N/A	\$2,744.75
3346	Manufacturing and reproducing magnetic and optical media	\$3,284.25	\$3,922.00	\$1,540.50	\$2,749.25
4234	Professional & commercial equipment & supply merchant wholesalers	\$4,791.50	\$3,762.50	\$2,893.50	\$3,438.25
5416	Management, scientific, and technical consulting services	\$3,463.25	\$4,822.25	\$1,922.00	\$3,495.50

\* Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, *Monthly Labor Review*, "High-Technology Employment: A NAICS-Based Update," July 2005

\*\* Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators. See website: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi)



**Alabama  
High Tech Level III  
Quarterly Workforce Indicators**

NAICS	Industry	Total Employment		Net Job Flows		Job Creation		New Hires		Separations		Turnover	
		2002	2005	2002	2005	2002	2005	2002	2005	2002	2005	2002	2005
3241	Petroleum and coal products manufacturing	2,112	2,030	2	25	50	51	156	146	176	133	4.6%	4.7%
3253	Pesticide, fertilizer, and other agricultural chemical manuf.	2,208	1,736	-20	-12	46	73	127	138	180	176	4.3%	5.0%
3255	Paint, coating, and adhesive manufacturing	813	899	-4	-5	11	15	35	43	45	54	3.7%	3.8%
3259	Other chemical product & preparation manufacturing	506	456	-3	11	22	22	30	50	42	44	6.0%	6.5%
3336	Engine, turbine, & power transmission equipment manuf.	1,290	1,737	37	42	82	46	117	120	82	92	5.3%	5.3%
3339	Other general-purpose machinery manufacturing	3,737	3,819	-63	-6	106	152	303	442	416	495	7.5%	8.3%
3353	Electrical equipment manufacturing	1,400	973	-26	75	20	126	75	102	128	127	7.0%	10.2%
3369	Other transportation equipment manufacturing	527	865	-1	-18	5	N/A	24	52	27	78	4.0%	6.8%
4861	Pipeline transportation of crude oil	N/A	34	N/A	N/A	N/A	2	N/A	4	N/A	4	N/A	8.6%
4862	Pipeline transportation of natural gas	469	445	N/A	-1	7	4	15	9	18	13	3.3%	2.9%
4869	Other pipeline transportation	60	110	N/A	1	2	2	2	N/A	N/A	3	4.8%	11.5%
5171	Wired telecommunications carriers	10,300	7,937	-188	-27	281	89	434	299	740	392	5.2%	4.0%
5172	Wireless telecommunications carriers (except satellite)	2,179	2,950	-40	-5	148	138	292	360	378	399	14.2%	10.5%
5173	Telecommunications resellers	2,637	2,363	178	-64	315	84	489	283	350	361	11.0%	10.7%
5174	Satellite telecommunications	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5211	Monetary authorities - central bank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	27.1%	10.2%
5232	Securities and commodity exchanges	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5511	Management of companies and enterprises	9,370	13,352	3	251	296	649	1,198	2,004	1,329	2,086	9.3%	9.5%
5612	Facilities support services	1,563	3,203	9	-67	106	76	147	405	235	556	12.5%	9.1%
8112	Electronic & precision equipment repair & maintenance	2,365	2,955	-40	-20	102	132	221	298	295	373	8.4%	10.2%

\* Alabama High-Tech Industries were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005

\*\* Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators  
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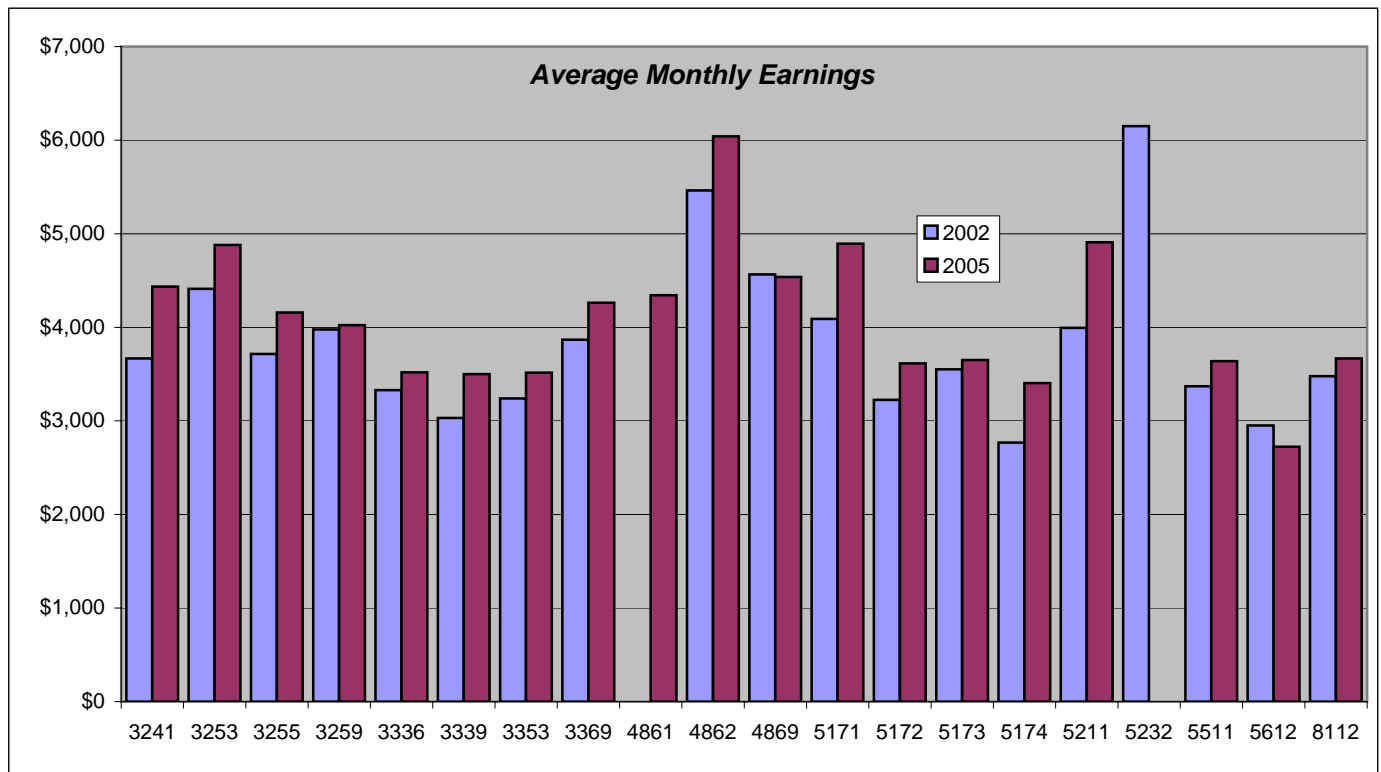


**Alabama  
High Tech Level III  
Quarterly Workforce Indicators**

NAICS	Industry	Avg. Monthly Earnings		Avg. New Hire Earnings	
		2002	2005	2002	2005
3241	Petroleum and coal products manufacturing	\$3,667.75	\$4,436.00	\$2,065.25	\$3,563.00
3253	Pesticide, fertilizer, and other agricultural chemical manuf.	\$4,410.50	\$4,879.25	\$2,164.25	\$3,001.50
3255	Paint, coating, and adhesive manufacturing	\$3,714.75	\$4,158.25	\$1,781.00	\$3,412.50
3259	Other chemical product & preparation manufacturing	\$3,976.25	\$4,023.75	\$2,033.00	\$2,914.50
3336	Engine, turbine, & power transmission equipment manuf.	\$3,328.50	\$3,519.50	\$2,644.25	\$2,592.00
3339	Other general-purpose machinery manufacturing	\$3,031.75	\$3,499.25	\$1,692.50	\$2,656.25
3353	Electrical equipment manufacturing	\$3,239.75	\$3,515.25	\$1,753.75	\$2,525.25
3369	Other transportation equipment manufacturing	\$3,867.00	\$4,262.75	\$2,501.25	\$3,146.25
4861	Pipeline transportation of crude oil	N/A	\$4,342.75	N/A	\$3,120.25
4862	Pipeline transportation of natural gas	\$5,463.00	\$6,040.25	\$3,891.00	\$4,881.75
4869	Other pipeline transportation	\$4,565.00	\$4,538.25	\$2,167.50	\$5,346.00
5171	Wired telecommunications carriers	\$4,089.50	\$4,893.00	\$3,067.50	\$3,559.50
5172	Wireless telecommunications carriers (except satellite)	\$3,225.50	\$3,614.50	\$1,747.00	\$2,601.25
5173	Telecommunications resellers	\$3,550.75	\$3,650.75	\$2,057.00	\$2,359.50
5174	Satellite telecommunications	\$2,767.75	\$3,404.75	N/A	N/A
5211	Monetary authorities - central bank	\$3,994.50	\$4,909.00	\$9,080.25	\$4,492.50
5232	Securities and commodity exchanges	\$6,149.50	N/A	N/A	N/A
5511	Management of companies and enterprises	\$3,370.50	\$3,639.25	\$1,716.50	\$2,392.75
5612	Facilities support services	\$2,950.75	\$2,723.75	\$2,324.50	\$1,925.50
8112	Electronic & precision equipment repair & maintenance	\$3,478.25	\$3,667.75	\$1,909.75	\$2,949.25

\* Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, *Monthly Labor Review*, "High-Technology Employment: A NAICS-Based Update," July 2005

\*\* Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators. See website: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi)



**Alabama  
High Tech**

**Other industries meeting at least one criterion  
Quarterly Workforce Indicators**

NAICS	Industry	Total Employment		Net Job Flows		Job Creation		New Hires		Separations		Turnover	
		2002	2005	2002	2005	2002	2005	2002	2005	2002	2005	2002	2005
3324	Boiler, tank & shipping container manufacturing	2,251	2,195	-157	1	65	101	219	335	441	380	16.1%	10.5%
3329	Other fabricated metal product manufacturing	3,871	3,636	-39	N/A	286	111	299	369	580	434	9.3%	8.1%
3335	Metalworking machinery manufacturing	1,501	1,098	-18	18	41	48	117	142	163	142	6.4%	7.7%
3359	Other electrical equipment & component manufacturing	1,392	1,513	-23	N/A	26	46	123	109	161	114	9.5%	7.6%
3361	Motor vehicle manufacturing	5,609	10,060	348	60	357	119	496	286	163	262	7.4%	6.2%
3362	Motor vehicle body and trailer manufacturing	2,755	5,065	11	350	102	464	263	995	291	708	6.9%	12.7%
3363	Motor vehicle parts manufacturing	11,904	16,725	-86	1,902	307	2,302	653	2,689	878	1,709	6.0%	12.8%

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\*\* Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators

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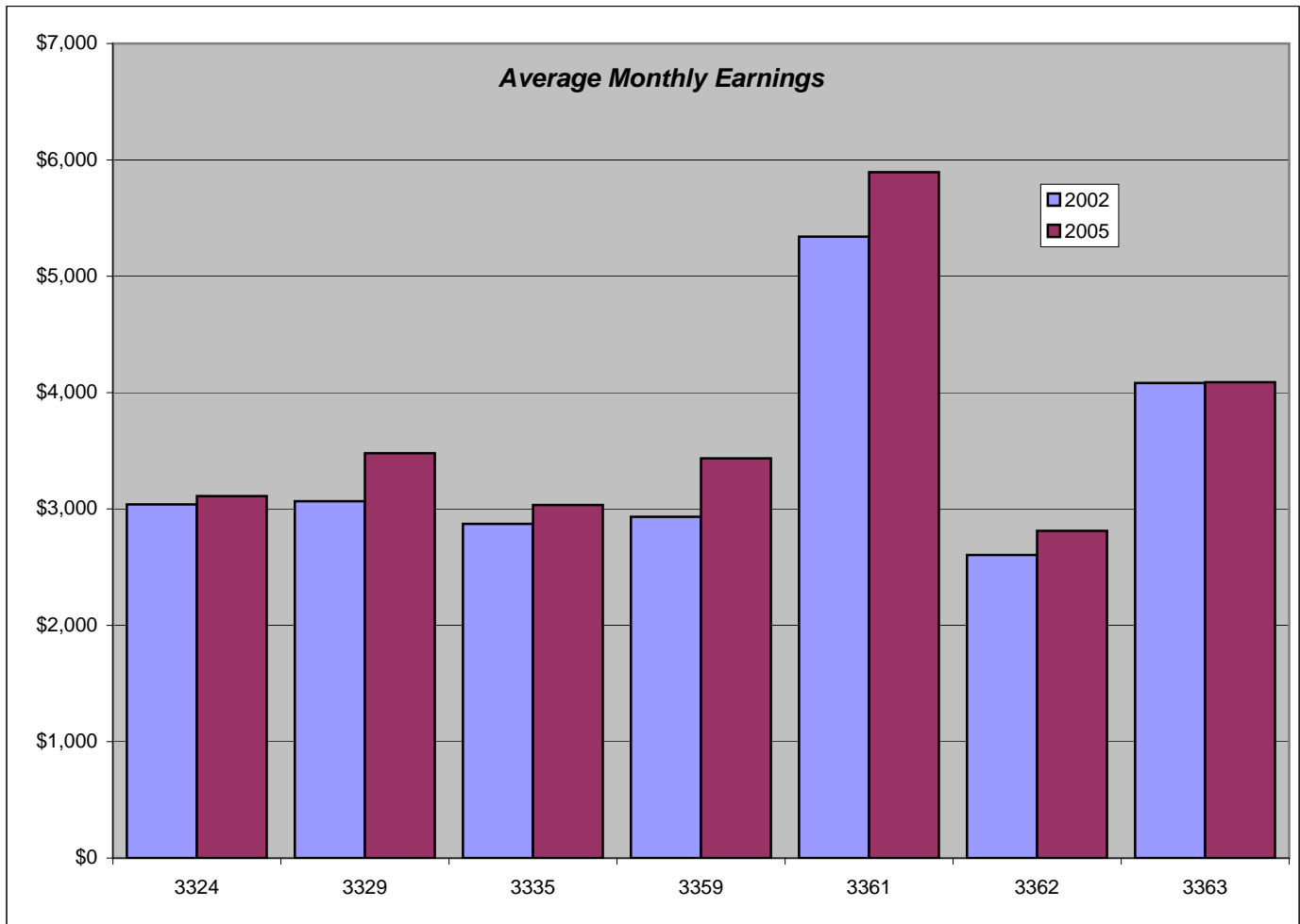
## Alabama High Tech

### Other industries meeting at least one criterion Quarterly Workforce Indicators

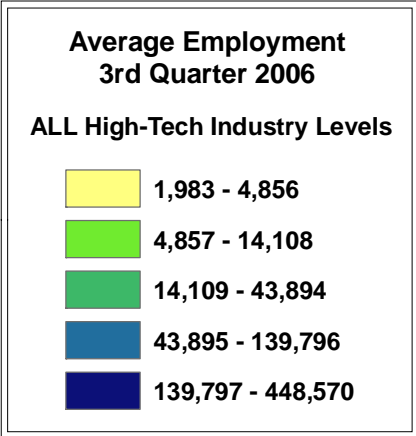
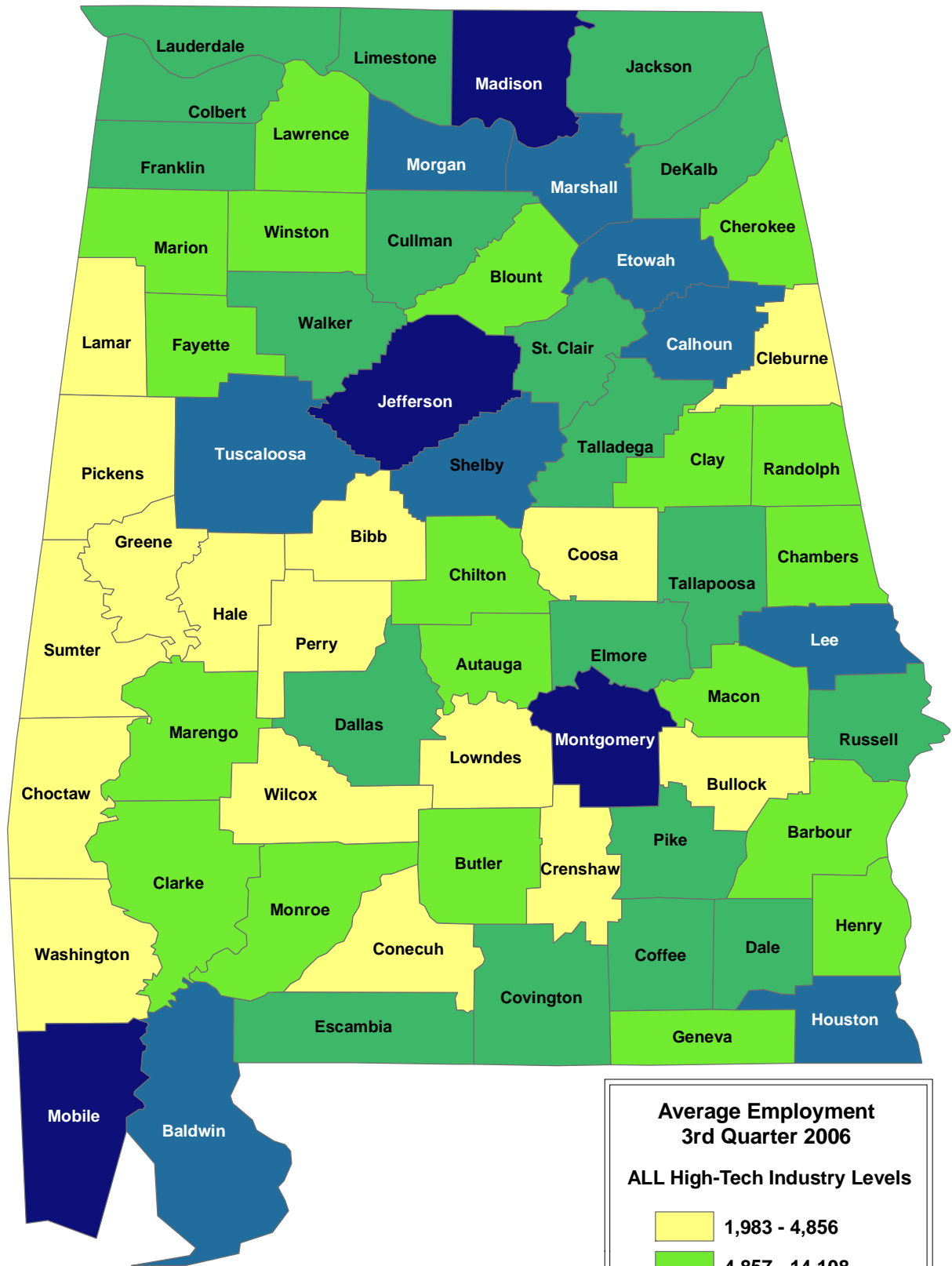
NAICS	Industry	Avg. Monthly Earnings		Avg. New Hire Earnings	
		2002	2005	2002	2005
3324	Boiler, tank & shipping container manufacturing	\$3,038.75	\$3,110.75	\$1,736.00	\$2,077.50
3329	Other fabricated metal product manufacturing	\$3,066.50	\$3,479.50	\$1,533.25	\$2,536.00
3335	Metalworking machinery manufacturing	\$2,872.50	\$3,034.50	\$1,383.00	\$2,182.00
3359	Other electrical equipment & component manufacturing	\$2,933.25	\$3,435.00	\$1,128.50	\$2,891.00
3361	Motor vehicle manufacturing	\$5,340.25	\$5,894.25	\$3,334.25	\$4,016.75
3362	Motor vehicle body and trailer manufacturing	\$2,604.00	\$2,812.50	\$1,386.25	\$2,101.00
3363	Motor vehicle parts manufacturing	\$4,083.25	\$4,089.75	\$2,199.50	\$2,969.75

\* Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, *Monthly Labor Review*, "High-Technology Employment: A NAICS-Based Update," July 2005

\*\* Data Source: U.S. Census Bureau and the Alabama Dept. of Industrial Relations, Local Employment Dynamics Program, Quarterly Workforce Indicators. See website: [www.dir.alabama.gov/lmi](http://www.dir.alabama.gov/lmi)

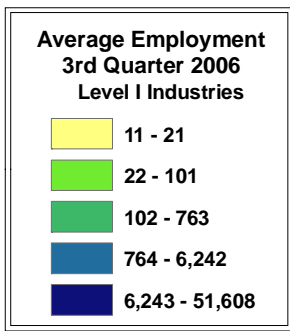
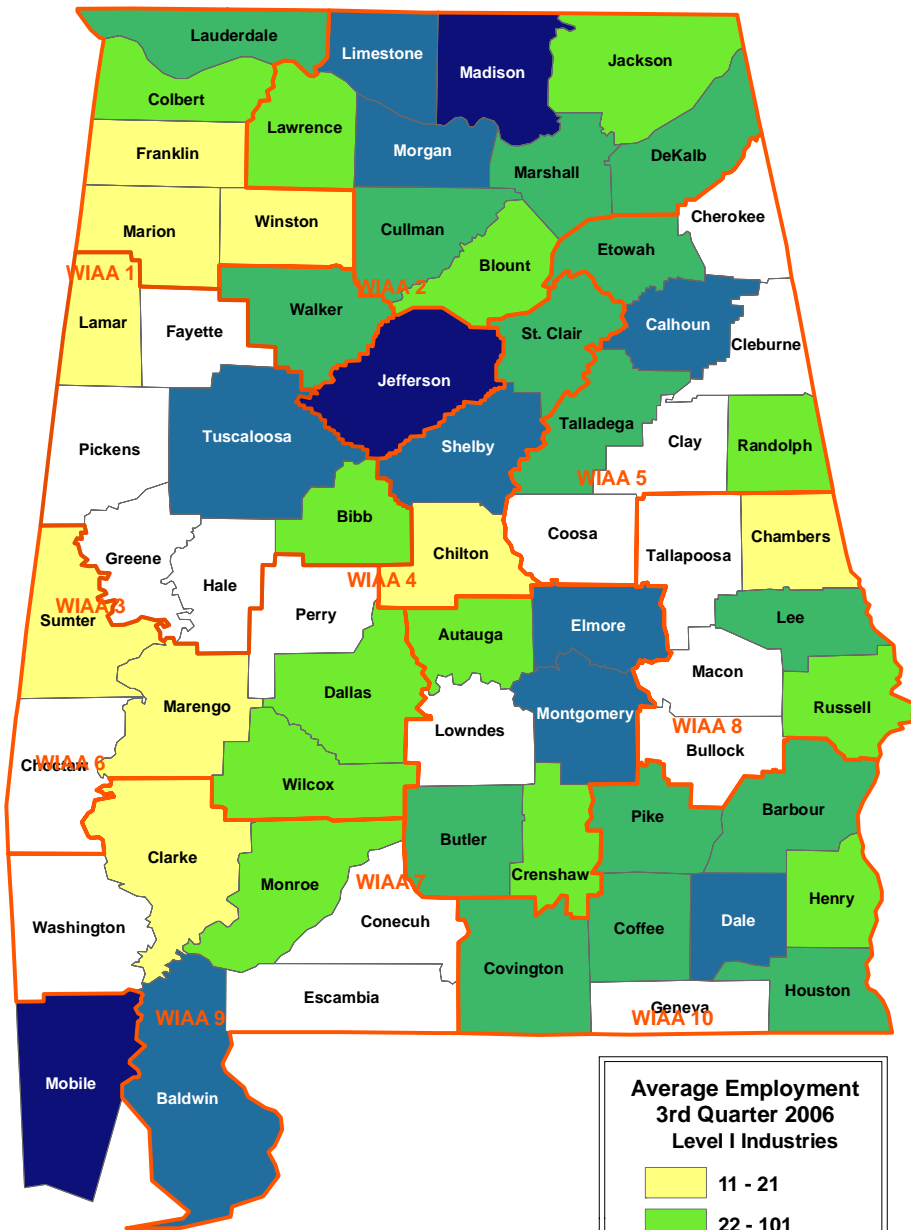


# All Levels of High-Tech

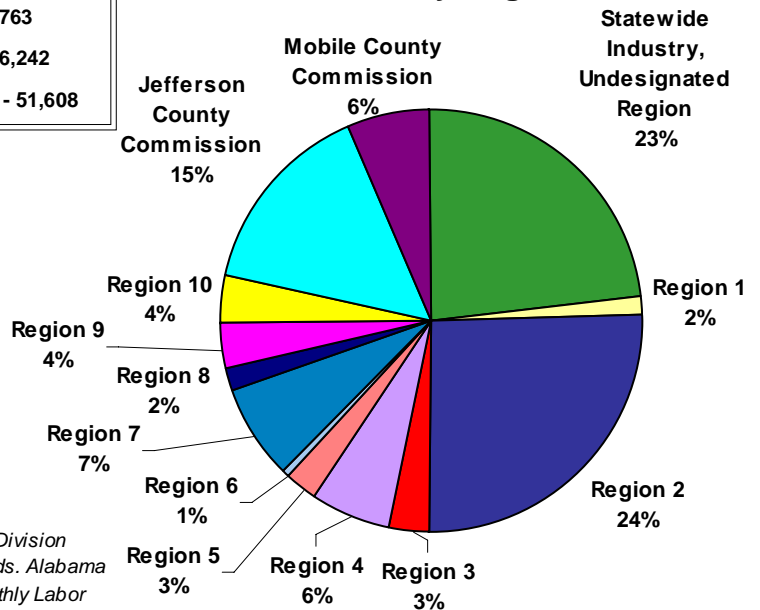


Prepared by the Alabama Department of Industrial Relations, Labor Market Information Division using 3rd Quarter 2006 Enhanced Quarterly Unemployment Insurance aggregated records. Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.

# Level I Industries

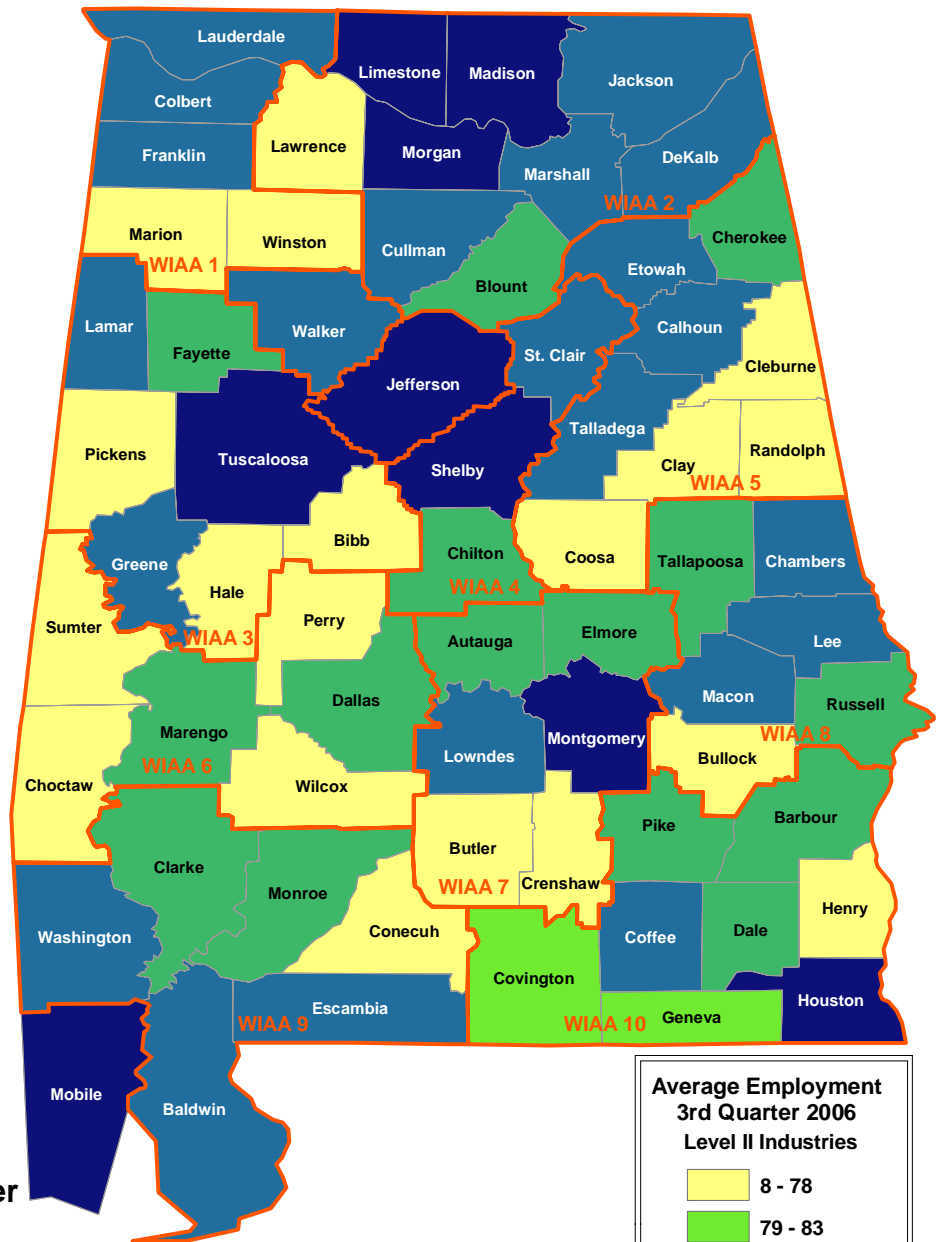


## Level I High-Tech Employer Distribution by Region



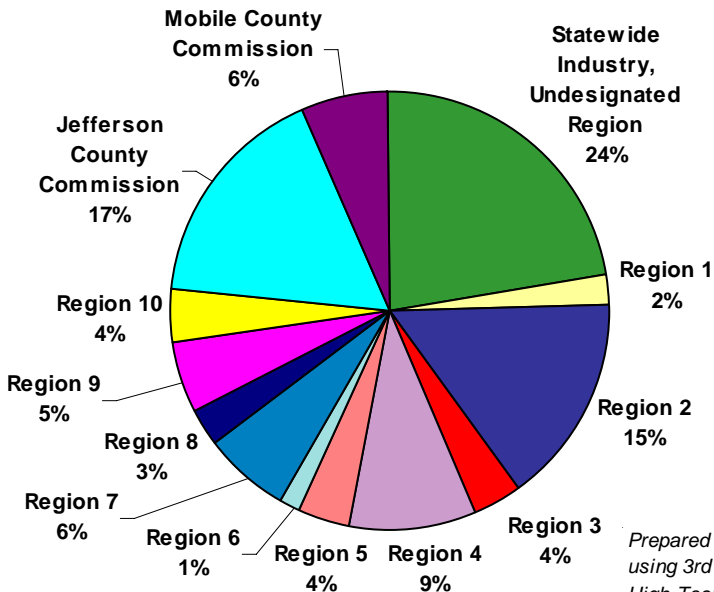
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# Level II Industries



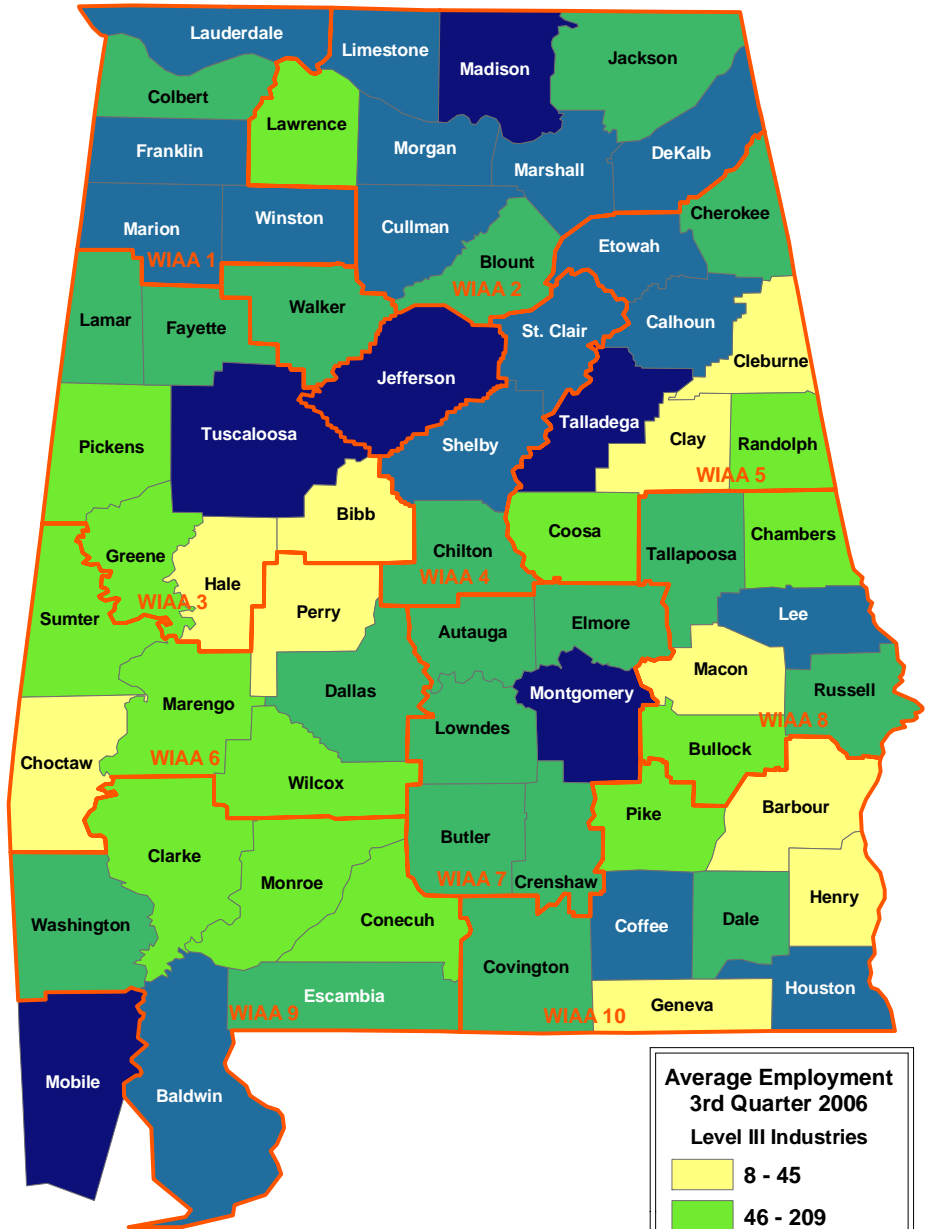
Average Employment 3rd Quarter 2006 Level II Industries	
8 - 78	(Lightest Yellow)
79 - 83	(Light Green)
84 - 153	(Medium Green)
154 - 1,192	(Dark Blue)
1,193 - 16,625	(Darkest Blue)

## Level II High-Tech Employer Distribution by Region



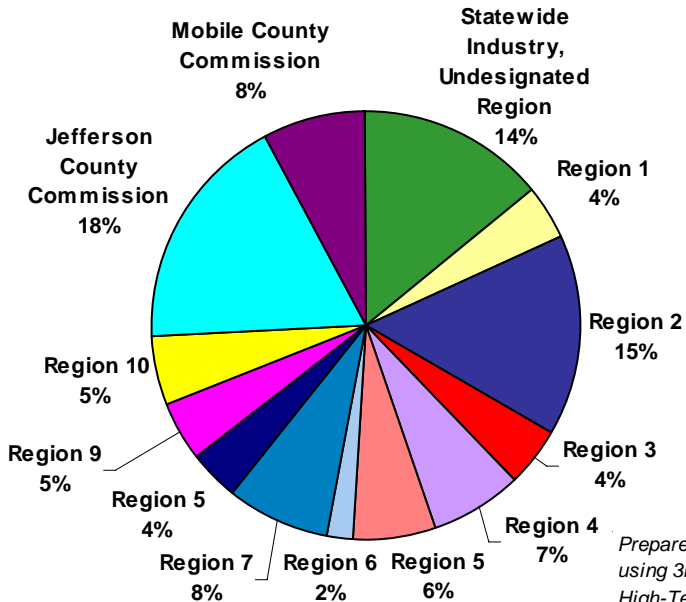
Prepared by the Alabama Department of Industrial Relations, Labor Market Information Division using 3rd Quarter 2006 Enhanced Quarterly Unemployment Insurance aggregated records. Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.

# Level III Industries



Average Employment 3rd Quarter 2006 Level III Industries	
Light Yellow	8 - 45
Light Green	46 - 209
Medium Green	210 - 932
Dark Blue	933 - 4,121
Very Dark Blue	4,122 - 18,187

## Level III High-Tech Employer Distribution by Region



Prepared by the Alabama Department of Industrial Relations, Labor Market Information Division using 3rd Quarter 2006 Enhanced Quarterly Unemployment Insurance aggregated records. Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.

Location Quotients for Alabama's High-Technology Oriented Industries\*

04/2007

Industry	Alabama Annual Average Employment					Annual Employment Change					Percent of Alabama Employment					Alabama's Location Quotient (LQ) with the U.S. as the base area				
	2001	2002	2003	2004	2005	2002-2001	2003-2002	2004-2003	2005-2004	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005	
Base Industry: Total, all industries	1,518,804	1,492,477	1,483,039	1,509,246	1,548,068	-26,327	-9,438	26,207	38,822						3.67	3.66	3.77	4.65	4.84	
NAICS 1131 Timber tract operations	200	188	192	231	254	-12	4	39	23	0.01%	0.01%	0.01%	0.02%	0.02%						
NAICS 1132 Forest nursery and gathering forest products	31	49	61	51	69	18	12	-10	18	0.00%	0.00%	0.00%	0.00%	0.00%	0.92	1.29	1.76	1.43	1.89	
NAICS 2111 Oil and gas extraction	656	613	657	595	620	-43	44	-62	25	0.04%	0.04%	0.04%	0.04%	0.04%	0.38	0.36	0.39	0.35	0.35	
NAICS 3241 Petroleum and coal products manufacturing	2,129	2,239	2,242	2,148	2,134	110	3	-94	-14	0.14%	0.15%	0.14%	0.14%	0.14%	1.27	1.36	1.4	1.37	1.36	
NAICS 3251 Basic chemical manufacturing	3,893	3,787	3,695	3,421	3,161	-106	-92	-274	-260	0.26%	0.25%	0.23%	0.20%	0.20%	1.56	1.61	1.64	1.58	1.49	
NAICS 3252 Resin, rubber, and artificial fibers mfg.	3,468	3,058	2,888	2,713	2,666	-410	-170	-175	-47	0.23%	0.20%	0.19%	0.17%	0.17%	1.99	1.94	1.87	1.83	1.79	
NAICS 3253 Agricultural chemical manufacturing	2,554	2,242	2,019	1,902	1,789	-312	-223	-117	-113	0.17%	0.15%	0.14%	0.13%	0.12%	4	3.67	3.49	3.26	3.16	
NAICS 3254 Pharmaceutical and medicine manufacturing	287	446	413	444	575	159	-33	31	131	0.02%	0.03%	0.03%	0.04%	0.04%	0.07	0.11	0.1	0.11	0.14	
NAICS 3255 Paint, coating, and adhesive manufacturing	782	749	747	738	837	-33	-2	-9	99	0.05%	0.05%	0.05%	0.05%	0.05%	0.75	0.76	0.77	0.77	0.89	
NAICS 3259 Other chemical product and preparation mfg.	537	523	431	446	439	-14	-92	15	-7	0.04%	0.04%	0.03%	0.03%	0.03%	0.32	0.33	0.28	0.3	0.3	
NAICS 3324 Boiler, tank, and shipping container mfg.	2,405	2,101	1,961	2,078	2,082	-304	-140	117	4	0.16%	0.14%	0.13%	0.14%	0.13%	1.69	1.59	1.55	1.65	1.64	
NAICS 3329 Other fabricated metal product manufacturing	4,491	3,770	3,478	3,144	3,170	-721	-292	-334	26	0.30%	0.25%	0.23%	0.21%	0.20%	1.01	0.92	0.89	0.82	0.81	
NAICS 3332 Industrial machinery manufacturing	933	873	726	952	1,060	-60	-147	226	108	0.06%	0.06%	0.05%	0.06%	0.07%	0.45	0.48	0.43	0.57	0.62	
NAICS 3333 Commercial and service industry machinery	847	892	835	822	736	45	-57	-13	-86	0.06%	0.06%	0.06%	0.05%	0.05%	0.44	0.5	0.51	0.52	0.48	
NAICS 3335 Metalworking machinery manufacturing	1,486	1,340	1,200	1,135	1,108	-146	-140	-65	-27	0.10%	0.09%	0.08%	0.08%	0.07%	0.43	0.45	0.43	0.41	0.39	
NAICS 3336 Turbine and power transmission equipment mfg.	1,112	1,251	1,355	1,534	1,667	139	104	179	133	0.07%	0.08%	0.09%	0.10%	0.11%	0.75	0.9	1.04	1.18	1.22	
NAICS 3339 Other general purpose machinery manufacturing	4,178	3,773	3,598	3,666	3,783	-405	-175	68	117	0.28%	0.25%	0.24%	0.24%	0.24%	0.94	0.96	0.99	1	1.01	

\* Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.

Source: AL Department of Industrial Relations, LMI Division and the BLS, LQ Calculator.



Location Quotients for Alabama's High-Technology Oriented Industries\*

04/2007

Industry	Alabama Annual Average Employment					Annual Employment Change					Percent of Alabama Employment					Alabama's Location Quotient (LQ) with the U.S. as the base area				
	2001	2002	2003	2004	2005	2002-2001	2003-2002	2004-2003	2005-2004	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005	
NAICS 3341 Computer and peripheral equipment mfg.	5,017	4,303	4,485	3,878	3,754	-714	182	-607	-124	0.33%	0.29%	0.30%	0.26%	1.26	1.26	1.46	1.33	1.32		
NAICS 3342 Communications equipment manufacturing	2,571	ND	ND	ND	ND	-2,571	ND	ND	ND	0.17%	ND	ND	ND	0.78	ND	ND	ND	ND		
NAICS 3343 Audio and video equipment manufacturing	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
NAICS 3344 Semiconductor and electronic component mfg.	4,188	4,000	2,820	2,758	2,637	-188	-1,180	-62	-121	0.28%	0.27%	0.19%	0.18%	0.47	0.55	0.44	0.44	0.42		
NAICS 3345 Electronic instrument manufacturing	ND	2,092	2,160	ND	2,245	2,092	68	-2,160	2,245	ND	0.14%	0.15%	ND	ND	0.34	0.36	ND	0.37		
NAICS 3346 Magnetic media manufacturing and reproducing	3,499	3,415	3,659	3,742	3,914	-84	244	83	172	0.23%	0.23%	0.25%	0.25%	4.02	4.42	5.42	5.66	6.31		
NAICS 3353 Electrical equipment manufacturing	1,453	1,331	1,121	1,100	1,051	-122	-210	-21	-49	0.10%	0.09%	0.08%	0.07%	0.54	0.55	0.51	0.51	0.5		
NAICS 3359 Other electrical equipment and component mfg.	2,057	1,541	1,360	1,346	1,508	-516	-181	-14	162	0.14%	0.10%	0.09%	0.09%	0.83	0.74	0.71	0.71	0.79		
NAICS 3361 Motor vehicle manufacturing	3,434	5,052	5,905	7,133	8,676	1,618	853	1,228	1,543	0.23%	0.34%	0.40%	0.47%	0.89	1.37	1.65	2	2.49		
NAICS 3362 Motor vehicle body and trailer manufacturing	2,681	2,717	3,189	3,788	5,018	36	472	599	1,230	0.18%	0.18%	0.22%	0.25%	1.21	1.27	1.51	1.65	2.11		
NAICS 3363 Motor vehicle parts manufacturing	12,163	12,207	12,042	13,042	17,182	44	-165	1,000	4,140	0.80%	0.82%	0.81%	0.86%	1.14	1.21	1.24	1.36	1.81		
NAICS 3364 Aerospace product and parts manufacturing	10,163	13,044	11,392	11,486	11,488	2,881	-1,652	94	2	0.67%	0.87%	0.77%	0.76%	1.45	2.02	1.88	1.88	1.81		
NAICS 3369 Other transportation equipment manufacturing	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
NAICS 4234 Commercial equip. merchant wholesalers	5,030	4,717	4,405	4,396	4,505	-313	-312	-9	109	0.33%	0.32%	0.30%	0.29%	0.52	0.52	0.49	0.5	0.51		
NAICS 4861 Pipeline transportation of crude oil	ND	ND	ND	ND	26	ND	ND	ND	26	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.27	
NAICS 4862 Pipeline transportation of natural gas	442	443	445	451	446	1	2	6	-5	0.03%	0.03%	0.03%	0.03%	1	1.08	1.15	1.27	1.24		
NAICS 4869 Other pipeline transportation	ND	ND	ND	ND	113	ND	ND	ND	113	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.51	

\* Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.

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04/2007

Industry	Alabama Annual Average Employment					Annual Employment Change					Percent of Alabama Employment					Alabama's Location Quotient (LQ) with the U.S. as the base area				
	2001	2002	2003	2004	2005	2002-2001	2003-2002	2004-2003	2005-2004	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005	
NAICS 2211 Power generation and supply	11,982	11,594	11,454	11,494	10,340	-388	-140	40	-1,154	0.79%	0.78%	0.77%	0.76%	0.67%	1.98	1.94	1.98	2.02	1.85	
NAICS 5112 Software publishers	502	480	477	492	482	-22	-3	15	-10	0.03%	0.03%	0.03%	0.03%	0.03%	0.13	0.14	0.15	0.15	0.15	
NAICS 5161 Internet publishing and broadcasting	107	77	75	102	115	-30	-2	27	13	0.01%	0.01%	0.01%	0.01%	0.01%	0.18	0.16	0.18	0.25	0.26	
NAICS 5171 Wired telecommunications carriers	11,572	10,651	8,857	8,204	8,091	-921	-1,794	-653	-113	0.76%	0.71%	0.60%	0.54%	0.52%	1.15	1.2	1.12	1.1	1.14	
NAICS 5172 Wireless telecommunications carriers	2,681	2,546	2,552	2,809	2,892	-135	6	257	83	0.18%	0.17%	0.17%	0.19%	0.19%	0.96	0.94	0.97	1.07	1.08	
NAICS 5173 Telecommunications resellers	2,937	2,674	2,996	2,907	2,366	-263	322	-89	-541	0.19%	0.18%	0.20%	0.19%	0.15%	1.01	1.08	1.37	1.43	1.25	
NAICS 5174 Satellite telecommunications	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
NAICS 5179 Other telecommunications	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
NAICS 5181 ISPs and web search portals	404	389	361	349	312	-15	-28	-12	-37	0.03%	0.03%	0.02%	0.02%	0.02%	0.17	0.21	0.22	0.21	0.19	
NAICS 5182 Data processing and related services	2,516	2,599	1,702	1,519	1,543	83	-897	-183	24	0.17%	0.17%	0.11%	0.10%	0.10%	0.57	0.62	0.44	0.41	0.42	
NAICS 5211 Monetary authorities - central bank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
NAICS 5232 Securities and commodity exchanges	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
NAICS 5413 Architectural and engineering services	20,251	20,099	22,619	23,789	24,943	-152	2,520	1,170	1,154	1.33%	1.35%	1.53%	1.58%	1.61%	1.15	1.17	1.33	1.36	1.36	
NAICS 5415 Computer systems design and related services	14,534	14,805	14,857	15,300	16,230	271	52	443	930	0.96%	0.99%	1.00%	1.01%	1.05%	0.82	0.94	0.97	0.96	0.97	
NAICS 5416 Management and technical consulting services	4,135	5,024	5,417	6,630	7,485	889	393	1,213	855	0.27%	0.34%	0.37%	0.44%	0.48%	0.4	0.49	0.52	0.61	0.63	
NAICS 5417 Scientific research and development services	8,459	5,452	5,279	4,487	4,469	-3,007	-173	-792	-18	0.56%	0.37%	0.36%	0.30%	0.29%	1.15	0.74	0.71	0.59	0.56	
NAICS 55111 Management of companies and enterprises	8,959	9,536	9,569	10,579	12,301	577	33	1,010	1,722	0.59%	0.64%	0.65%	0.70%	0.79%	0.38	0.41	0.42	0.45	0.5	

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## Location Quotients for Alabama's High-Technology Oriented Industries\*

04/2007

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	2001	2002	2003	2004	2005	2002-2001	2003-2002	2004-2003	2005-2004	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005	
NAICS 5612 Facilities support services	1,847	1,963	2,308	3,029	2,710	116	345	721	-319	0.12%	0.13%	0.16%	0.20%	0.18%	1.35	1.41	1.56	1.93	1.67	
NAICS 8112 Electronic equipment repair and maintenance	2,536	2,307	2,187	2,472	2,835	-229	-120	285	363	0.17%	0.15%	0.15%	0.16%	0.18%	1.71	1.6	1.56	1.76	1.92	

**Data Highlights**

The greatest **Annual Employment Change** occurred in NAICS 3363 and the lowest change occurred in NAICS 5417.

The **Percent of Alabama Employment** in NAICS 5413 is greater than any other high technology industry area.

**Location Quotients** of 2.00 or greater have a very significant share over the nation. This figure implies that the industry exports services or goods. A figure between 1.00 and 1.99 implies Alabama has a higher share of an industry than the nation.

\* Alabama High-Tech industries were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.

Source: AL Department of Industrial Relations, LMI Division and the BLS, LQ Calculator.

High-Tech Technology Industries\* Statewide Projections

Dated: 04/2007

NAICS	2002 NAICS Title	Base Year 2004 Employment	Projected Year 2014 Employment	Net Change	Percent Change
<b>Level I</b>					
3254	Pharmaceutical and Medicine Manufacturing	440	550	110	25
3341	Computer and Peripheral Equipment Manufacturing	3850	3,300	-550	-14
3342	Communications Equipment Manufacturing	2100	2,280	180	9
3344	Semiconductor and Other Electronic Component Manufacturing	2740	2,490	-250	-9
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	2180	1,910	-270	-12
3364	Aerospace Product and Parts Manufacturing	11530	14,940	3,410	30
5112	Software Publishers	490	610	120	24
5181	Internet Service Providers and Web Search Portals	350	420	70	20
5182	Data Processing, Hosting, and Related Services	1510	2,120	610	40
5413	Architectural, Engineering, and Related Services	23770	27,380	3,610	15
5415	Computer Systems Design and Related Services	15230	22,210	6,980	46
5417	Scientific Research and Development Services	4580	9,640	5,060	110
<b>Level II</b>					
3251	Basic Chemical Manufacturing	3400	2,890	-510	-15
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing	2700	2,020	-680	-25
3332	Industrial Machinery Manufacturing	940	1,020	80	9
3333	Commercial and Service Industry Machinery Manufacturing	810	1,060	250	31
3346	Manufacturing and Reproducing Magnetic and Optical Media	3710	4,050	340	9
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	4400	5,270	870	20
5416	Management, Scientific, and Technical Consulting Services	5920	9,840	3,920	66
<b>Level III</b>					
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing	1890	1,550	-340	-18
3255	Paint, Coating, and Adhesive Manufacturing	730	680	-50	-7
3259	Other Chemical Product and Preparation Manufacturing	440	400	-40	-9
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	1520	1,820	300	20
3339	Other General Purpose Machinery Manufacturing	3640	3,820	180	5
3353	Electrical Equipment Manufacturing	1070	1,090	20	2
5171	Wired Telecommunications Carriers	8220	6,760	-1,460	-18
5172	Wireless Telecommunications Carriers (except Satellite)	2780	3,600	820	30
5173	Telecommunications Resellers	2870	2,780	-90	-3
5612	Facilities Support Services	3110	4,150	1,040	33
8112	Electronic and Precision Equipment Repair and Maintenance	2300	2,460	160	7
<b>Other industries meeting at least one criterion</b>					
3324	Boiler, Tank, and Shipping Container Manufacturing	2080	1,850	-230	-11
3329	Other Fabricated Metal Product Manufacturing	3140	2,850	-290	-9
3335	Metalworking Machinery Manufacturing	1120	1,080	-40	-4
3359	Other Electrical Equipment and Component Manufacturing	1310	1,100	-210	-16
3361	Motor Vehicle Manufacturing	7140	12,300	5,160	72
3362	Motor Vehicle Body and Trailer Manufacturing	3750	4,180	430	11
3363	Motor Vehicle Parts Manufacturing	12920	16,870	3,950	31

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Source: Alabama Department of Industrial Relations, Labor Market Information Division.

## High-Technology Occupations\* Statewide Projections and Wages

SOC	SOC Title	Employment			Average Annual Job Openings			Annual Salary		
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	2,860	3,720	2.66	135	85	50	54,170	81,070	94,520
119041	Engineering Managers	2,770	3,410	2.10	120	65	55	66,620	96,190	110,980
119121	Natural Sciences Managers	220	250	1.29	10	5	5	60,060	88,790	103,150
151011	Computer and Information Scientists, Research	370	550	4.04	25	20	5	65,850	90,450	102,750
151021	Computer Programmers	5,180	5,520	0.64	155	35	120	34,640	66,790	82,860
151031	Computer Software Engineers, Applications	3,560	5,620	4.67	240	205	35	49,410	71,690	82,830
151032	Computer Software Engineers, Systems Software	2,460	4,080	5.19	185	160	25	54,880	76,800	87,750
151041	Computer Support Specialists	5,270	6,650	2.35	205	140	65	20,820	36,250	43,960
151051	Computer Systems Analysts	7,670	10,180	2.87	335	250	85	44,040	65,240	75,840
151061	Database Administrators	760	1,130	4.05	45	35	10	34,080	54,140	64,180
151071	Network and Computer Systems Administrators	2,790	4,050	3.80	155	125	30	36,690	54,550	63,470
151081	Network Systems and Data Communications Analysts	2,320	3,600	4.49	155	130	25	35,900	54,350	63,580
152011	Actuaries	80	90	1.18	5	0	5	47,080	82,690	100,490
152021	Mathematicians	10	10	0.00	0	0	0	73,180	83,370	88,460
152031	Operations Research Analysts	860	1,060	2.11	40	20	20	36,750	66,510	81,400
152041	Statisticians	160	170	0.61	5	0	5	36,550	55,070	64,330
172011	Aerospace Engineers	2,760	3,340	1.93	130	60	70	62,760	84,340	95,130
172021	Agricultural Engineers	160	150	-0.64	5	0	5	29,220	51,400	62,490
172031	Biomedical Engineers	20	40	7.18	0	0	0	33,160	55,710	66,990
172041	Chemical Engineers	590	660	1.13	25	5	20	55,080	76,510	87,220
172051	Civil Engineers	2,910	3,380	1.51	90	45	45	40,830	63,200	74,380
172061	Computer Hardware Engineers	920	1,200	2.69	45	30	15	49,710	79,420	94,280
172071	Electrical Engineers	3,200	3,880	1.95	135	70	65	53,760	72,900	82,460
172072	Electronics Engineers, Except Computer	2,030	2,370	1.56	75	35	40	55,290	78,680	90,380
172081	Environmental Engineers	890	1,140	2.51	40	25	15	43,160	76,970	93,870
172111	Health & Safety Engineers, Exc. Mining Safety Engineers & Inspectors	320	360	1.18	15	5	10	41,810	63,500	74,350
172112	Industrial Engineers	2,120	2,810	2.86	120	70	50	45,630	65,130	74,870
172131	Materials Engineers	360	490	3.13	25	15	10	48,710	73,380	85,710
172141	Mechanical Engineers	2,500	3,240	2.63	145	75	70	46,150	70,210	82,250
172151	Mining and Geological Engineers, Including Mining Safety Engineers	90	90	0.00	5	0	5	41,060	60,440	70,130
172171	Petroleum Engineers	20	20	0.00	0	0	0	52,450	71,900	81,630
173011	Architectural and Civil Drafters	1,400	1,470	0.49	45	5	40	26,590	38,880	45,030
173012	Electrical and Electronics Drafters	900	960	0.65	30	5	25	31,340	47,740	55,940
173013	Mechanical Drafters	970	1,080	1.08	35	10	25	28,120	43,500	51,200
173021	Aerospace Engineering and Operations Technicians	210	230	0.91	5	0	5	42,020	65,010	76,500
173022	Civil Engineering Technicians	2,000	2,190	0.91	60	20	40	19,920	29,740	34,650
173023	Electrical and Electronic Engineering Technicians	3,290	3,760	1.34	115	45	70	32,680	48,140	55,870
173024	Electro-Mechanical Technicians	100	110	0.96	0	0	0	27,440	43,380	51,350
173025	Environmental Engineering Technicians	320	390	2.00	10	5	5	22,180	38,160	46,160
173026	Industrial Engineering Technicians	570	670	1.63	20	10	10	28,680	40,860	46,940

## High-Technology Occupations\* Statewide Projections and Wages

SOC	SOC Title	Employment			Average Annual Job Openings			Annual Salary		
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
173027	Mechanical Engineering Technicians	510	620	1.97	20	10	10	29,740	45,410	53,240
173031	Surveying and Mapping Technicians	1,120	1,240	1.02	50	10	40	18,040	27,370	32,040
191012	Food Scientists and Technologists	130	140	0.74	0	0	0	27,810	39,820	45,830
191013	Soil and Plant Scientists	120	140	1.55	0	0	0	34,480	53,220	62,590
191021	Biochemists and Biophysicists	90	140	4.52	10	5	5	40,130	70,960	86,380
191022	Microbiologists	160	190	1.73	10	5	5	30,620	46,280	54,110
191023	Zoologists and Wildlife Biologists	110	120	0.87	5	0	0	35,870	52,230	60,400
191031	Conservation Scientists	120	130	0.80	5	0	0	39,830	57,680	66,600
191032	Foresters	590	570	-0.34	15	0	15	29,710	49,710	59,710
191042	Medical Scientists, Except Epidemiologists	120	210	5.76	10	10	10	30,590	51,780	62,380
192012	Physicists	170	180	0.57	5	0	5	67,950	93,980	106,990
192021	Atmospheric and Space Scientists	130	150	1.44	5	5	5	42,100	73,000	88,450
192031	Chemists	670	720	0.72	25	5	20	33,880	58,060	70,150
192032	Materials Scientists	40	50	2.26	0	0	0	52,340	76,130	88,030
192041	Environmental Scientists and Specialists, Including Health	1,640	1,920	1.59	60	30	30	29,870	45,780	53,740
192042	Geoscientists, Except Hydrologists and Geographers	140	150	0.69	0	0	0	39,990	54,710	62,060
192043	Hydrologists	50	80	4.81	5	5	5	38,950	56,500	65,270
194011	Agricultural and Food Science Technicians	920	1,080	1.62	35	15	20	24,600	28,630	30,650
194021	Biological Technicians	450	570	2.39	25	15	10	20,000	28,890	33,330
194031	Chemical Technicians	880	1,030	1.59	35	15	20	28,260	42,020	48,900
194041	Geological and Petroleum Technicians	20	30	4.14	0	0	0	26,830	38,010	43,610
194091	Environmental Science and Protection Technicians, Including Health	230	300	2.69	10	5	5	25,770	43,230	51,970
194092	Forensic Science Technicians	220	290	2.80	10	5	5	30,360	44,490	51,560
194093	Forest and Conservation Technicians	300	330	0.96	10	5	5	22,120	31,000	35,430

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.  
Source: Alabama Department of Industrial Relations, Labor Market Information Division.  
Dated: 04/2007

## High-Technology Occupations\* Region 1 Projections and Wages

SOC	SOC Title	Employment		Average Annual Job Openings			Annual Salary			
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	50	60	1.84	0	0	0	42,777	71,616	86,036
119041	Engineering Managers	70	80	1.34	0	0	0	49,028	69,932	80,383
151021	Computer Programmers	120	110	-0.87	5	0	5	35,123	58,632	70,387
151051	Computer Systems Analysts	90	100	1.06	0	0	0	35,243	53,250	62,294
151061	Database Administrators	20	30	4.14	0	0	0	44,012	60,738	69,101
151071	Network and Computer Systems Administrators	40	60	4.14	0	0	0	33,903	43,999	49,046
151081	Network Systems and Data Communications Analysts	50	60	1.84	0	0	0	25,024	35,980	41,457
172041	Chemical Engineers	40	40	0.00	0	0	0	51,285	68,647	77,328
172051	Civil Engineers	90	100	1.06	0	0	0	33,082	56,801	68,661
172071	Electrical Engineers	40	50	2.26	0	0	0	48,320	62,362	69,383
172081	Environmental Engineers	20	30	4.14	0	0	0	48,534	77,063	91,328
172112	Industrial Engineers	40	60	4.14	0	0	0	37,421	56,481	66,012
172141	Mechanical Engineers	70	80	1.34	0	0	0	35,367	51,578	59,684
173011	Architectural and Civil Drafters	40	40	0.00	0	0	0	24,204	37,878	44,714
173013	Mechanical Drafters	60	70	1.55	0	0	0	22,147	31,749	36,551
173022	Civil Engineering Technicians	100	100	0.00	0	0	0	19,577	24,785	27,389
173023	Electrical and Electronic Engineering Technicians	50	50	0.00	0	0	0	33,168	44,285	49,844
173031	Surveying and Mapping Technicians	20	20	0.00	0	0	0	17,437	28,674	34,292
191032	Foresters	40	40	0.00	0	0	0	21,000	37,280	45,421
192031	Chemists	50	50	0.00	0	0	0	34,081	54,590	64,844
194031	Chemical Technicians	40	40	0.00	0	0	0	22,285	37,061	44,449
194093	Forest and Conservation Technicians	30	30	0.00	0	0	0	22,179	31,631	36,356

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.

Source: Alabama Department of Industrial Relations, Labor Market Information Division.

Dated: 04/2007

## High-Technology Occupations\* Region 2 Projections and Wages

SOC	SOC Title	Employment			Average Annual Job Openings			Annual Salary		
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	770	1,080	3.44	45	30	15	58,037	85,571	99,337
119041	Engineering Managers	1,420	1,780	2.29	65	35	30	69,619	97,483	111,415
119121	Natural Sciences Managers	70	90	2.54	0	0	0	68,724	94,066	106,738
151021	Computer Programmers	1,810	2,010	1.05	65	20	45	38,720	84,807	107,851
151031	Computer Software Engineers, Applications	1,690	2,860	5.40	135	120	15	53,185	77,552	89,736
151032	Computer Software Engineers, Systems Software	1,190	2,090	5.79	100	90	10	58,749	81,550	92,951
151041	Computer Support Specialists	1,050	1,410	2.99	50	35	15	22,213	37,030	44,438
151051	Computer Systems Analysts	3,550	4,910	3.30	175	135	40	51,605	72,765	83,345
151061	Database Administrators	180	300	5.24	10	10	0	33,232	51,220	60,214
151071	Network and Computer Systems Administrators	660	1,090	5.14	50	45	5	36,351	54,259	63,213
151081	Network Systems and Data Communications Analysts	490	840	5.54	40	35	5	38,576	58,873	69,022
152031	Operations Research Analysts	460	590	2.52	25	15	10	47,282	76,218	90,686
172011	Aerospace Engineers	2,340	2,870	2.06	115	55	60	65,976	85,158	94,749
172051	Civil Engineers	590	710	1.87	20	10	10	43,677	67,646	79,630
172061	Computer Hardware Engineers	670	880	2.76	30	20	10	52,846	80,833	94,827
172071	Electrical Engineers	1,350	1,670	2.15	55	30	25	51,956	73,010	83,537
172072	Electronics Engineers, Except Computer	1,520	1,800	1.71	60	30	30	55,405	79,028	90,839
172081	Environmental Engineers	230	320	3.36	15	10	5	43,677	72,730	87,257
172111	Health & Safety Engineers, Exc. Mining Safety Engineers & Inspectors	80	100	2.26	0	0	0	53,171	78,347	90,935
172112	Industrial Engineers	630	790	2.29	30	15	15	46,573	67,594	78,104
172131	Materials Engineers	160	200	2.26	10	5	5	52,183	76,640	88,868
172141	Mechanical Engineers	990	1,220	2.11	45	20	25	48,944	72,467	84,229
172161	Nuclear Engineers	30	30	0.00	0	0	0	73,715	83,913	89,012
173011	Architectural and Civil Drafters	290	310	0.67	10	0	10	25,631	37,631	43,631
173012	Electrical and Electronics Drafters	250	260	0.39	5	0	5	30,727	47,395	55,729
173013	Mechanical Drafters	260	290	1.10	10	5	5	27,842	43,641	51,541
173021	Aerospace Engineering and Operations Technicians	190	220	1.48	5	0	5	42,618	65,648	77,163
173022	Civil Engineering Technicians	320	340	0.61	5	0	5	23,132	31,934	36,335
173023	Electrical and Electronic Engineering Technicians	1,310	1,630	2.21	55	30	25	28,968	46,903	55,870
173024	Electro-Mechanical Technicians	40	40	0.00	0	0	0	29,247	37,445	41,545
173025	Environmental Engineering Technicians	110	130	1.68	0	0	0	29,996	49,284	58,928
173026	Industrial Engineering Technicians	220	230	0.45	5	0	5	28,142	40,048	46,002
173027	Mechanical Engineering Technicians	280	350	2.26	10	5	5	32,493	47,631	55,200
173031	Surveying and Mapping Technicians	210	240	1.34	15	5	10	17,654	26,086	30,302
191031	Conservation Scientists	20	20	0.00	0	0	0	41,228	61,574	71,748
191042	Medical Scientists, Except Epidemiologists	20	30	4.14	0	0	0	22,882	58,439	76,218
192012	Physicists	130	140	0.74	5	0	5	76,898	97,149	107,275
192031	Chemists	130	140	0.74	5	0	5	39,199	67,000	80,900
192032	Materials Scientists	20	20	0.00	0	0	0	61,989	89,520	103,286
192041	Environmental Scientists and Specialists, Including Health	220	260	1.68	10	5	5	28,434	48,187	58,064



## High-Technology Occupations\* Region 2 Projections and Wages

SOC	SOC Title	Employment		Average Annual Job Openings		Annual Salary			
		2004	2014	Total	Growth	Entry	Mean	Experienced	
192042	Geoscientists, Except Hydrologists and Geographers	10	10	0	0.00	0	62,871	72,961	78,006
194021	Biological Technicians	30	40	0	2.92	0	23,525	32,310	36,702
194031	Chemical Technicians	120	130	5	0.80	5	28,178	40,653	46,891
194092	Forensic Science Technicians	30	50	0	5.24	0	36,233	45,846	50,652
194093	Forest and Conservation Technicians	30	40	0	2.92	0	20,623	28,010	31,704

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.  
Source: Alabama Department of Industrial Relations, Labor Market Information Division.  
Dated: 04/2007

## High-Technology Occupations\* Region 3 Projections and Wages

SOC	SOC Title	Employment			Average Annual Job Openings			Annual Salary		
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	80	100	2.26	0	0	0	45,037	67,858	79,268
119041	Engineering Managers	90	100	1.06	0	0	0	63,879	80,040	88,120
151021	Computer Programmers	140	140	0.00	5	0	5	39,361	66,261	79,711
151032	Computer Software Engineers, Systems Software	20	20	0.00	0	0	0	20,472	37,892	46,602
151041	Computer Support Specialists	180	210	1.55	5	5	0	22,079	39,283	47,885
151051	Computer Systems Analysts	130	160	2.10	5	5	0	36,915	53,981	62,515
151061	Database Administrators	20	30	4.14	0	0	0	41,385	53,732	59,905
151071	Network and Computer Systems Administrators	80	120	4.14	5	5	0	30,486	47,254	55,638
151081	Network Systems and Data Communications Analysts	70	100	3.63	5	5	0	30,790	49,827	59,345
172041	Chemical Engineers	20	30	4.14	0	0	0	61,520	75,665	82,737
172051	Civil Engineers	160	190	1.73	10	5	5	30,295	51,995	62,844
172071	Electrical Engineers	120	160	2.92	5	5	0	47,110	63,792	72,134
172081	Environmental Engineers	20	20	0.00	0	0	0	50,956	70,592	80,409
172111	Hlth & Safety Engineers, Exc. Mining Safety Engineers & Inspectors	20	20	0.00	0	0	0	35,451	55,405	65,382
172112	Industrial Engineers	160	230	3.70	10	5	5	41,893	60,483	69,778
172131	Materials Engineers	20	20	0.00	0	0	0	52,532	68,640	76,695
172141	Mechanical Engineers	160	240	4.14	15	10	0	55,406	90,779	108,465
173011	Architectural and Civil Drafters	60	70	1.55	0	0	0	26,184	32,556	35,741
173013	Mechanical Drafters	40	40	0.00	0	0	0	21,235	32,100	37,532
173022	Civil Engineering Technicians	190	200	0.51	5	0	5	19,509	26,871	30,552
173023	Electrical and Electronic Engineering Technicians	60	60	0.00	0	0	0	38,510	48,685	53,773
173025	Environmental Engineering Technicians	10	10	0.00	0	0	0	27,445	38,797	44,472
173026	Industrial Engineering Technicians	20	30	4.14	0	0	0	32,540	45,868	52,532
173031	Surveying and Mapping Technicians	80	90	1.18	5	0	5	19,786	29,607	34,518
191032	Foresters	80	80	0.00	0	0	0	27,237	43,270	51,286
192041	Environmental Scientists and Specialists, Including Health	80	80	0.00	0	0	0	33,244	45,962	52,321
192042	Geoscientists, Except Hydrologists and Geographers	50	50	0.00	0	0	0	44,959	53,482	57,743
194031	Chemical Technicians	120	140	1.55	10	5	5	28,415	39,296	44,737

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.  
Source: Alabama Department of Industrial Relations, Labor Market Information Division.  
Dated: 04/2007

## High-Technology Occupations\* Region 4 Projections and Wages

SOC	SOC Title	Employment		Average Annual Job Openings			Annual Salary			
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	150	220	3.90	10	5	5	57,991	81,895	93,847
119041	Engineering Managers	90	110	2.03	5	5	0	64,147	94,554	109,757
119121	Natural Sciences Managers	10	10	0.00	0	0	0	44,178	65,858	76,698
151031	Computer Software Engineers, Applications	330	650	7.01	35	30	5	58,880	76,777	85,726
151032	Computer Software Engineers, Systems Software	100	210	7.70	10	10	0	45,510	69,633	81,695
151041	Computer Support Specialists	340	470	3.29	20	15	5	29,162	41,766	48,068
151061	Database Administrators	40	60	4.14	0	0	0	40,209	59,335	68,898
151071	Network and Computer Systems Administrators	80	140	5.76	5	5	0	37,663	52,128	59,361
151081	Network Systems and Data Communications Analysts	90	170	6.57	10	10	0	35,768	51,819	59,844
172051	Civil Engineers	180	220	2.03	10	5	5	45,351	67,982	79,297
172111	Health & Safety Engineers, Exc. Mining Safety Engineers & Inspectors	10	10	0.00	0	0	0	50,625	64,999	72,186
172112	Industrial Engineers	40	50	2.26	0	0	0	30,107	56,362	69,489
172141	Mechanical Engineers	60	80	2.92	0	0	0	34,107	53,753	63,576
173011	Architectural and Civil Drafters	100	120	1.84	5	0	5	29,262	35,151	38,096
173012	Electrical and Electronics Drafters	20	20	0.00	0	0	0	33,021	41,049	45,062
173013	Mechanical Drafters	40	50	2.26	0	0	0	27,255	33,228	36,214
173022	Civil Engineering Technicians	110	130	1.68	0	0	0	19,918	25,821	28,773
173023	Electrical and Electronic Engineering Technicians	120	130	0.80	5	0	5	37,956	55,292	63,959
173031	Surveying and Mapping Technicians	80	90	1.18	5	0	5	18,565	23,134	25,419
191032	Foresters	40	40	0.00	0	0	0	27,749	40,033	46,176
192041	Environmental Scientists and Specialists, Including Health	40	50	2.26	0	0	0	26,995	43,102	51,156
194031	Chemical Technicians	40	50	2.26	0	0	0	29,885	43,906	50,917

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.

Source: Alabama Department of Industrial Relations, Labor Market Information Division.

Dated: 04/2007

## High-Technology Occupations\* Region 5 Projections and Wages

SOC	SOC Title	Employment		Average Annual Job Openings			Annual Salary			
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	80	90	1.18	0	0	0	41,093	66,210	78,769
119041	Engineering Managers	120	130	0.80	0	0	0	56,862	91,095	108,211
119121	Natural Sciences Managers	10	10	0.00	0	0	0	57,076	88,143	103,676
151021	Computer Programmers	170	190	1.12	5	0	5	32,356	58,076	70,936
151031	Computer Software Engineers, Applications	40	50	2.26	0	0	0	51,224	75,692	87,926
151041	Computer Support Specialists	220	290	2.80	10	5	5	21,574	32,889	38,546
151051	Computer Systems Analysts	140	170	1.96	5	5	0	43,240	59,255	67,263
151061	Database Administrators	60	100	5.24	5	5	0	38,672	70,480	86,384
151071	Network and Computer Systems Administrators	140	210	4.14	5	5	0	35,837	55,175	64,844
151081	Network Systems and Data Communications Analysts	110	160	3.82	5	5	0	31,709	44,352	50,673
172041	Chemical Engineers	30	30	0.00	0	0	0	45,683	64,732	74,256
172051	Civil Engineers	210	230	0.91	10	5	5	33,417	50,335	58,794
172071	Electrical Engineers	120	130	0.80	0	0	0	51,125	59,192	63,226
172072	Electronics Engineers, Except Computer	60	80	2.92	0	0	0	46,951	71,482	83,748
172081	Environmental Engineers	30	40	2.92	0	0	0	41,883	60,645	70,026
172112	Industrial Engineers	230	300	2.69	10	5	5	43,380	60,254	68,690
172141	Mechanical Engineers	310	380	2.06	20	10	10	39,821	55,407	63,200
173011	Architectural and Civil Drafters	40	40	0.00	0	0	0	22,268	30,930	35,261
173013	Mechanical Drafters	40	40	0.00	0	0	0	27,479	49,355	60,293
173022	Civil Engineering Technicians	140	150	0.69	5	0	5	19,548	26,010	29,241
173023	Electrical and Electronic Engineering Technicians	120	130	0.80	5	0	5	34,868	48,416	55,189
173026	Industrial Engineering Technicians	60	70	1.55	0	0	0	31,342	37,743	40,944
173031	Surveying and Mapping Technicians	60	70	1.55	0	0	0	15,588	21,632	24,654
191032	Foresters	40	40	0.00	0	0	0	35,355	45,768	50,974
192031	Chemists	20	20	0.00	0	0	0	53,392	70,175	78,567
192041	Environmental Scientists and Specialists, Including Health	120	130	0.80	0	0	0	32,389	44,712	50,873
194021	Biological Technicians	10	10	0.00	0	0	0	19,855	26,942	30,485
194031	Chemical Technicians	130	130	0.00	5	0	5	32,467	43,180	48,536
194093	Forest and Conservation Technicians	30	40	2.92	0	0	0	21,544	30,690	35,263

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.

Source: Alabama Department of Industrial Relations, Labor Market Information Division.

Dated: 04/2007

## High-Technology Occupations\* Region 6 Projections and Wages

SOC	SOC Title	Employment			Average Annual Job Openings			Annual Salary		
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	20	20	0.00	0	0	0	33,237	53,766	64,031
119041	Engineering Managers	20	20	0.00	0	0	0	69,185	97,416	111,531
151021	Computer Programmers	30	20	-3.97	0	0	0	33,707	60,718	74,223
151041	Computer Support Specialists	40	40	0.00	0	0	0	19,843	32,246	38,447
151051	Computer Systems Analysts	30	30	0.00	0	0	0	31,529	52,143	62,449
151071	Network and Computer Systems Administrators	20	30	4.14	0	0	0	41,539	56,789	64,413
172051	Civil Engineers	30	30	0.00	0	0	0	31,850	60,687	75,105
172112	Industrial Engineers	30	40	2.92	0	0	0	58,062	73,396	81,063
173011	Architectural and Civil Drafters	10	10	0.00	0	0	0	28,952	39,711	45,090
173022	Civil Engineering Technicians	50	50	0.00	0	0	0	19,270	25,256	28,249
191032	Foresters	50	50	0.00	0	0	0	47,874	62,064	69,159
194093	Forest and Conservation Technicians	20	20	0.00	0	0	0	19,868	25,576	28,430

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.  
Source: Alabama Department of Industrial Relations, Labor Market Information Division.  
Dated: 04/2007

## High-Technology Occupations\* Region 7 Projections and Wages

SOC	SOC Title	Employment		Average Annual Job Openings			Annual Salary			
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	410	510	2.21	15	10	5	57,158	80,911	92,788
119041	Engineering Managers	120	140	1.55	5	5	0	65,494	89,498	101,500
119121	Natural Sciences Managers	60	70	1.55	0	0	0	61,678	77,853	85,941
151021	Computer Programmers	700	700	0.00	15	0	15	34,180	53,776	63,574
151031	Computer Software Engineers, Applications	200	300	4.14	10	10	0	44,144	63,391	73,014
151032	Computer Software Engineers, Systems Software	110	160	3.82	5	5	0	45,779	66,378	76,678
151041	Computer Support Specialists	480	620	2.59	20	15	5	25,473	42,107	50,424
151051	Computer Systems Analysts	1,030	1,250	1.95	30	20	10	46,022	61,985	69,967
151061	Database Administrators	60	90	4.14	5	5	0	36,300	50,872	58,158
151071	Network and Computer Systems Administrators	320	470	3.92	20	15	5	41,967	61,356	71,051
151081	Network Systems and Data Communications Analysts	210	340	4.94	20	15	5	37,736	49,690	55,667
152031	Operations Research Analysts	60	70	1.55	0	0	0	32,518	42,377	47,307
172051	Civil Engineers	370	450	1.98	15	10	5	37,103	63,117	76,124
172071	Electrical Engineers	90	140	4.52	5	5	0	51,071	67,074	75,075
172081	Environmental Engineers	210	270	2.54	10	5	5	38,202	55,371	63,955
172111	Health & Safety Engineers, Exc. Mining Safety Engineers & Inspectors	20	20	0.00	0	0	0	41,102	62,936	73,852
172112	Industrial Engineers	160	270	5.37	15	10	5	44,483	61,065	69,356
172141	Mechanical Engineers	100	230	8.69	20	15	5	51,703	67,395	75,240
173011	Architectural and Civil Drafters	150	170	1.26	5	0	5	27,107	37,226	42,285
173012	Electrical and Electronics Drafters	30	30	0.00	0	0	0	29,890	36,377	39,620
173013	Mechanical Drafters	40	40	0.00	0	0	0	27,516	46,576	56,106
173022	Civil Engineering Technicians	350	400	1.34	10	5	5	19,120	26,888	30,772
173023	Electrical and Electronic Engineering Technicians	190	200	0.51	5	0	5	33,083	46,708	53,520
173025	Environmental Engineering Technicians	10	20	7.18	0	0	0	32,382	44,822	51,043
173026	Industrial Engineering Technicians	70	90	2.54	0	0	0	26,930	37,260	42,425
173031	Surveying and Mapping Technicians	160	180	1.18	5	0	5	16,638	26,448	31,352
191023	Zoologists and Wildlife Biologists	30	40	2.92	0	0	0	36,811	49,569	55,948
191032	Foresters	70	70	0.00	0	0	0	32,081	45,487	52,190
192012	Physicists	20	20	0.00	0	0	0	39,636	55,421	63,314
192021	Atmospheric and Space Scientists	30	40	2.92	0	0	0	32,023	52,566	62,838
192031	Chemists	100	110	0.96	5	0	5	27,005	52,065	64,595
192041	Environmental Scientists and Specialists, Including Health	390	450	1.44	10	5	5	27,630	39,314	45,155
194031	Chemical Technicians	20	30	4.14	0	0	0	23,085	40,070	48,563
194092	Forensic Science Technicians	50	70	3.42	0	0	0	27,428	38,310	43,751
194093	Forest and Conservation Technicians	20	30	4.14	0	0	0	20,954	30,774	35,684

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.  
Source: Alabama Department of Industrial Relations, Labor Market Information Division.  
Dated: 04/2007

## High-Technology Occupations\* Region 8 Projections and Wages

SOC	SOC Title	Employment		Average Annual Job Openings			Annual Salary			
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	80	100	2.26	0	0	0	52,313	73,618	84,270
119041	Engineering Managers	50	70	3.42	0	0	0	60,586	80,824	90,943
151021	Computer Programmers	80	90	1.18	0	0	0	28,674	48,678	58,679
151031	Computer Software Engineers, Applications	60	70	1.55	0	0	0	49,895	67,519	76,332
151032	Computer Software Engineers, Systems Software	30	30	0.00	0	0	0	61,842	76,080	83,199
151051	Computer Systems Analysts	50	50	0.00	0	0	0	39,189	54,029	61,449
151071	Network and Computer Systems Administrators	50	70	3.42	0	0	0	34,050	45,091	50,611
151081	Network Systems and Data Communications Analysts	50	70	3.42	0	0	0	30,072	47,431	56,111
172041	Chemical Engineers	20	60	11.61	5	5	0	63,803	82,073	91,208
172051	Civil Engineers	80	90	1.18	0	0	0	34,408	50,368	58,349
172071	Electrical Engineers	20	30	4.14	0	0	0	41,345	56,623	64,261
172081	Environmental Engineers	20	30	4.14	0	0	0	43,588	59,979	68,175
172112	Industrial Engineers	120	160	2.92	10	5	5	48,498	60,721	66,833
172141	Mechanical Engineers	60	90	4.14	5	5	0	48,884	65,570	73,913
173011	Architectural and Civil Drafters	30	30	0.00	0	0	0	16,921	28,623	34,474
173013	Mechanical Drafters	20	20	0.00	0	0	0	24,964	40,564	48,364
173022	Civil Engineering Technicians	70	70	0.00	0	0	0	19,817	29,974	35,052
173023	Electrical and Electronic Engineering Technicians	100	90	-1.05	0	0	0	27,345	42,536	50,132
173026	Industrial Engineering Technicians	30	40	2.92	0	0	0	26,590	39,331	45,701
173031	Surveying and Mapping Technicians	40	40	0.00	0	0	0	18,552	25,449	28,898
191013	Soil and Plant Scientists	10	10	0.00	0	0	0	53,687	69,053	76,736
191032	Foresters	40	40	0.00	0	0	0	48,860	62,448	69,242
192031	Chemists	50	50	0.00	0	0	0	18,367	38,089	47,950
192041	Environmental Scientists and Specialists, Including Health	50	60	1.84	0	0	0	33,185	44,633	50,358
194031	Chemical Technicians	40	30	-2.84	0	0	0	26,122	43,677	52,455

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.  
Source: Alabama Department of Industrial Relations, Labor Market Information Division.  
Dated: 04/2007

## High-Technology Occupations\* Region 9 Projections and Wages

SOC	SOC Title	Employment		Average Annual Job Openings			Annual Salary			
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	70	110	4.62	5	5	0	45,990	73,290	86,939
119041	Engineering Managers	40	40	0.00	0	0	0	65,829	86,483	96,810
151021	Computer Programmers	140	240	5.54	15	10	5	21,068	26,951	29,892
151041	Computer Support Specialists	90	110	2.03	0	0	0	20,753	33,157	39,358
151051	Computer Systems Analysts	80	190	9.04	10	10	0	39,206	50,178	55,665
151061	Database Administrators	20	40	7.18	0	0	0	35,828	52,024	60,123
151081	Network Systems and Data Communications Analysts	60	100	5.24	5	5	0	33,579	56,046	67,280
172051	Civil Engineers	90	100	1.06	0	0	0	48,710	70,719	81,723
172071	Electrical Engineers	30	30	0.00	0	0	0	50,329	67,280	75,756
172112	Industrial Engineers	60	80	2.92	0	0	0	42,270	61,586	71,244
172141	Mechanical Engineers	90	90	0.00	0	0	0	50,639	66,326	74,170
173022	Civil Engineering Technicians	90	100	1.06	0	0	0	26,822	39,273	45,498
173023	Electrical and Electronic Engineering Technicians	50	50	0.00	0	0	0	32,578	46,113	52,881
173031	Surveying and Mapping Technicians	30	30	0.00	0	0	0	23,109	33,197	38,242
191031	Conservation Scientists	20	20	0.00	0	0	0	32,926	52,048	61,608
191032	Foresters	30	30	0.00	0	0	0	26,795	48,397	59,197
194093	Forest and Conservation Technicians	20	20	0.00	0	0	0	27,107	37,756	43,081

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.  
Source: Alabama Department of Industrial Relations, Labor Market Information Division.  
Dated: 04/2007



## High-Technology Occupations\* Region 10 Projections and Wages

SOC	SOC Title	Employment		Average Annual Job Openings			Annual Salary			
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
151021	Computer Programmers	160	150	-0.64	5	0	5	30,854	51,714	62,145
151041	Computer Support Specialists	200	230	1.41	5	5	0	16,982	30,709	37,572
151051	Computer Systems Analysts	190	210	1.01	5	5	0	37,203	58,640	69,359
151061	Database Administrators	20	30	4.14	0	0	0	23,532	46,559	58,073
151071	Network and Computer Systems Administrators	110	150	3.15	5	5	0	30,989	44,280	50,925
151081	Network Systems and Data Communications Analysts	90	120	2.92	5	5	0	31,311	44,274	50,755
113021	Computer and Information Systems Managers	120	130	0.80	0	0	0	44,598	69,293	81,640
119041	Engineering Managers	140	150	0.69	5	0	5	63,267	86,850	98,641
172051	Civil Engineers	120	130	0.80	0	0	0	33,657	54,152	64,400
172111	Health & Safety Engineers, Exc. Mining Safety Engineers & Inspectors	10	10	0.00	0	0	0	33,758	56,210	67,436
172112	Industrial Engineers	290	350	1.90	10	5	5	50,874	72,709	83,626
173011	Architectural and Civil Drafters	100	110	0.96	5	0	5	20,008	29,804	34,703
173013	Mechanical Drafters	20	30	4.14	0	0	0	24,898	40,544	48,367
173022	Civil Engineering Technicians	130	130	0.00	5	0	5	19,654	26,230	29,517
173025	Environmental Engineering Technicians	20	20	0.00	0	0	0	19,079	27,618	31,887
173026	Industrial Engineering Technicians	40	40	0.00	0	0	0	30,281	46,494	54,601
173031	Surveying and Mapping Technicians	60	60	0.00	0	0	0	18,140	27,182	31,702
191031	Conservation Scientists	20	20	0.00	0	0	0	34,331	56,463	67,529
191032	Foresters	60	60	0.00	0	0	0	37,720	51,532	58,438
192031	Chemists	20	20	0.00	0	0	0	38,674	64,034	76,713
192041	Environmental Scientists and Specialists, Including Health	110	120	0.87	0	0	0	27,180	40,136	46,613
194011	Agricultural and Food Science Technicians	50	50	0.00	0	0	0	22,860	34,165	39,818
194031	Chemical Technicians	90	100	1.06	0	0	0	26,776	42,141	49,824
194093	Forest and Conservation Technicians	40	40	0.00	0	0	0	23,451	32,897	37,621

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.  
Source: Alabama Department of Industrial Relations, Labor Market Information Division.  
Dated: 04/2007

## High-Technology Occupations\* Jefferson County Projections and Wages

SOC	SOC Title	Employment		Average Annual Job Openings			Annual Salary			
		2004	2014	% Change	Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	860	1,040	1.92	35	20	15	56,045	83,298	96,925
119041	Engineering Managers	420	510	1.96	20	10	10	64,606	109,738	132,303
119121	Natural Sciences Managers	40	50	2.26	0	0	0	61,283	108,433	132,008
151021	Computer Programmers	1,190	1,200	0.08	30	0	30	42,278	65,780	77,532
151031	Computer Software Engineers, Applications	940	1,240	2.81	40	30	10	44,582	63,014	72,230
151032	Computer Software Engineers, Systems Software	850	1,160	3.16	40	30	10	52,822	72,957	83,024
151041	Computer Support Specialists	1,590	1,850	1.53	45	25	20	21,891	37,774	45,715
151051	Computer Systems Analysts	1,800	2,180	1.93	60	40	20	39,202	58,614	68,320
151061	Database Administrators	260	340	2.72	15	10	5	34,440	54,875	65,093
151071	Network and Computer Systems Administrators	940	1,200	2.47	35	25	10	39,555	57,074	65,834
151081	Network Systems and Data Communications Analysts	940	1,400	4.06	55	45	10	36,328	55,236	64,691
152031	Operations Research Analysts	270	290	0.72	5	0	5	32,427	58,704	71,843
172031	Biomedical Engineers	10	30	11.61	0	0	0	45,110	58,169	64,698
172041	Chemical Engineers	20	20	0.00	0	0	0	62,083	87,359	99,997
172051	Civil Engineers	690	770	1.10	20	10	10	49,116	64,550	72,267
172061	Computer Hardware Engineers	150	190	2.39	10	5	5	70,044	91,091	101,614
172071	Electrical Engineers	860	990	1.42	30	15	15	57,661	75,007	83,680
172081	Environmental Engineers	250	320	2.50	10	5	5	51,528	104,331	130,732
172111	Health & Safety Engineers, Exc. Mining Safety Engineers & Inspectors	50	50	0.00	0	0	0	53,448	66,971	73,732
172112	Industrial Engineers	230	280	1.99	10	5	5	45,617	64,557	74,027
172131	Materials Engineers	160	280	5.76	15	10	5	46,866	72,110	84,732
172141	Mechanical Engineers	360	430	1.79	20	10	10	49,385	73,670	85,812
172151	Mining and Geological Engineers, Including Mining Safety Engineers	30	30	0.00	0	0	0	48,878	65,789	74,244
173011	Architectural and Civil Drafters	320	310	-0.32	10	0	10	27,794	40,666	47,102
173012	Electrical and Electronics Drafters	260	250	-0.39	5	0	5	31,510	45,365	52,292
173013	Mechanical Drafters	290	310	0.67	10	0	10	32,724	48,478	56,354
173022	Civil Engineering Technicians	240	260	0.80	10	5	5	25,953	37,815	43,747
173025	Environmental Engineering Technicians	110	130	1.68	0	0	0	21,288	32,080	37,476
173026	Industrial Engineering Technicians	40	40	0.00	0	0	0	31,527	49,812	58,955
173027	Mechanical Engineering Technicians	40	50	2.26	0	0	0	33,936	48,838	56,290
173031	Surveying and Mapping Technicians	310	320	0.32	10	0	10	22,300	28,930	32,245
191012	Food Scientists and Technologists	10	10	0.00	0	0	0	25,784	32,139	35,316
192012	Physicists	20	20	0.00	0	0	0	87,397	106,968	116,754
192031	Chemists	90	110	2.03	5	0	5	38,727	58,673	68,646
192041	Environmental Scientists and Specialists, Including Health	370	430	1.51	10	5	5	37,282	60,570	72,214
194021	Biological Technicians	210	360	5.54	20	15	5	20,593	27,701	31,254
194031	Chemical Technicians	120	170	3.54	10	5	5	28,110	40,127	46,135
194091	Environmental Science and Protection Technicians, Including Health	60	100	5.24	5	5	0	29,364	46,248	54,689

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, "High-Tech Technology Employment: A NAICS-Based Update," July 2005.

Source: Alabama Department of Industrial Relations, Labor Market Information Division.

Dated: 04/2007

## High-Technology Occupations\* Mobile County Projections and Wages

SOC	SOC Title	Employment		% Change	Average Annual Job Openings			Annual Salary		
		2004	2014		Total	Growth	Separations	Entry	Mean	Experienced
113021	Computer and Information Systems Managers	150	190	2.39	10	5	5	52,779	80,063	93,705
119041	Engineering Managers	230	310	3.03	15	10	5	76,524	95,041	104,299
119121	Natural Sciences Managers	10	10	0.00	0	0	0	70,283	90,251	100,235
151021	Computer Programmers	490	560	1.34	15	5	10	29,638	42,430	48,826
151031	Computer Software Engineers, Applications	130	190	3.87	5	5	0	38,139	57,837	67,686
151032	Computer Software Engineers, Systems Software	80	120	4.14	5	5	0	56,074	74,975	84,425
151041	Computer Support Specialists	500	650	2.66	20	15	5	23,362	34,551	40,145
151051	Computer Systems Analysts	470	680	3.76	25	20	5	37,339	53,004	60,836
151061	Database Administrators	50	70	3.42	0	0	0	33,349	49,143	57,041
151071	Network and Computer Systems Administrators	180	290	4.88	10	10	0	35,416	48,924	55,678
151081	Network Systems and Data Communications Analysts	110	160	3.82	5	5	0	34,235	49,072	56,490
152031	Operations Research Analysts	10	10	0.00	0	0	0	35,180	51,038	58,967
172041	Chemical Engineers	100	120	1.84	5	0	5	59,704	83,431	95,295
172051	Civil Engineers	400	450	1.18	10	5	5	41,727	66,253	78,516
172071	Electrical Engineers	220	260	1.68	10	5	5	56,541	76,692	86,768
172072	Electronics Engineers, Except Computer	60	70	1.55	0	0	0	53,004	76,024	87,535
172081	Environmental Engineers	50	50	0.00	0	0	0	56,266	74,721	83,949
172111	Health & Safety Engineers, Exc. Mining Safety Engineers & Inspectors	20	20	0.00	0	0	0	45,560	63,193	72,010
172112	Industrial Engineers	120	150	2.26	10	5	5	45,272	66,413	76,983
172141	Mechanical Engineers	210	300	3.63	15	10	5	56,671	75,846	85,434
173011	Architectural and Civil Drafters	240	230	-0.42	5	0	5	35,941	48,774	55,190
173012	Electrical and Electronics Drafters	110	110	0.00	5	0	5	48,755	63,734	71,223
173013	Mechanical Drafters	130	140	0.74	5	0	5	28,821	44,656	52,574
173022	Civil Engineering Technicians	220	230	0.45	5	0	5	21,391	35,278	42,221
173023	Electrical and Electronic Engineering Technicians	260	300	1.44	10	5	5	35,222	46,907	52,749
173026	Industrial Engineering Technicians	40	40	0.00	0	0	0	31,117	44,481	51,164
173031	Surveying and Mapping Technicians	80	80	0.00	5	0	5	15,408	29,469	36,500
192031	Chemists	100	90	-1.05	5	0	5	36,105	56,549	66,771
192041	Environmental Scientists and Specialists, Including Health	130	150	1.44	0	0	0	27,943	39,215	44,851
192042	Geoscientists, Except Hydrologists and Geographers	20	20	0.00	0	0	0	40,369	55,732	63,413
194021	Biological Technicians	70	60	-1.53	0	0	0	19,720	29,982	35,114
194031	Chemical Technicians	150	140	-0.69	5	0	5	34,300	45,576	51,213

\*Alabama High-Tech occupations were adopted from the Bureau of Labor Statistics publication, Monthly Labor Review, "High-Technology Employment: A NAICS-Based Update," July 2005.  
Source: Alabama Department of Industrial Relations, Labor Market Information Division.  
Dated: 04/2007



**LED Quarterly Workforce Indicators for Transportation Equipment Manufacturing (Fayette, Franklin, Marion, Lamar, Walker, Winston)**

County	QWI Quick Facts	1 q 2005	2 q 2005	3 q 2005	4 q 2005
Fayette	Total_Employment	276	386	425	492
	Net_Job_Flows	70	65	80	N/A
	Job_Creation	70	65	80	N/A
	New_Hires	105	135	166	86
	Separations	37	75	92	N/A
	Turnover	7.20%	16.00%	15.60%	N/A
	Avg_Monthly_Earnings	\$3,066.00	\$3,443.00	\$3,143.00	N/A
	Avg_New_Hire_Earnings	\$2,623.00	\$2,743.00	\$2,436.00	N/A

County	QWI Quick Facts	1 q 2005	2 q 2005	3 q 2005	4 q 2005
Franklin	Total_Employment	662	684	716	727
	Net_Job_Flows	15	20	-6	N/A
	Job_Creation	15	20	1	N/A
	New_Hires	27	53	42	56
	Separations	18	42	50	N/A
	Turnover	5.10%	7.40%	6.60%	N/A
	Avg_Monthly_Earnings	\$2,299.00	\$2,633.00	\$2,576.00	N/A
	Avg_New_Hire_Earnings	\$1,614.00	\$1,792.00	\$1,572.00	N/A

County	QWI Quick Facts	1 q 2005	2 q 2005	3 q 2005	4 q 2005
Marion	Total_Employment	N/A	N/A	N/A	N/A
	Net_Job_Flows	N/A	N/A	N/A	N/A
	Job_Creation	N/A	N/A	N/A	N/A
	New_Hires	N/A	N/A	N/A	N/A
	Separations	N/A	N/A	N/A	N/A
	Turnover	N/A	N/A	N/A	N/A
	Avg_Monthly_Earnings	N/A	N/A	N/A	N/A
	Avg_New_Hire_Earnings	N/A	N/A	N/A	N/A

County	QWI Quick Facts	1 q 2005	2 q 2005	3 q 2005	4 q 2005
Lamar	Total_Employment	688	N/A	848	N/A
	Net_Job_Flows	N/A	N/A	N/A	N/A
	Job_Creation	2,292	N/A	2,372	N/A
	New_Hires	1,444	N/A	1,642	N/A

County	QWI Quick Facts	1 q 2005	2 q 2005	3 q 2005	4 q 2005
Walker	Total_Employment	2,898	N/A	3,421	N/A
	Net_Job_Flows	N/A	N/A	N/A	N/A
	Job_Creation	2,285	N/A	2,301	N/A
	New_Hires	1,322	N/A	1,494	N/A

County	QWI Quick Facts	1 q 2005	2 q 2005	3 q 2005	4 q 2005
Winston	Total_Employment	509	562	545	556
	Net_Job_Flows	43	6	-17	N/A
	Job_Creation	43	10	31	N/A
	New_Hires	103	107	130	111
	Separations	68	106	151	N/A

Turnover	9.80%	11.20%	14.30%	N/A
Avg_Monthly_Earnings	\$2,298.00	\$2,396.00	\$2,608.00	N/A
Avg_New_Hire_Earnings	\$1,850.00	\$1,836.00	\$2,196.00	N/A

Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Census Bureau, Local Employment Dynamics Program.

## Definition of Indicators

Topics	Information
<b>Total Employment</b> <a href="#">Net Job Flows</a> <a href="#">Job Creation</a>  <a href="#">New Hires</a> <a href="#">Separations</a> <a href="#">Turnover</a> <a href="#">Avg Monthly Earnings</a> <a href="#">Avg New Hire Earnings</a>	<b>Total Employment (Emp)</b>  Beginning of Quarter Employment Total number of workers who were employed by the same employer in both the current and previous  Answers the questions:  Who is filling what jobs? What industries are biggest employers? What industries employ the largest numbers of particular types of worker?

Topics	Information
<a href="#">Total Employment</a> <b>Net Job Flows</b> <a href="#">Job Creation</a>  <a href="#">New Hires</a> <a href="#">Separations</a> <a href="#">Turnover</a> <a href="#">Avg Monthly Earnings</a> <a href="#">Avg New Hire Earnings</a>	<b>Job Change (FrmJobChg)</b>  The difference between current and previous employment at each  Answers the questions:  Which industries are expanding employment? Which industries are contracting employment?

Topics	Information
<a href="#">Total Employment</a> <a href="#">Net Job Flows</a> <b>Job Creation</b>  <a href="#">New Hires</a> <a href="#">Separations</a> <a href="#">Turnover</a> <a href="#">Avg Monthly Earnings</a>	<b>Job Gains (FrmJobGain)</b>  The number of new jobs that are created by either new area businesses or the expansion of employment by existing firms  Answers the questions:  What industries are creating the most jobs?

Alabama Department of Industrial Relations, Labor Market Information: Location Quotient Data

<b>Data Year:</b>	2005
<b>Data Period:</b>	Annual Average
<b>Datatype:</b>	All Employees
<b>Ownership:</b>	Private
<b>Establishment Sizes:</b>	All establishment sizes
<b>Base Industry:</b>	Base Industry: Total, all industries
<b>Base Area:</b>	Alabama -- Statewide

Employment calculated from Quarterly Census of Employment and Wages Data							
Industry	Alabama - Statewide	Fayette County, Alabama	Franklin County, Alabama	Lamar County, Alabama	Marion County, Alabama	Walker County, Alabama	Winston County, Alabama
<b>Base Industry: Total, all industries</b>	1,548,068	4,155	9,066	3,430	10,285	15,228	7,874
<b>NAICS 336 Transportation equipment manufacturing</b>	45,684	351	ND	NC	NC	NC	558

Footnotes:  
 (ND) Not Disclosable  
 (NC) Not Calculable, the data does not exist or it is zero

**Percentage of Employment** calculated from Quarterly Census of Employment and Wages Data

Industry	Alabama - Statewide	Fayette County, Alabama	Franklin County, Alabama	Lamar County, Alabama	Marion County, Alabama	Walker County, Alabama	Winston County, Alabama
Base Industry: Total, all industries	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
NAICS 336 Transportation equipment manufacturing	2.95%	8.45%	ND	NC	NC	NC	7.09%

Footnotes:  
 (ND) Not Disclosable  
 (NC) Not Calculable, the data does not exist or it is zero

Percentage of Employment: Ratio of industry employment to base-industry employment times 100.

**Location Quotients** calculated from Quarterly Census of Employment and Wages Data

Industry	Fayette County, Alabama	Franklin County, Alabama	Lamar County, Alabama	Marion County, Alabama	Walker County, Alabama	Winston County, Alabama
Base Industry: Total, all industries	1.00	1.00	1.00	1.00	1.00	1.00
NAICS 336 Transportation equipment manufacturing	2.86	ND	NC	NC	NC	2.40

Footnotes:  
 (ND) Not Disclosable  
 (NC) Not Calculable, the data does not exist or it is zero

Location Quotient: Ratio of analysis-industry employment in the analysis area to base-industry employment in the analysis area divided by the ratio of analysis-industry employment in the base area to base-industry employment in the base area.



## Automotive Industry Occupations with Wage Data, All Industries

### Northwest balance of state - May 200502 data\*

Occcd	Socitle	Entry	Entryann	Exp	Expann	Mean	Meanann
17-2112	Industrial Engineers	17.32	36,020	23.82	49,540	21.65	45,040
17-3013	Mechanical Drafters	12.10	25,170	18.74	38,980	16.53	34,380
17-3026	Industrial Engineering Technicians	10.36	21,550	17.32	36,020	15.00	31,200
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	17.47	36,330	32.18	66,930	27.28	56,730
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	9.76	20,290	26.58	55,280	20.97	43,620
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	15.39	32,020	26.64	55,410	22.89	47,620
49-2096	<b>Not Reported</b>						
49-3021	Automotive Body and Related Repairers	10.70	22,250	18.59	38,660	15.96	33,190
49-3022	Automotive Glass Installers and Repairers	18.85	39,200	22.59	46,980	21.34	44,390
49-3023	Automotive Service Technicians and Mechanics	8.28	17,220	16.25	33,800	13.59	28,270
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	10.54	21,930	15.72	32,700	14.00	29,110
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	14.95	31,090	21.75	45,240	19.48	40,530
49-3093	Tire Repairers and Changers	9.28	19,310	13.01	27,060	11.77	24,480
49-9012	<b>Not Reported</b>						
49-9043	Maintenance Workers, Machinery	9.74	20,260	15.83	32,920	13.80	28,700
49-9044	Millwrights	12.16	25,280	18.77	39,040	16.57	34,460
49-9098	Helpers--Installation, Maintenance, and Repair Workers	6.89	14,340	10.84	22,540	9.52	19,800
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	11.68	24,290	21.02	43,710	17.90	37,240
51-2031	<b>Not Reported</b>						
51-2091	<b>Not Reported</b>						
51-2092	Team Assemblers	7.43	15,460	10.09	20,990	9.21	19,150
51-4041	Machinists	8.12	16,890	16.98	35,310	14.03	29,170
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	9.85	20,480	14.25	29,630	12.78	26,580
51-4121	Welders, Cutters, Solderers, and Brazers	10.23	21,290	15.79	32,840	13.94	28,990
51-4122	Welding, Soldering, Brazing Machine Setters, Operators and Tenders	9.58	19,920	9.91	20,610	9.80	20,380
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	7.94	16,510	12.70	26,420	11.11	23,110
53-1021	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	11.71	24,350	17.67	36,760	15.68	32,620

Prepared by the Alabama Department of Industrial Relations, Labor Market Information Division in cooperation with the US Bureau of Labor Statistics, Occupational Employment Statistics Program.

\*Counties in the Northwest balance of state include: Cullman, Fayette, Franklin, Lamar, Marion, Pickens, Winston.

<b>2006 Unemployment Continuing Claims for Occupations that are Employed by the Automotive Industry</b>		
<b>SOC</b>	<b>Occupation</b>	<b>No. Claims</b>
172112	Industrial Engineers	2
412031	Retail Salespersons	101
492096	Electronic Equipment Installers and Repairers, Motor Vehicles	11
493021	Automotive Body and Related Repairers	33
493022	Automotive Glass Installers and Repairers	6
493023	Automotive Master Mechanics	185
493031	Bus and Truck Mechanics and Diesel Engine Specialists	2
493042	Mobile Heavy Equipment Mechanics, Except Engines	39
493093	Tire Repairers and Changers	14
499043	Maintenance Workers, Machinery	101
499044	Millwrights	115
512031	Engine and Other Machine Assemblers	2
512092	Team Assemblers	1
514041	Machinists	295
514081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	1
514121	Welders, Cutters, Solderers, and Brazers	294
514122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	11
531021	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers	7

*Prepared by the Alabama Department of Industrial Relation, Labor Market Information Division using administrative records from Unemployment Compensation Records.*

**2006 Employment Service Job Orders for Occupations that are Employed in the Automotive Industry**

<b>SOC</b>	<b>Occupation</b>	<b>No. Job Orders</b>
411011	First-Line Supervisors/Managers of Retail Sales Workers	5
412031	Retail Salespersons	12
491011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	1
493023	Automotive Service Technicians and Mechanics	7
493023	Automotive Master Mechanics	7
493023	Automotive Specialty Technicians	7
493031	Bus and Truck Mechanics and Diesel Engine Specialists	3
493042	Mobile Heavy Equipment Mechanics, Except Engines	3
493093	Tire Repairers and Changers	1
499044	Millwrights	2
499098	Helpers--Installation, Maintenance, and Repair Workers	2
511011	First-Line Supervisors/Managers of Production and Operating Workers	1
512092	Team Assemblers	2
514041	Machinists	4
514081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	1
514121	Welders, Cutters, Solderers, and Brazers	27

*Prepared by the Alabama Department of Industrial Relations, Labor Market Information Division using Administrative Records from Employment Service Job Orders.*

<b>SOC</b>	<b>Occupation Description</b>
172112	Design, develop, test, and evaluate integrated systems for managing industrial production processes including human work factors, quality control, inventory control, logistics and material flow, cost analysis, and production coordination.
411011	include management functions, such as purchasing, budgeting, accounting, and personnel work, in addition to supervisory duties.
412031	Sell merchandise, such as furniture, motor vehicles, appliances, or apparel in a retail establishment.
491011	Supervise and coordinate the activities of mechanics, installers, and repairers.
492096	Install, diagnose, or repair communications, sound, security, or navigation equipment in motor vehicles.
493021	Repair and refinish automotive vehicle bodies and straighten vehicle frames.
493022	Replace or repair broken windshields and window glass in motor vehicles.
493023	Diagnose, adjust, repair, or overhaul automotive vehicles.
493023	Repair automobiles, trucks, buses, and other vehicles. Master mechanics repair virtually any part on the vehicle or specialize in the transmission system.
493023	Repair only one system or component on a vehicle, such as brakes, suspension, or radiator.
493031	Diagnose, adjust, repair, or overhaul trucks, buses, and all types of diesel engines. Includes mechanics working primarily with automobile diesel engines.
493042	Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining.
493093	Repair and replace tires.
499043	Lubricate machinery, change parts, or perform other routine machinery maintenance.
499044	Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.
499098	Help installation, maintenance, and repair workers in maintenance, parts replacement, and repair of vehicles, industrial machinery, and electrical and electronic equipment. Perform duties, such as furnishing tools, materials, and supplies to other worker
511011	Supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.
512031	Construct, assemble, or rebuild machines, such as engines, turbines, and similar equipment used in such industries as construction, extraction, textiles, and paper manufacturing.
512092	Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned
514041	Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or
514081	Set up, operate, or tend more than one type of cutting or forming machine tool or robot.

- 514081 Set up or set up and operate more than one type of cutting or forming machine tool, such as gear hobbers, lathes, press brakes, shearing, and boring machines.
- 514081 Operate or tend more than one type of cutting or forming machine tool which has been previously set up. Includes such machine tools as band saws, press brakes, slitting machines, drills, lathes, and boring machines.
- 514121 Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.
- 514121 Assemble and weld metal parts on production line, using welding equipment, requiring only a limited knowledge of welding techniques.
- 514121 Use hand welding and flame-cutting equipment to weld together metal components and parts or to cut, trim, or scarf metal objects to dimensions, as specified by layouts, work orders, or blueprints.
- 514121 Lay out, fit, and fabricate metal components to assemble structural forms, such as machinery frames, bridge parts, and pressure vessels, using knowledge of welding techniques, metallurgy, and engineering requirements. Includes experimental welders who an
- 514121 Solder together components to assemble fabricated metal products, using soldering iron.
- 514121 Braze together components to assemble fabricated metal parts, using torch or welding machine and flux.

# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

**Soc:** 17-2112

**Onet:** 17-2112.00

**Title:** Industrial Engineers

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.88
	LV	5.02
Active Listening	IM	3.92
	LV	4.85
Writing	IM	3.69
	LV	4.46
Speaking	IM	3.60
	LV	4.38
Mathematics	IM	3.75
	LV	4.67
Critical Thinking	IM	4.07
	LV	4.40
Active Learning	IM	3.54
	LV	4.94
Learning Strategies	IM	3.40
	LV	4.29
Coordination	IM	3.50
	LV	4.39
Persuasion	IM	3.06
	LV	4.07
Negotiation	IM	3.32
	LV	4.04
Instructing	IM	3.36
	LV	4.16
Complex Problem Solving	IM	3.85
	LV	4.52
Equipment Selection	IM	3.57
	LV	5.30
Troubleshooting	IM	3.33
	LV	4.21
Judgment and Decision Making	IM	3.62
	LV	4.86
Time Management	IM	3.93
	LV	4.02

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.

# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

**Soc:** 17-3013

**Onet:** 17-3013.00

**Title:** Mechanical Drafters

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Reading Comprehension	IM	4.28
	LV	4.89
Active Listening	IM	4.10
	LV	4.68
Writing	IM	3.41
	LV	4.23
Speaking	IM	3.72
	LV	4.12
Mathematics	IM	4.18
	LV	4.93
Critical Thinking	IM	3.96
	LV	4.24
Active Learning	IM	3.27
	LV	4.29
Learning Strategies	IM	3.23
Coordination	IM	3.24
	LV	4.31
Persuasion	LV	4.00
Instructing	IM	4.01
	LV	4.38
Complex Problem Solving	IM	3.84
	LV	4.55
Operations Analysis	IM	3.40
	LV	4.38
Technology Design	IM	3.97
	LV	4.73
Equipment Selection	IM	3.85
	LV	5.08
Installation	IM	3.25
	LV	4.41
Troubleshooting	IM	3.51
Quality Control Analysis	IM	3.29
	LV	4.40
Judgment and Decision Making	IM	3.52
	LV	4.54
Systems Evaluation	IM	3.05
Time Management	IM	3.10

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.

# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

**Soc:** 17-3026

**Onet:** 17-3026.00

**Title:** Industrial Engineering Technicians

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.54
	LV	4.45
Active Listening	IM	4.09
	LV	4.62
Writing	IM	3.22
	LV	4.23
Speaking	IM	3.48
	LV	4.12
Mathematics	IM	3.29
	LV	4.52
Critical Thinking	IM	3.79
	LV	4.87
Active Learning	IM	3.65
	LV	4.97
Learning Strategies	IM	3.28
	LV	4.44
Monitoring	IM	3.39
	LV	4.62
Social Perceptiveness	IM	3.11
	LV	4.15
Coordination	IM	3.69
	LV	5.11
Persuasion	LV	4.38
Instructing	IM	3.50
	LV	4.53
Service Orientation	IM	3.26
Complex Problem Solving	IM	3.82
	LV	4.46
Operations Analysis	IM	3.14
	LV	4.17
Equipment Selection	IM	3.22
Troubleshooting	IM	3.33
	LV	4.22
Quality Control Analysis	IM	3.25
Judgment and Decision Making	IM	3.71
	LV	4.42
Systems Analysis	IM	3.00
Time Management	IM	3.32
	LV	4.02

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.



# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

**Soc:** 41-1011

**Onet:** 41-1011.00

**Title:** First-Line Supervisors/Managers of Retail Sales  
Workers

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.75
	LV	4.25
Active Listening	IM	3.88
	LV	4.36
Writing	IM	3.13
	LV	4.10
Speaking	IM	3.61
	LV	4.32
Mathematics	IM	3.58
Critical Thinking	IM	3.64
	LV	4.39
Active Learning	IM	3.62
	LV	4.18
Learning Strategies	IM	3.14
Monitoring	IM	3.77
	LV	4.59
Social Perceptiveness	IM	3.49
	LV	4.17
Coordination	IM	3.01
Persuasion	IM	3.23
	LV	4.18
Negotiation	IM	3.07
Instructing	IM	3.79
	LV	4.45
Service Orientation	IM	3.85
Complex Problem Solving	IM	3.08
Equipment Maintenance	IM	3.17
Troubleshooting	IM	3.23
Quality Control Analysis	IM	3.00
Judgment and Decision Making	IM	3.72
Time Management	IM	3.84
	LV	4.23
Management of Personnel	IM	3.98
	LV	4.10

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.

**AUTOMOTIVE Industry Occupations (NAICS 336)**

03/13/07

**Soc:** 41-2031**Onet:** 41-2031.00**Title:** Retail Salespersons*(Values range from a low of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Active Listening	IM	4.07
Writing	IM	3.23
Speaking	IM	3.72
Mathematics	IM	3.75
Critical Thinking	IM	3.33
Social Perceptiveness	IM	3.56
Instructing	IM	3.05
Judgment and Decision Making	IM	3.06

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

**Soc:** 49-1011**Onet:** 49-1011.00**Title:** First-Line Supervisors/Managers of Mechanics, Installers, and Repairers*(Values range from a low of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	4.05
	LV	4.70
Active Listening	IM	3.94
	LV	4.40
Writing	IM	3.39
	LV	4.19
Speaking	IM	3.66
	LV	4.43
Mathematics	IM	3.44
	LV	4.45
Critical Thinking	IM	3.82
	LV	4.48
Active Learning	IM	3.50
	LV	4.30
Learning Strategies	IM	3.60
	LV	4.52
Monitoring	IM	3.73
	LV	4.63
Social Perceptiveness	IM	3.45
	LV	4.37
Coordination	IM	3.71
	LV	5.08
Persuasion	IM	3.31
	LV	4.29
Negotiation	IM	3.52
	LV	4.30
Instructing	IM	3.93
	LV	4.60
Service Orientation	IM	3.35

# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

	LV	4.14
Complex Problem Solving	IM	3.73
	LV	4.52
Operations Analysis	IM	3.29
	LV	4.17
Technology Design	IM	3.20
Equipment Selection	IM	3.98
	LV	4.49
Installation	IM	3.93
	LV	4.75
Operation Monitoring	IM	3.22
Operation and Control	IM	3.18
Equipment Maintenance	IM	3.78
	LV	4.52
Troubleshooting	IM	3.85
	LV	4.52
Repairing	IM	3.67
	LV	4.55
Quality Control Analysis	IM	3.46
Judgment and Decision Making	IM	3.68
	LV	4.58
Systems Analysis	IM	3.14
Systems Evaluation	IM	3.27
Time Management	IM	3.87
	LV	4.89
Management of Financial	IM	3.35
	LV	4.24
Management of Material	IM	3.68
	LV	4.45
Management of Personnel	IM	4.18
	LV	4.92

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.

**Soc:** 49-2096

**Onet:** 49-2096.00

**Title:** Electronic Equipment Installers and Repairers, Motor Vehicles

(Values range from a low of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Mathematics	IM	3.40
Equipment Selection	IM	3.40
Installation	IM	4.00
Equipment Maintenance	IM	3.00
Troubleshooting	IM	3.00
Repairing	IM	4.60
	LV	4.00

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.

# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

**Soc:** 49-3021

**Onet:** 49-3021.00

**Title:** Automotive Body and Related Repairers

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.04
Learning Strategies	IM	3.13
Complex Problem Solving	IM	3.12
Equipment Selection	IM	3.84
Installation	IM	3.17
Equipment Maintenance	IM	3.03
	LV	4.00
Troubleshooting	IM	3.42
Repairing	IM	3.77
	LV	4.81
Time Management	IM	3.01

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.

**Soc:** 49-3022

**Onet:** 49-3022.00

**Title:** Automotive Glass Installers and Repairers

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.04
Active Listening	IM	3.42
Speaking	IM	3.80
Critical Thinking	IM	3.25
	LV	4.07
Active Learning	IM	3.28
Learning Strategies	IM	3.43
Monitoring	IM	3.16
Social Perceptiveness	IM	3.01
Coordination	IM	3.38
Instructing	IM	3.26
	LV	4.04
Service Orientation	IM	3.21
Complex Problem Solving	IM	3.07
Equipment Selection	IM	3.72
Installation	IM	4.02
	LV	4.61
Quality Control Analysis	IM	3.11
Time Management	IM	3.61

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.

# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

**Soc:** 49-3023

**Onet:** 49-3023.00

**Title:** Automotive Service Technicians and Mechanics  
(SEE DETAIL)

*(Values range from a low  
of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
		0.00

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

**Soc:** 49-3023

**Onet:** 49-3023.01

**Title:** Automotive Master Mechanics

*(Values range from a low  
of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	4.62
	LV	4.95
Active Listening	IM	4.23
Writing	IM	3.78
Speaking	IM	4.04
Mathematics	IM	3.64
Critical Thinking	IM	4.58
	LV	4.59
Active Learning	IM	4.72
	LV	5.20
Learning Strategies	IM	4.04
Monitoring	IM	3.48
Coordination	IM	3.78
	LV	4.24
Instructing	IM	3.78
	LV	4.31
Complex Problem Solving	IM	4.46
	LV	4.71
Technology Design	IM	3.30
Equipment Selection	IM	4.74
	LV	4.54
Installation	IM	4.48
	LV	4.34
Operation Monitoring	IM	3.54
Operation and Control	IM	3.48
Equipment Maintenance	IM	4.04
	LV	4.68
Troubleshooting	IM	4.90
	LV	5.23
Repairing	IM	4.81
	LV	4.70
Quality Control Analysis	IM	3.33
Judgment and Decision Making	IM	3.58
Time Management	IM	3.90

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

**AUTOMOTIVE Industry Occupations (NAICS 336)**

03/13/07

**Soc:** 49-3023**Onet:** 49-3023.02**Title:** Automotive Specialty Technicians*(Values range from a low  
of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	4.17
Active Listening	IM	4.05
	LV	4.02
Writing	IM	3.39
Critical Thinking	IM	4.17
	LV	4.38
Active Learning	IM	4.23
	LV	5.27
Learning Strategies	IM	3.66
	LV	4.58
Monitoring	IM	3.88
	LV	4.93
Social Perceptiveness	IM	3.09
Coordination	IM	3.59
	LV	4.48
Instructing	IM	3.88
	LV	4.49
Complex Problem Solving	IM	3.34
Equipment Selection	IM	3.98
	LV	4.75
Installation	IM	4.01
	LV	4.07
Operation Monitoring	IM	3.92
	LV	4.57
Operation and Control	IM	3.74
Equipment Maintenance	IM	4.55
	LV	4.55
Troubleshooting	IM	4.46
	LV	5.09
Repairing	IM	4.48
	LV	5.53
Quality Control Analysis	IM	3.37
Judgment and Decision Making	IM	3.68
	LV	4.00
Systems Analysis	IM	3.12
Time Management	IM	3.96
Management of Personnel	IM	3.05

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

**AUTOMOTIVE Industry Occupations (NAICS 336)**

03/13/07

**Soc:** 49-3031**Onet:** 49-3031.00**Title:** Bus and Truck Mechanics and Diesel Engine Specialists*(Values range from a low of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.64
Active Listening	IM	3.18
Writing	IM	3.00
Speaking	IM	3.01
Active Learning	IM	3.04
Learning Strategies	IM	3.10
Social Perceptiveness	IM	3.06
Coordination	IM	3.47
Instructing	IM	3.01
Equipment Selection	IM	3.49
Installation	IM	3.52
Equipment Maintenance	IM	4.47
	LV	5.07
Troubleshooting	IM	4.35
	LV	4.99
Repairing	IM	4.28
	LV	4.74
Judgment and Decision Making	IM	3.21
Time Management	IM	3.13

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

**Soc:** 49-3042**Onet:** 49-3042.00**Title:** Mobile Heavy Equipment Mechanics, Except Engines*(Values range from a low of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.65
Active Listening	IM	3.09
Writing	IM	3.06
Speaking	IM	3.20
Mathematics	IM	3.28
Critical Thinking	IM	3.72
	LV	4.13
Active Learning	IM	3.41
Learning Strategies	IM	3.32
	LV	4.18
Monitoring	IM	3.16
Coordination	IM	3.40
Persuasion	IM	3.35
	LV	4.07
Instructing	IM	3.43
Service Orientation	IM	3.49
Complex Problem Solving	IM	3.94
	LV	4.11

# AUTOMOTIVE Industry Occupations (NAICS 336)

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Technology Design	IM	3.17
Equipment Selection	IM	4.55
	LV	4.95
Installation	IM	4.51
	LV	5.80
Operation Monitoring	IM	4.32
	LV	5.01
Operation and Control	IM	3.98
	LV	4.43
Equipment Maintenance	IM	4.58
	LV	5.42
Troubleshooting	IM	4.81
	LV	5.20
Repairing	IM	4.77
	LV	5.07
Judgment and Decision Making	IM	3.85
	LV	4.21
Time Management	IM	3.68

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

**Soc:** 49-3093

**Onet:** 49-3093.00

**Title:** Tire Repairers and Changers

*(Values range from a low of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.78
Active Listening	IM	3.84
Writing	IM	3.11
Speaking	IM	3.61
Mathematics	IM	3.09
Critical Thinking	IM	3.46
Active Learning	IM	3.18
Learning Strategies	IM	3.29
Monitoring	IM	3.02
Social Perceptiveness	IM	3.11
Coordination	IM	3.58
Instructing	IM	3.25
Service Orientation	IM	3.42
Equipment Selection	IM	3.33
Installation	IM	3.83
	LV	4.17
Equipment Maintenance	IM	3.60
	LV	4.01
Troubleshooting	IM	3.74
Repairing	IM	3.77
	LV	4.22
Judgment and Decision Making	IM	3.25
Time Management	IM	3.41

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*



# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

**Soc:** 49-9012

**Onet:** 49-9012.00

**Title:** Control & Valve Installers & Repairers, Except Mech.  
Door (SEE DETAIL)

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Writing	IM	3.20
Equipment Selection	IM	3.34
Installation	IM	3.81
Operation Monitoring	IM	3.22
Operation and Control	IM	3.41
Equipment Maintenance	IM	3.79
Troubleshooting	IM	3.62
Repairing	IM	4.54
Quality Control Analysis	IM	3.98

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.

**Soc:** 49-9043

**Onet:** 49-9043.00

**Title:** Maintenance Workers, Machinery

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.16
Active Listening	IM	3.00
Speaking	IM	3.00
Technology Design	IM	3.50
Equipment Selection	IM	3.66
Installation	IM	3.66
Operation Monitoring	IM	3.66
Operation and Control	IM	3.66
Equipment Maintenance	IM	4.16
	LV	4.50
Troubleshooting	IM	4.00
Repairing	IM	4.00
Quality Control Analysis	IM	3.17

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.

**AUTOMOTIVE Industry Occupations (NAICS 336)**

03/13/07

**Soc:** 49-9044**Onet:** 49-9044.00**Title:** Millwrights*(Values range from a low  
of 1 to a high of 5.)*

<b>Element Name</b>	<b>Scale ID</b>	<b>Data Value</b>
Reading Comprehension	IM	3.56
	LV	4.27
Active Listening	IM	3.68
	LV	4.01
Mathematics	IM	3.99
	LV	4.85
Critical Thinking	IM	3.38
	LV	4.15
Active Learning	IM	3.53
	LV	4.18
Learning Strategies	IM	3.22
	LV	4.31
Coordination	IM	3.57
	LV	4.68
Instructing	IM	3.67
Complex Problem Solving	IM	3.66
	LV	4.27
Equipment Selection	IM	4.31
	LV	4.67
Installation	IM	4.25
	LV	5.25
Operation Monitoring	IM	3.04
Operation and Control	IM	3.20
Equipment Maintenance	IM	3.65
	LV	4.51
Troubleshooting	IM	4.05
	LV	5.04
Repairing	IM	4.29
	LV	5.11
Judgment and Decision Making	IM	3.31
Time Management	IM	3.40

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

**Soc:** 49-9098

**Onet:** 49-9098.00

**Title:** Helpers--Installation, Maintenance, and Repair  
Workers

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.62
Active Listening	IM	4.17
Writing	IM	3.01
Speaking	IM	3.66
Mathematics	IM	3.29
Critical Thinking	IM	3.94
	LV	4.19
Active Learning	IM	3.70
	LV	4.13
Learning Strategies	IM	3.21
Monitoring	IM	3.06
Social Perceptiveness	IM	3.21
Coordination	IM	3.49
	LV	4.39
Instructing	IM	3.22
Service Orientation	IM	3.32
Complex Problem Solving	IM	3.22
Operations Analysis	IM	3.03
	LV	4.03
Equipment Selection	IM	3.79
Installation	IM	4.13
	LV	4.64
Operation Monitoring	IM	3.88
	LV	4.87
Operation and Control	IM	3.82
Equipment Maintenance	IM	4.32
	LV	4.50
Troubleshooting	IM	4.00
	LV	4.51
Repairing	IM	4.15
	LV	4.46
Judgment and Decision Making	IM	3.24
Time Management	IM	3.18

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.

**AUTOMOTIVE Industry Occupations (NAICS 336)**

03/13/07

**Soc:** 51-1011**Onet:** 51-1011.00**Title:** First-Line Supervisors/Managers of Production and  
Operating Workers*(Values range from a low  
of 1 to a high of 5.)*

<b>Element Name</b>	<b>Scale ID</b>	<b>Data Value</b>
Reading Comprehension	IM	4.10
	LV	4.44
Active Listening	IM	4.21
	LV	4.59
Writing	IM	3.39
	LV	4.09
Speaking	IM	4.00
	LV	4.32
Mathematics	IM	3.36
Critical Thinking	IM	3.89
	LV	4.23
Active Learning	IM	3.69
	LV	4.46
Learning Strategies	IM	3.58
	LV	4.40
Monitoring	IM	4.02
	LV	5.06
Social Perceptiveness	IM	3.42
	LV	4.31
Coordination	IM	3.83
	LV	4.81
Persuasion	IM	3.43
	LV	4.24
Negotiation	IM	3.38
Instructing	IM	4.03
	LV	4.46
Service Orientation	IM	3.18
Complex Problem Solving	IM	3.62
	LV	4.13
Equipment Selection	IM	3.25
Operation Monitoring	IM	3.45
Operation and Control	IM	3.54
	LV	4.03
Equipment Maintenance	IM	3.14
Troubleshooting	IM	3.77
Quality Control Analysis	IM	3.74
	LV	4.09
Judgment and Decision Making	IM	3.89
	LV	4.15
Systems Analysis	IM	3.12
Systems Evaluation	IM	3.23
Time Management	IM	3.94
	LV	4.40
Management of Material	IM	3.12
Management of Personnel	IM	4.09

# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

LV

4.77

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

**Soc:** 51-2031

**Onet:** 51-2031.00

**Title:** Engine and Other Machine Assemblers

*(Values range from a low of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.16
Mathematics	IM	3.16
Monitoring	IM	3.50
Complex Problem Solving	IM	3.23
Operations Analysis	IM	3.66
Technology Design	IM	4.00
Equipment Selection	IM	4.16
Installation	IM	4.33
Operation Monitoring	IM	4.50
Operation and Control	IM	4.33
	LV	4.00
Equipment Maintenance	IM	4.16
Troubleshooting	IM	4.33
Repairing	IM	4.33
Quality Control Analysis	IM	4.75
	LV	4.08

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

**Soc:** 51-2041

**Onet:** 51-2041.00

**Title:** Structural Metal Fabricators and Fitters

*(Values range from a low of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.42
Active Listening	IM	3.96
	LV	4.05
Speaking	IM	3.57
Mathematics	IM	3.67
	LV	4.22
Critical Thinking	IM	3.63
Active Learning	IM	3.13
Learning Strategies	IM	3.16
Monitoring	IM	3.16
Coordination	IM	3.07
	LV	4.43
Instructing	IM	3.09
	LV	4.11
Complex Problem Solving	IM	3.19
Equipment Selection	IM	3.81
	LV	4.39
Installation	IM	3.35
Operation Monitoring	IM	3.45

# AUTOMOTIVE Industry Occupations (NAICS 336)

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	LV	4.28
Operation and Control	IM	3.29
Equipment Maintenance	IM	3.60
	LV	4.30
Quality Control Analysis	IM	3.72
	LV	4.78
Judgment and Decision Making	IM	3.34
Time Management	IM	3.92
	LV	4.23

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.

**Soc:** 51-2091

**Onet:** 51-2091.00

**Title:** Fiberglass Laminators and Fabricators

(Values range from a low of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Skills data collection in progress	N/A	0.00

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.

**Soc:** 51-2092

**Onet:** 51-2092.00

**Title:** Team Assemblers

(Values range from a low of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.20
Active Listening	IM	3.51
Speaking	IM	3.17
Critical Thinking	IM	3.09
Active Learning	IM	3.36
Learning Strategies	IM	3.56
Monitoring	IM	3.04
Coordination	IM	3.14
Instructing	IM	3.36
Equipment Selection	IM	3.18
Operation Monitoring	IM	3.22
Operation and Control	IM	3.05
Equipment Maintenance	IM	3.14
Quality Control Analysis	IM	3.44
Time Management	IM	3.00

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.

**AUTOMOTIVE Industry Occupations (NAICS 336)**

03/13/07

**Soc:** 51-4041**Onet:** 51-4041.00**Title:** Machinists*(Values range from a low  
of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.96
	LV	4.30
Active Listening	IM	3.60
Speaking	IM	3.06
Mathematics	IM	4.14
	LV	4.49
Critical Thinking	IM	3.38
Active Learning	IM	3.59
	LV	4.00
Learning Strategies	IM	3.09
Coordination	IM	3.10
Complex Problem Solving	IM	3.37
	LV	4.15
Technology Design	IM	3.15
Equipment Selection	IM	4.09
	LV	5.19
Installation	IM	3.23
	LV	4.16
Operation Monitoring	IM	4.27
	LV	5.51
Operation and Control	IM	4.28
	LV	5.41
Equipment Maintenance	IM	3.81
	LV	4.85
Troubleshooting	IM	3.99
	LV	4.49
Repairing	IM	3.61
Quality Control Analysis	IM	3.86
	LV	4.85
Judgment and Decision Making	IM	3.42
	LV	4.08
Time Management	IM	3.36

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.*

**AUTOMOTIVE Industry Occupations (NAICS 336)**

03/13/07

**Soc:** 51-4081**Onet:** 51-4081.00**Title:** Multiple Machine Tool Setters, Operators, and  
Tenders, Metal and Plastic*(Values range from a low  
of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.31
Active Listening	IM	3.59
Speaking	IM	3.00
Mathematics	IM	3.02
Critical Thinking	IM	3.94
	LV	4.15
Active Learning	IM	3.65
	LV	4.09
Learning Strategies	IM	4.00
	LV	4.43
Monitoring	IM	3.29
Coordination	IM	3.82
	LV	4.01
Instructing	IM	3.73
	LV	4.37
Service Orientation	IM	3.23
Complex Problem Solving	IM	3.14
Equipment Selection	IM	3.52
Installation	IM	3.44
Operation Monitoring	IM	4.03
	LV	4.42
Operation and Control	IM	4.28
	LV	4.19
Equipment Maintenance	IM	4.09
	LV	4.35
Troubleshooting	IM	4.03
	LV	4.43
Repairing	IM	4.14
	LV	4.02
Quality Control Analysis	IM	4.38
	LV	4.50

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM > 3.0), or required at a moderate level (LV > 4.0) or higher.*



# AUTOMOTIVE Industry Occupations (NAICS 336)

03/13/07

**Soc:** 51-4121

**Onet:** 51-4121.00

**Title:** Welders, Cutters, Solderers, and Brazers (SEE  
DETAIL)

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
		0.00

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.

**Soc:** 51-4121

**Onet:** 51-4121.06

**Title:** Welders, Cutters, and Welder Fitters

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.04
Active Listening	IM	3.40
Speaking	IM	3.01
Mathematics	IM	3.10
Critical Thinking	IM	3.02
Equipment Selection	IM	3.07
Time Management	IM	3.06

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.

**Soc:** 51-4121

**Onet:** 51-4121.07

**Title:** Solderers and Brazers

(Values range from a low  
of 1 to a high of 5.)

Element Name	Scale ID	Data Value
Monitoring	IM	3.30
Equipment Selection	IM	3.80
Operation Monitoring	IM	3.10
Operation and Control	IM	4.00

All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.

**AUTOMOTIVE Industry Occupations (NAICS 336)**

03/13/07

**Soc:** 51-4122**Onet:** 51-4122.00**Title:** Welding, Soldering, and Brazing Machine Setters,  
Operators, and Tenders*(Values range from a low  
of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.51
Active Listening	IM	3.50
Critical Thinking	IM	3.12
Active Learning	IM	3.35
Learning Strategies	IM	3.26
Monitoring	IM	3.14
Coordination	IM	3.11
Instructing	IM	3.35
Equipment Selection	IM	3.27
Operation Monitoring	IM	3.14
Operation and Control	IM	3.12
Equipment Maintenance	IM	3.37
Troubleshooting	IM	3.10
Quality Control Analysis	IM	3.21

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

**Soc:** 51-9023**Onet:** 51-9023.00**Title:** Mixing and Blending Machine Setters, Operators, and  
Tenders*(Values range from a low  
of 1 to a high of 5.)*

Element Name	Scale ID	Data Value
Operation Monitoring	IM	3.66
Operation and Control	IM	4.16
Equipment Maintenance	IM	3.00
Quality Control Analysis	IM	3.50

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported.  
Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*

**AUTOMOTIVE Industry Occupations (NAICS 336)**

03/13/07

**Soc:** 53-1021**Onet:** 53-1021.00**Title:** First-Line Sup's/Managers of Helpers, Laborers, &  
Material Movers (SEE DETAIL)*(Values range from a low  
of 1 to a high of 5.)*

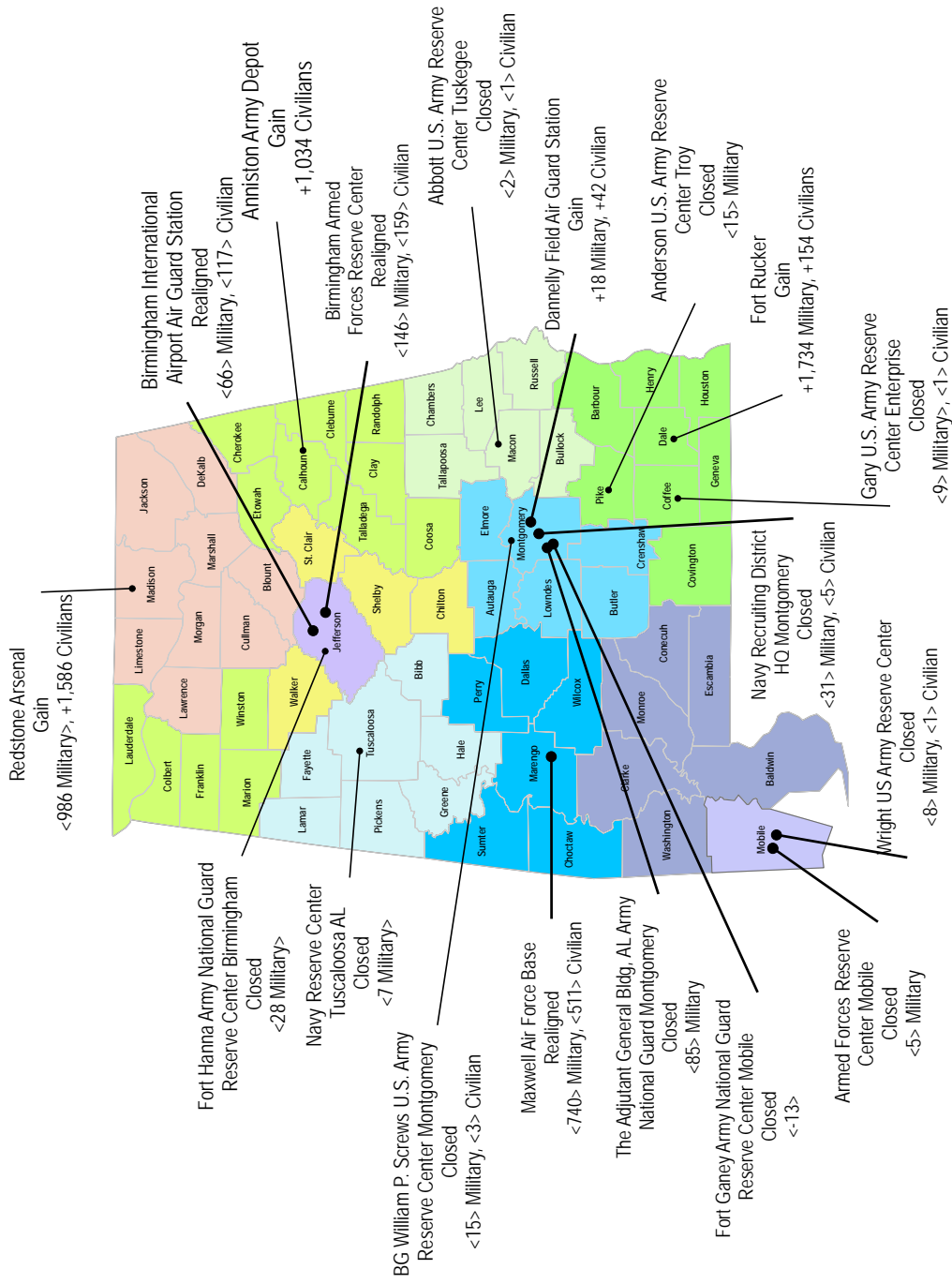
Element Name	Scale ID	Data Value
Reading Comprehension	IM	3.87
Active Listening	IM	4.19
	LV	4.06
Speaking	IM	4.09
	LV	4.06
Mathematics	IM	3.76
Critical Thinking	IM	3.99
	LV	4.63
Active Learning	IM	3.58
Learning Strategies	IM	3.31
Monitoring	IM	4.36
	LV	5.27
Social Perceptiveness	IM	3.79
	LV	4.62
Coordination	IM	3.50
	LV	4.12
Persuasion	IM	3.98
	LV	4.44
Negotiation	IM	3.21
Instructing	IM	3.73
	LV	4.55
Service Orientation	IM	3.83
Complex Problem Solving	IM	3.38
Judgment and Decision Making	IM	4.23
	LV	4.38
Systems Evaluation	IM	3.19
Time Management	IM	4.51
	LV	4.87
Management of Personnel	IM	4.01
	LV	4.99

*All skills have an Importance (IM) and Level of ability (LV) component. Only components that meet the criteria are reported. Skills listed for this occupation are at least moderately important to do the job (IM>3.0), or required at a moderate level (LV>4.0) or higher.*



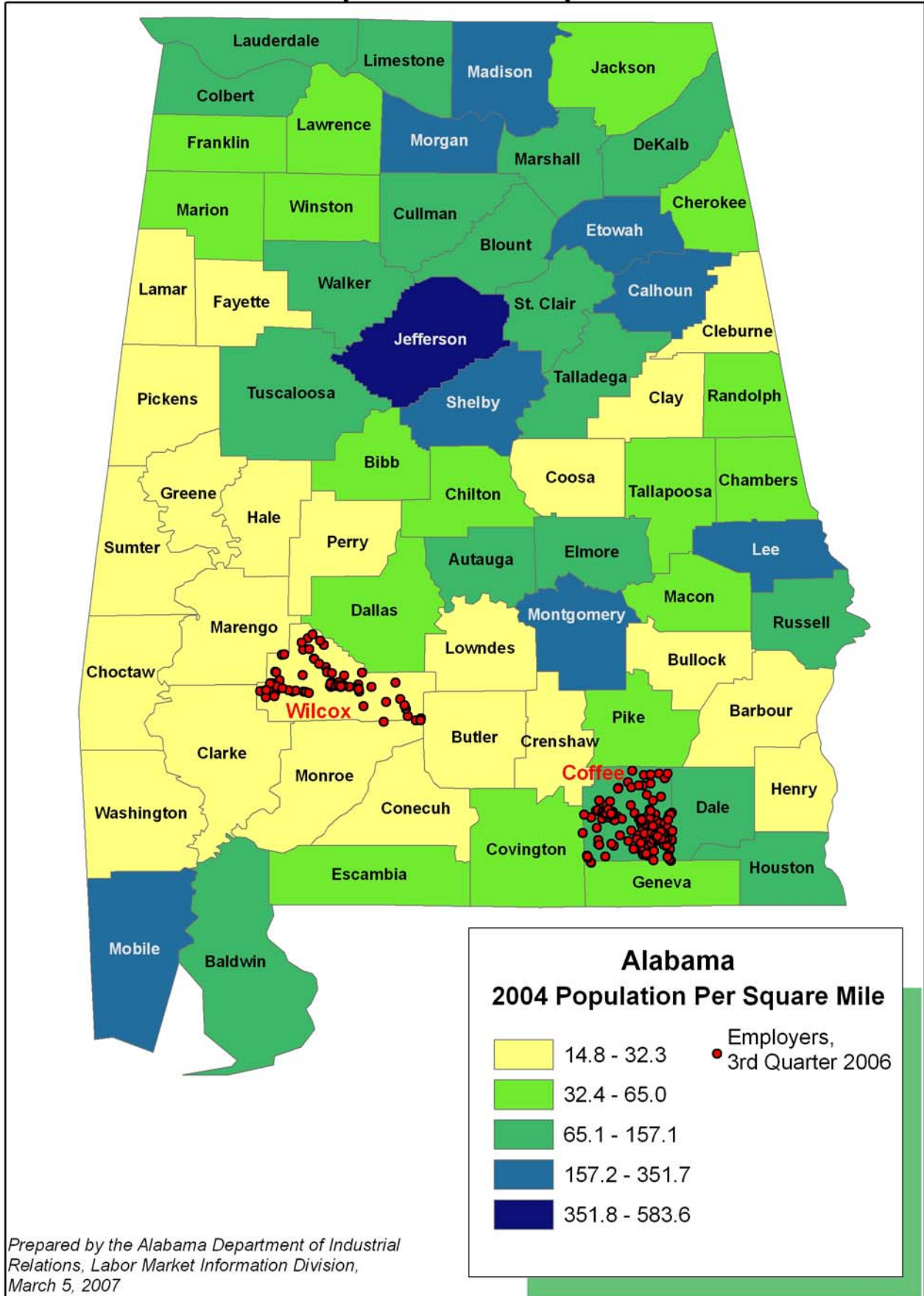
# 2005 Base Realignments and Closings in Alabama

Total Direct Effects (Civilian and Military) Mapped 4/16/2007

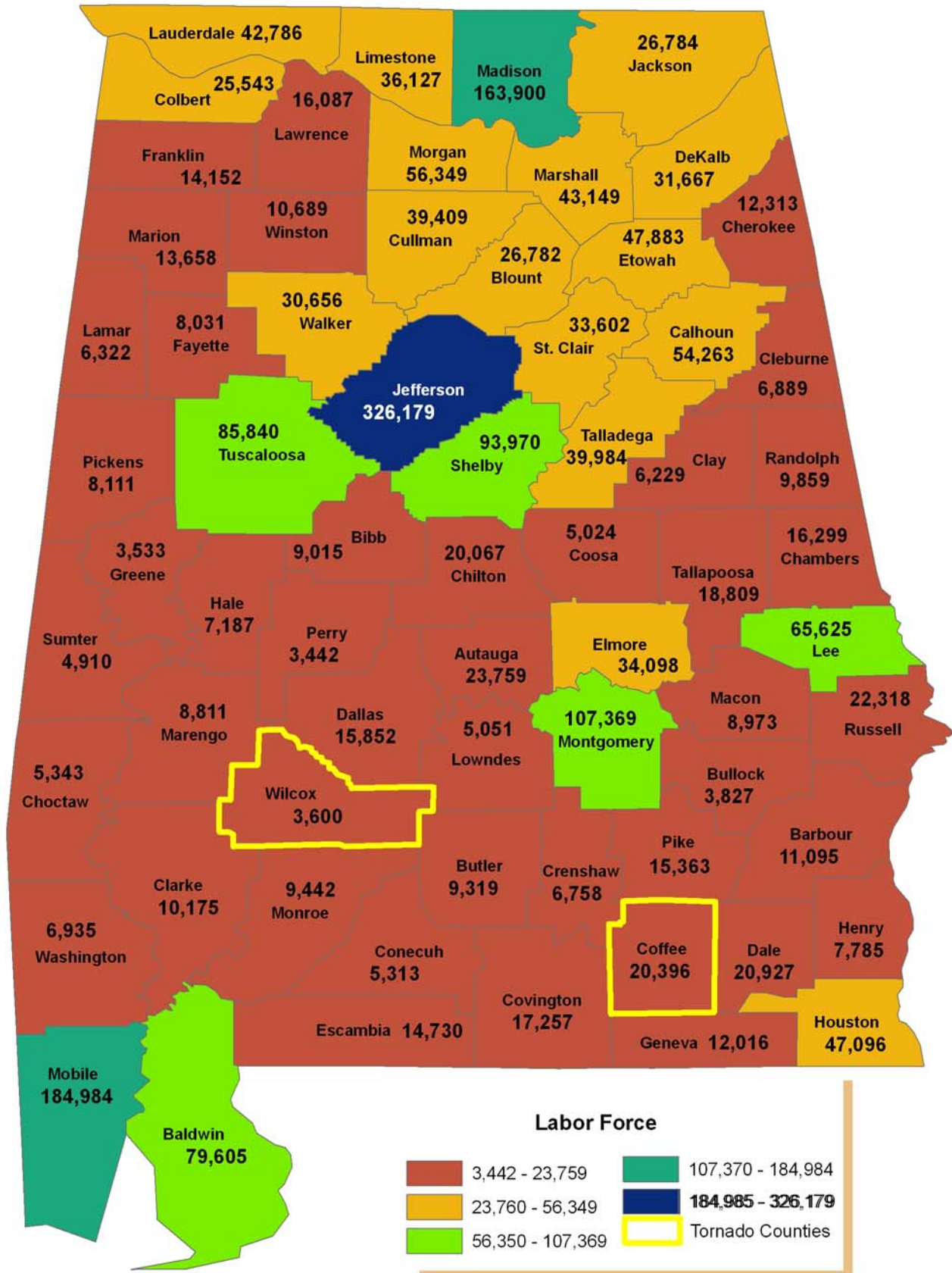




# Coffee & Wilcox County Employers With Population Per Square Mile



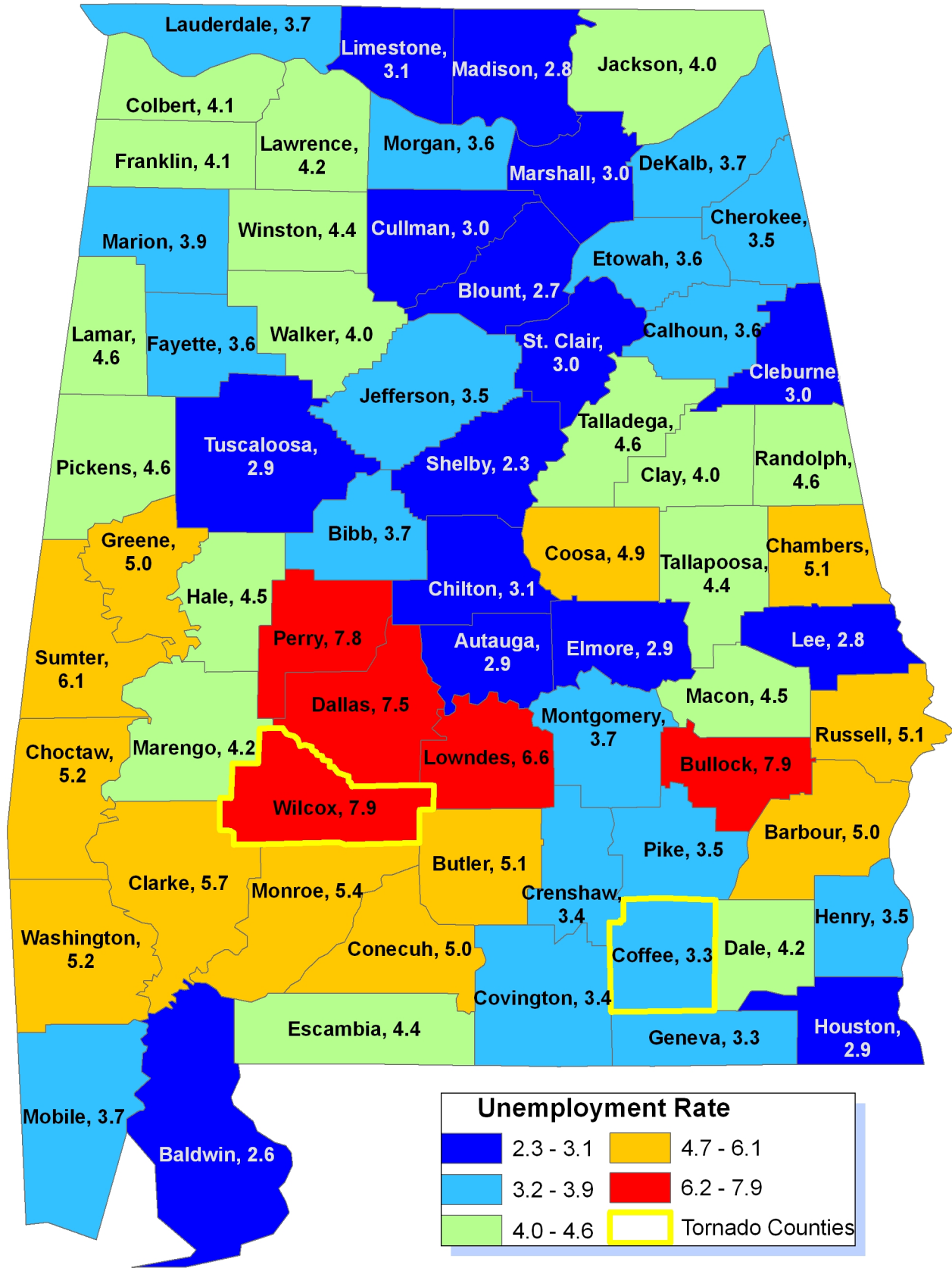
# Alabama Labor Force 2006 Average Annual on 2005 Benchmark



Prepared by the Alabama Department of Industrial Relations, Labor Market Information Division, March 5, 2007 in cooperation with the Bureau of Labor Statistics.



# Alabama Unemployment Rates 2006 Average Annual on 2005 Benchmark



Prepared by the Alabama Department of Industrial Relations, Labor Market Information Division, March 5, 2007 in cooperation with the Bureau of Labor Statistics.



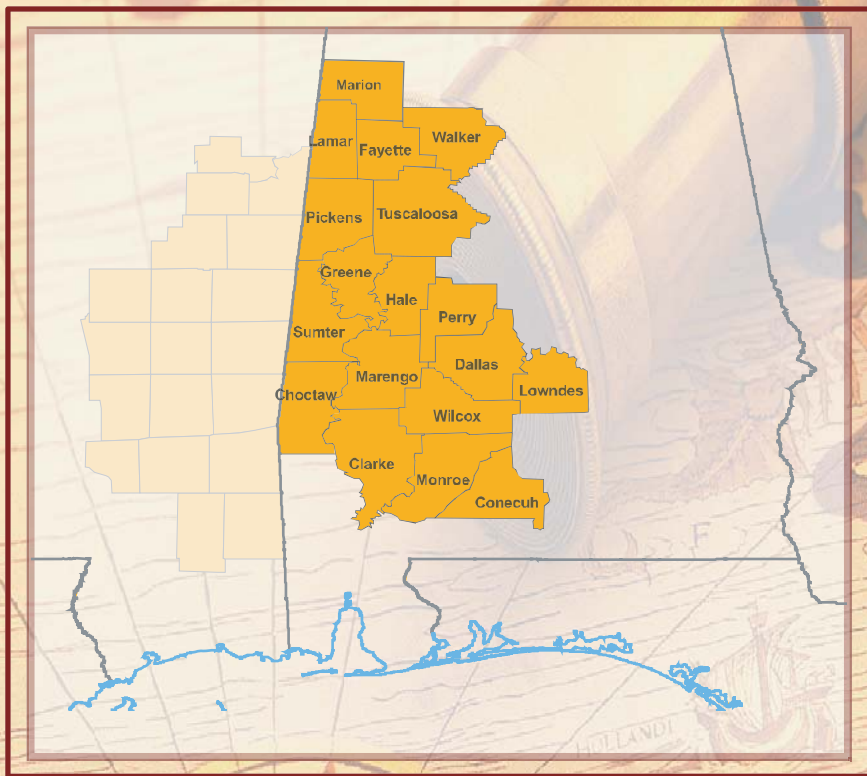
# ALABAMA SECTOR

## Western Alabama and Eastern Mississippi (WAEM)

### WIRED Region

# 2007 Labor Market Report

Revised June 2007



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# Introduction

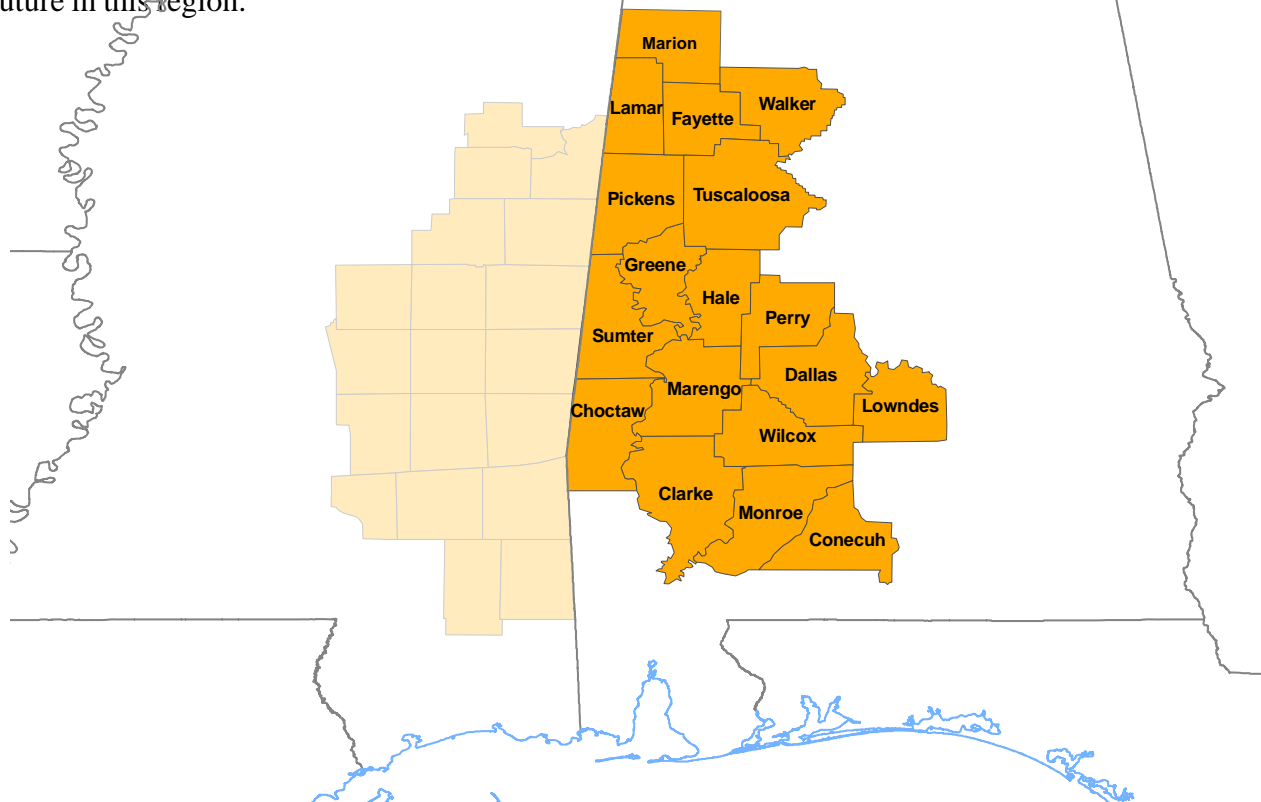
In November 2005, The U.S. Department of Labor launched the Workforce Innovation in Regional Economic Development (WIRED) Initiative. This initiative allowed regions across the country to apply for federal dollars to enhance economic development by bringing together state, local, and federal agencies. This first generation of the WIRED Initiative focused on regions that faced workforce challenges such as creating opportunities for growth in the region and bringing in new and innovative employers, both large and small.

Western Alabama and Eastern Mississippi form a region included in this first generation. This area encompasses eighteen counties in Alabama and nineteen counties in Mississippi. The counties included in the Alabama portion are Marion, Lamar, Fayette, Walker, Pickens, Tuscaloosa, Greene, Sumter, Hale, Perry, Dallas, Marengo, Choctaw, Clarke, Wilcox, Monroe, Lowndes, and Conecuh.

Partners and regional stakeholders need to know the condition of the region's labor market economy at the present time, before they can implement a plan of action. To that end, The Alabama Department of Industrial Relations, Labor Market Information Division has developed this report using the various data resources available in our Department and in the federal agencies we work with, such as the Bureau of Labor Statistics and the U.S. Census Bureau.

Quarterly Workforce Indicators (QWI's) are an amalgamation of Alabama administrative records and Census Bureau demographic data. An important attribute of these indicators is that they reflect *jobs*, not workers. As a result, workforce dynamics using these figures are illustrated from the perspective of *employer demand*. This distinction is significant in order to point out the need for attainable training and economic development targets.

Through our presentation of population, labor force, commuting patterns, industry mix, and occupational employment, we hope to provide a broad outlook of the region as a whole, and the counties that make up this region. We also hope to provide some projections of where growth in various industries and the occupations in those industries might occur. The target industries stated for the initiative in this region are Health Care, Advanced Manufacturing, and Biotechnology. Through this report you will see how these industries exist and the challenges to providing a skilled workforce for a brighter future in this region.



# Population

The combined total population of counties in the WIRED area was approximately 552,280 as of July 1, 2005. Of that number, Tuscaloosa County alone accounted for 168,910 people. Walker County ranked second with an estimated 70,120 and is a member county of the Birmingham Metropolitan Statistical Area (MSA). Tuscaloosa County is the foundation of the Tuscaloosa MSA, all of which is included in the WIRED area. Other counties in the WIRED configuration range from a low of 9,660 in Greene County to a high of 44,370 in Dallas County using July 1, 2005 estimates.

Chart 1 illustrates differences in population levels of WIRED counties between the years 2000 and

Chart 1 Change in Population 2000 and 2005.

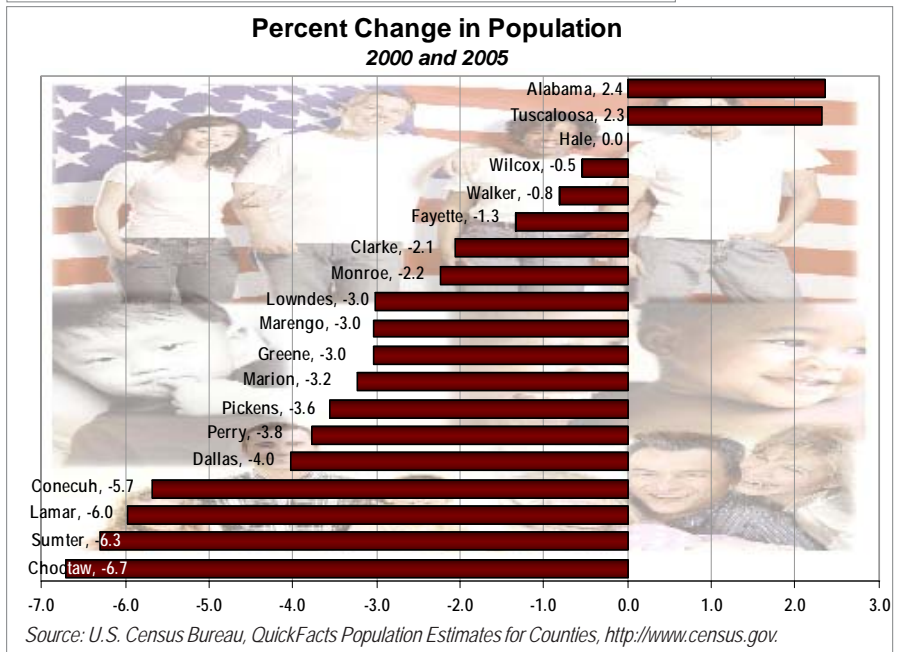
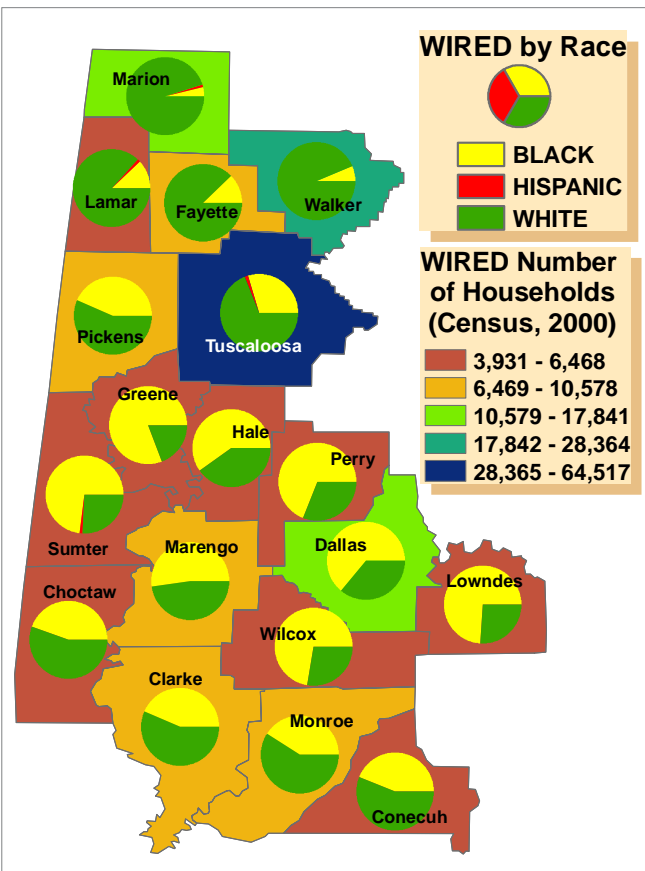


Figure 1 Race and Household.

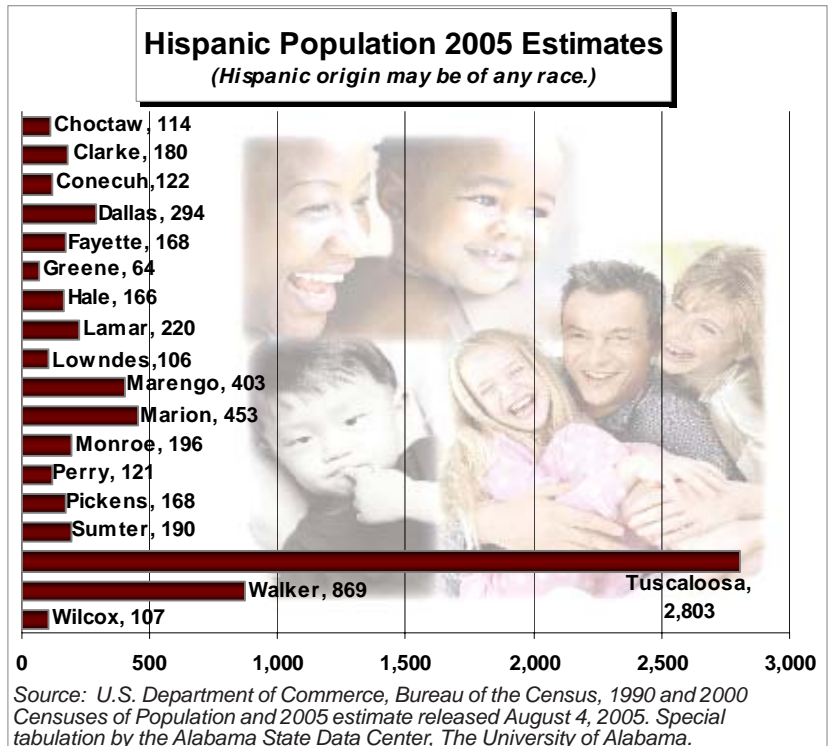


Source: U.S. Census Bureau, 2000 Census of Population and Housing, Summary Population and Housing Characteristics PHC-1-2, Alabama.

2% of the statewide, total population estimate of 4,442,558. This segment of the population is now considered by the U.S. Census Bureau to be the fastest growing minority group in the United States.

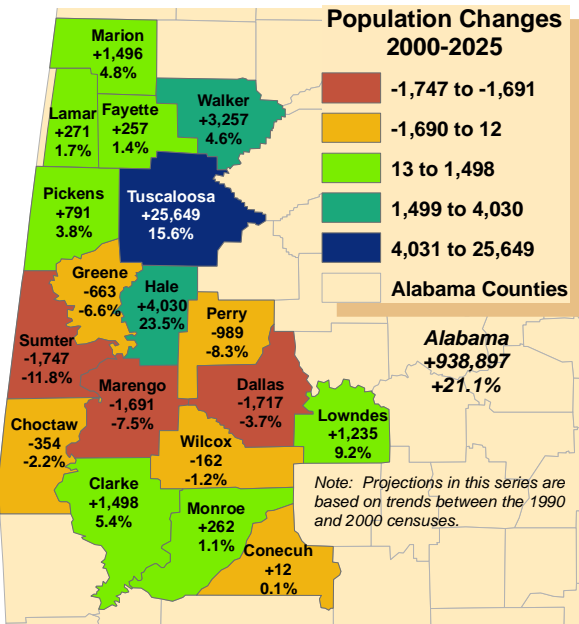
2005. While Tuscaloosa County's growth was comparable to the state, no other county posted gains, although Hale County broke even for the period. The WIRED population has decreased overall by more than 7,360 people between the July 1, 2000 and July 1, 2005 estimates. Figure 1 shows the number of households per county, while population by race is shown in county pie charts. According to Alabama estimates from the 2005 American Community Survey, the Hispanic or Latino (of any race) population is 99,040 or just over

Chart 2 Hispanic Population.



**Figure 2 Population Projections.**

**Alabama WIRED Region  
Population Projections  
2000-2025**

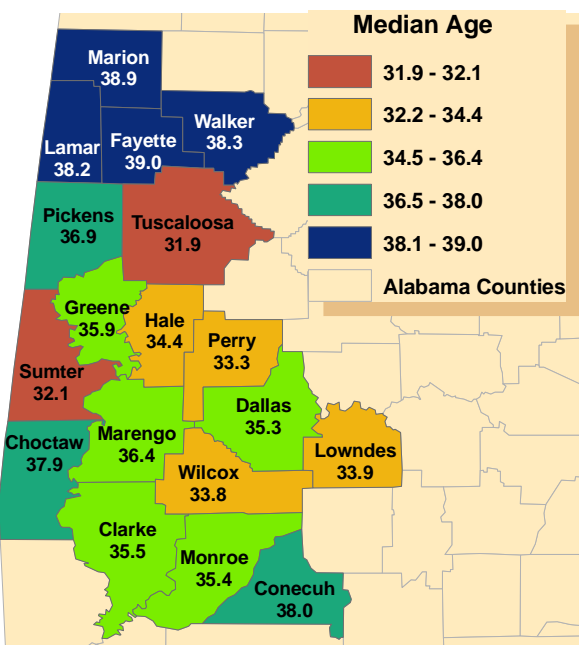


Source: U.S. Census Bureau and Center for Business and Economic Research, The University of Alabama, August 2001.

residents are found mostly in Walker and Dallas Counties with 1,798 and 1,417 youth respectively. Greene County had the least number of 16 to 18 year-olds with 278.

**Figure 3 Median Age.**

**Alabama WIRED Region  
Census 2000  
Median Age**

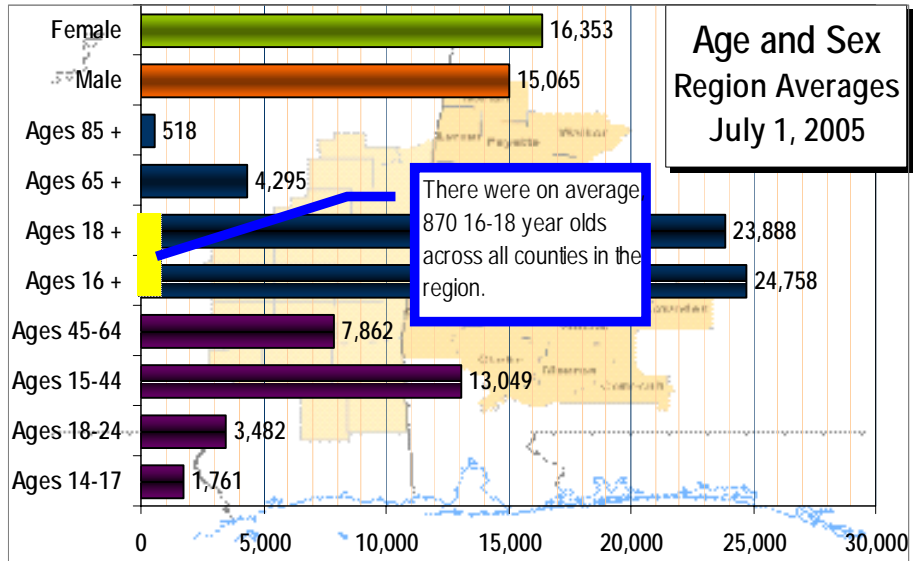


Source: U.S. Census Bureau, 2000 Census

Projected population changes through the year 2025 are charted on the left. Each county is labeled indicating the quantity of population change as well as the percentage of that change from base year 2000 figures to 2025. Tuscaloosa, Hale, and Walker Counties alone are projected to grow in population by over 32,900 by the year 2025. Increasing employment opportunities in metros will continue to draw workers from rural areas.

July 1, 2005 estimates show almost 1,300 more females than males in the West WIRED region. Subtracting between the 16+ and 18+ age groups in Chart 3 yields a figure for the 16 to 18 year-old segment of the population. This number represents the potential, entry-level worker in the civilian labor force. Although these older youth require some training and are major contributors of worker churn, they represent potential labor supply for positions that give good work experience at the lowest cost to employers. These younger

**Chart 3 Age and Gender.**



Source: U.S. Department of Commerce, Bureau of the Census, Estimates Division, Internet release date, August, 2006.

At the other end of the spectrum, it is estimated that 4,295 residents in July of 2005 were 65 and older. This segment of the population typically already has a strong work ethic; they are on time, are able to effectively problem-solve and tend to have better communication skills than their younger counterparts.

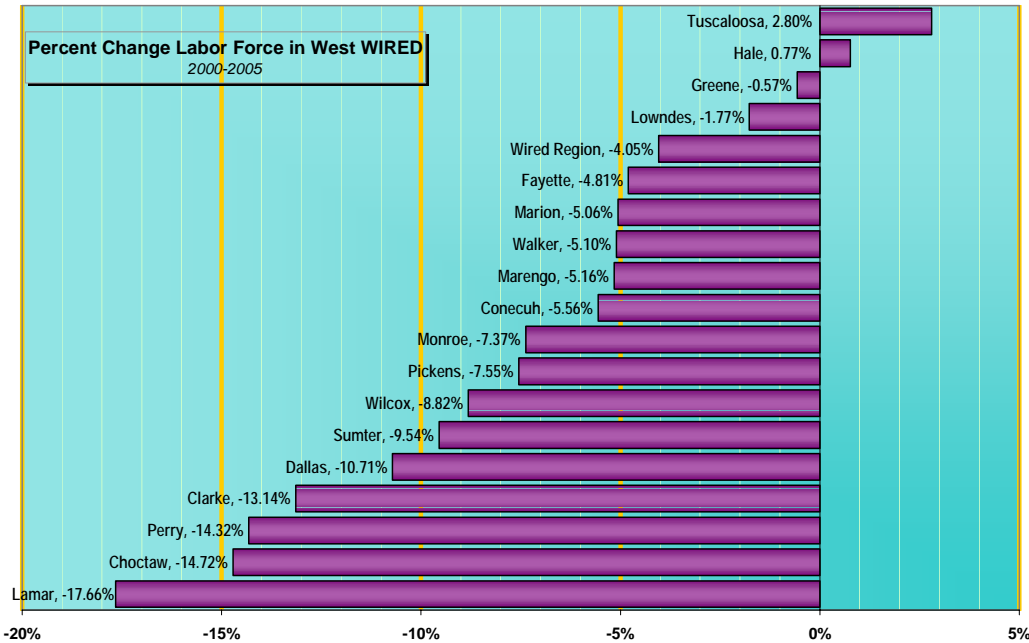
**Population Summary**

- ☼ The WIRED region has decreased in population by approximately 7,360 people from 2000-2005.
- ☼ Tuscaloosa is the only county growing in population.
- ☼ Two of 3 counties losing the least population are those adjoining the Birmingham and Tuscaloosa Metropolitan areas.
- ☼ The 4 most northern counties are characterized as having mostly white populations with each county's median age the oldest in the region, ranging from 38.2 in Lamar to 39 years in Fayette Counties.

# Labor Force

The civilian labor force is defined as those people 16 years and older who are not institutionalized or on active military duty and are either employed or unemployed. In 2005, the civilian labor force in the WIRED region averaged 233,225; down over 4 percent from the year 2000. Population in the region went from 554,400 to 547,000, a decrease of just over 1 percent for the period. Considering the 2005 levels of civilian labor force and population, the labor participation rate in 2005 was approximately 43%. However, this figure is understated by definition, because the population includes those that are in prisons, mental institutions, and on active military duty and the civilian labor force does not; therefore, the labor participation rate appears somewhat lower than it actually is.

**Chart 4 Change in Labor Force.**



Estimates prepared by the Alabama Department of Industrial Relations in cooperation with the U.S. Bureau of Labor Statistics, based on 2005 benchmark.

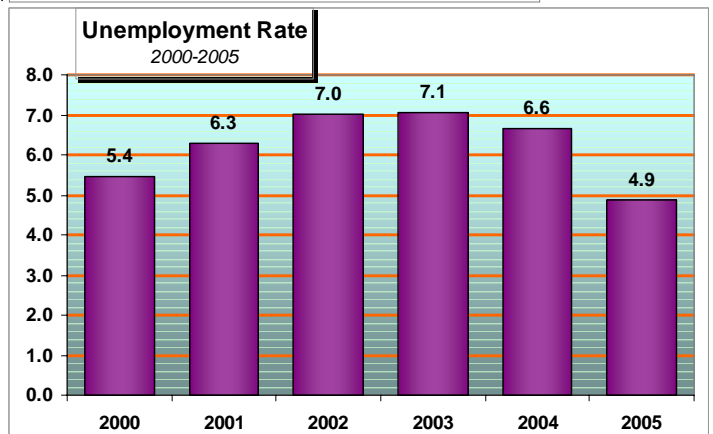
the period. Lamar County experienced a large drop in labor force from 2000-2005 of over 17%. This could be due to a decrease in the labor force participation rate, as population in the county only dropped 6% over the period.

Although the unemployment rate has only dropped from 5.4% in 2000 to 4.9% in 2005 for the entire region, Chart 5 illustrates much higher rates for the between years. The rate peaked at 7.1% for the region in 2003. On a more local level, the unemployment rate dropped for all counties except five; Choctaw, Dallas, Lowndes, Marengo, and Wilcox over the 6 year period. These are all contiguous counties located in the lower portion of the region. Some of the increase could be due to closings and/or layoffs in manufacturing industries such as wood products, food, and fabricated metals. On the other hand, both Lowndes and Dallas counties have benefited from the influx of automotive manufacturing suppliers, with several firms locating in those areas.

### Labor Force Summary

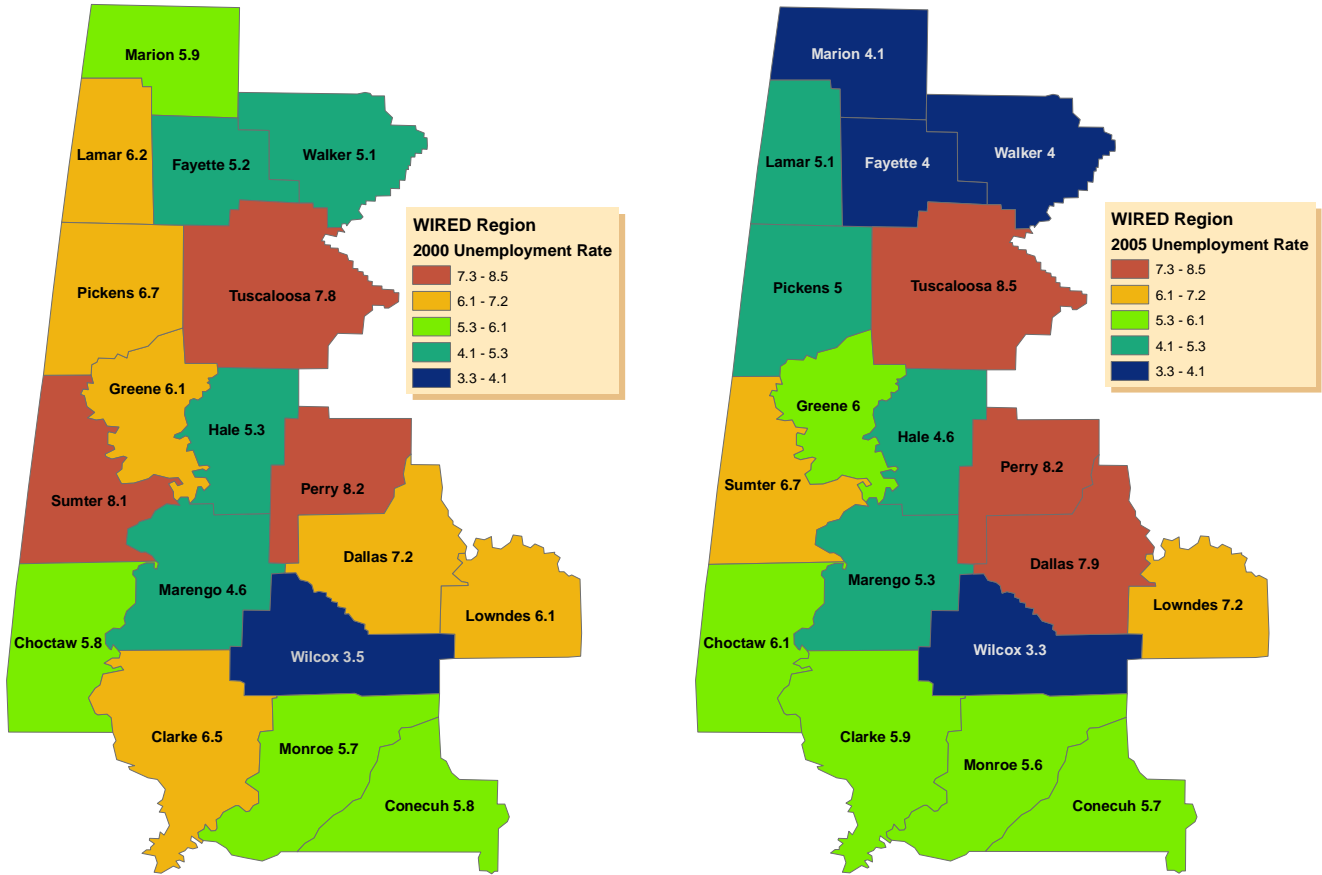
- ☼ WIRED area labor force has decreased 3 percent more than the population from 2000 to 2005.
- ☼ Labor participation in the WIRED is likely higher than 43%.
- ☼ Only the metro counties of Tuscaloosa and Hale increased their labor force from 2000 to 2005.

**Chart 5 Region Unemployment Rates.**



Estimates prepared by the Alabama Department of Industrial Relations in cooperation with the Bureau of Labor Statistics, based on 2005 benchmark.

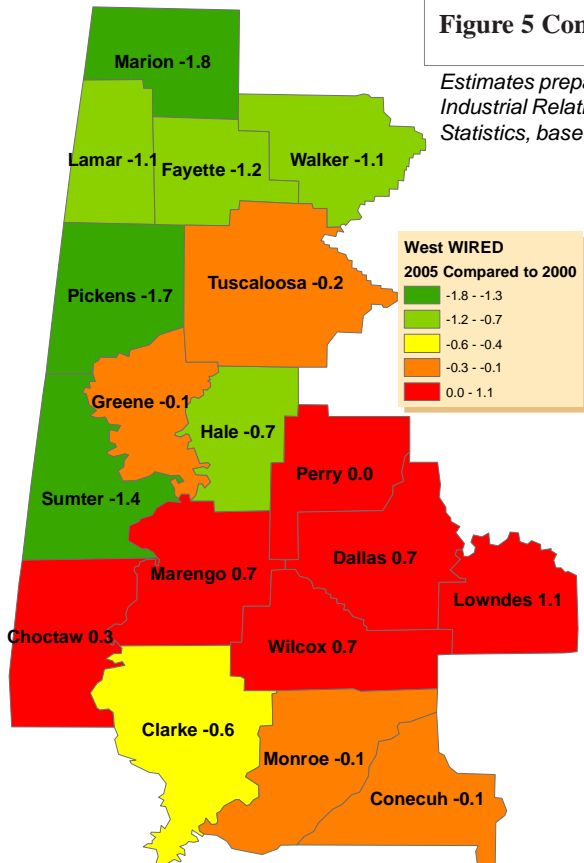
**Figure 4 County Unemployment Rates for 2000 and 2005.**



Estimates prepared by the Alabama Department of Industrial Relations in cooperation with the Bureau of Labor Statistics, based on 2005 benchmark.

**Figure 5 Comparison of Rates, 2005 to 2000.**

Estimates prepared by the Alabama Department of Industrial Relations in cooperation with the Bureau of Labor Statistics, based on 2005 benchmark.



**Additional information regarding population and the civilian labor force is available at:**

**U.S. Census Bureau**

<http://www.census.gov>

**Alabama State Data Center**

<http://cber.cba.ua.edu/asdc.html>

**U.S. Bureau of Labor Statistics**

<http://www.bls.gov/lau/home.htm>



# Area Commuting

The commute map in Figure 6 suggests that in the WIRED area, more residents travel *out* of WIRED counties to work than those who both live and work *in* the area. At a broad level, this outflow is largely influenced by the surrounding metropolitan areas such as Birmingham, Montgomery, and Mobile. Each of these metro areas have developed infrastructure to support the needs of transportation of goods as well as necessary utilities and local services that support industry.

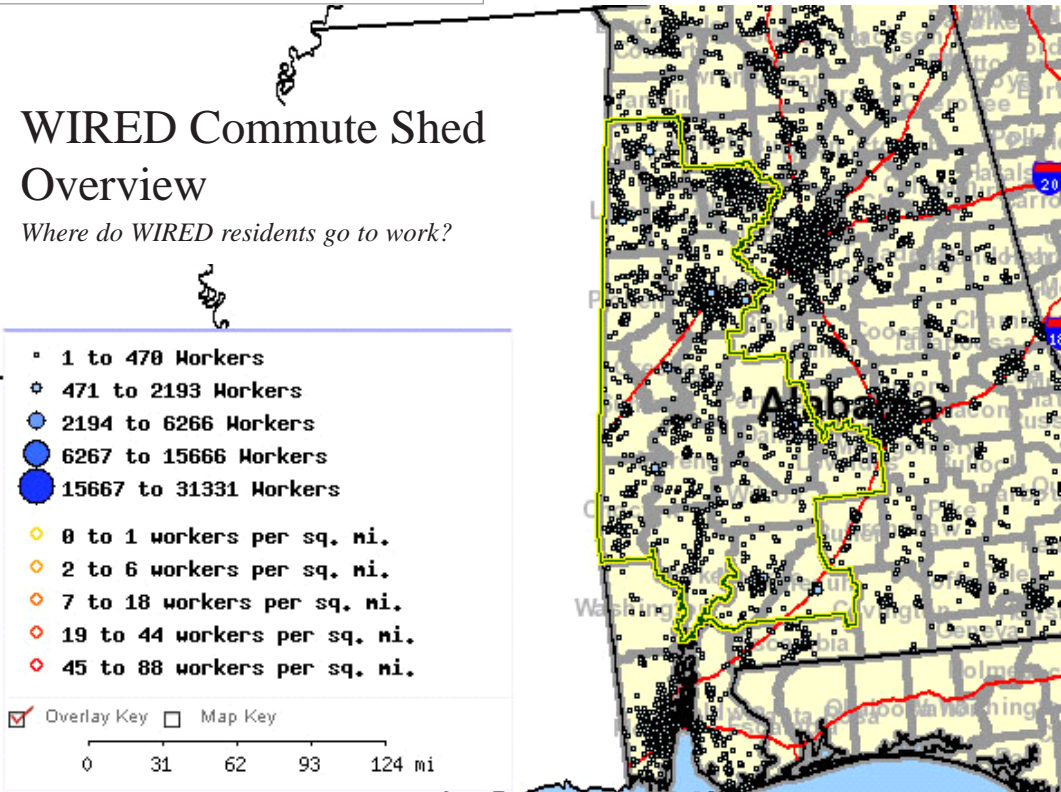
Table 1 lists the top counties where WIRED residents are employed. Share indicates the percentage of WIRED residents that work in the listed county. All Other Locations is the summation of any areas not listed in the top five.

**Table 1 Commute Shed.**

Counties Where Residents are Employed	2003		2002	
	Count	Share	Count	Share
* Tuscaloosa Co., AL	38,257	28.2%	38,536	28.1%
* Jefferson Co., AL	16,294	12.0%	17,016	12.4%
* Walker Co., AL	8,583	6.3%	8,289	6.0%
* Dallas Co., AL	8,452	6.2%	9,149	6.7%
* Marion Co., AL	5,908	4.4%	5,356	3.9%
* All Other Locations	58,073	42.8%	58,791	42.9%

Source: US Census Bureau and AL Department of Industrial Relations, LMI Division, LED Origin-Destination Data Base (2nd Quarter 2002 and 2003).

**Figure 6 Commute Shed Map.**



By definition, a labor market is an *economically integrated* area within which workers can readily change jobs without changing their place of residence. The Birmingham Metro is one such area to which many in the WIRED populace will travel to work. Other metropolitan areas that also affect the WIRED commuting pattern are Montgomery, Mobile, and Tuscaloosa. In addition to surrounding metropolitan areas, many adjoining counties within the region offer desirable amenities such as good schools, a small-town lifestyle and lower tax rates. The quality of work and

Source: US Census Bureau and AL Department of Industrial Relations, LMI Division, LED Origin-Destination Data Base (2nd Quarter 2002 and 2003).

its availability, versus quality of life standards are just two of many factors contributing to the distance workers are willing to commute without relocating.

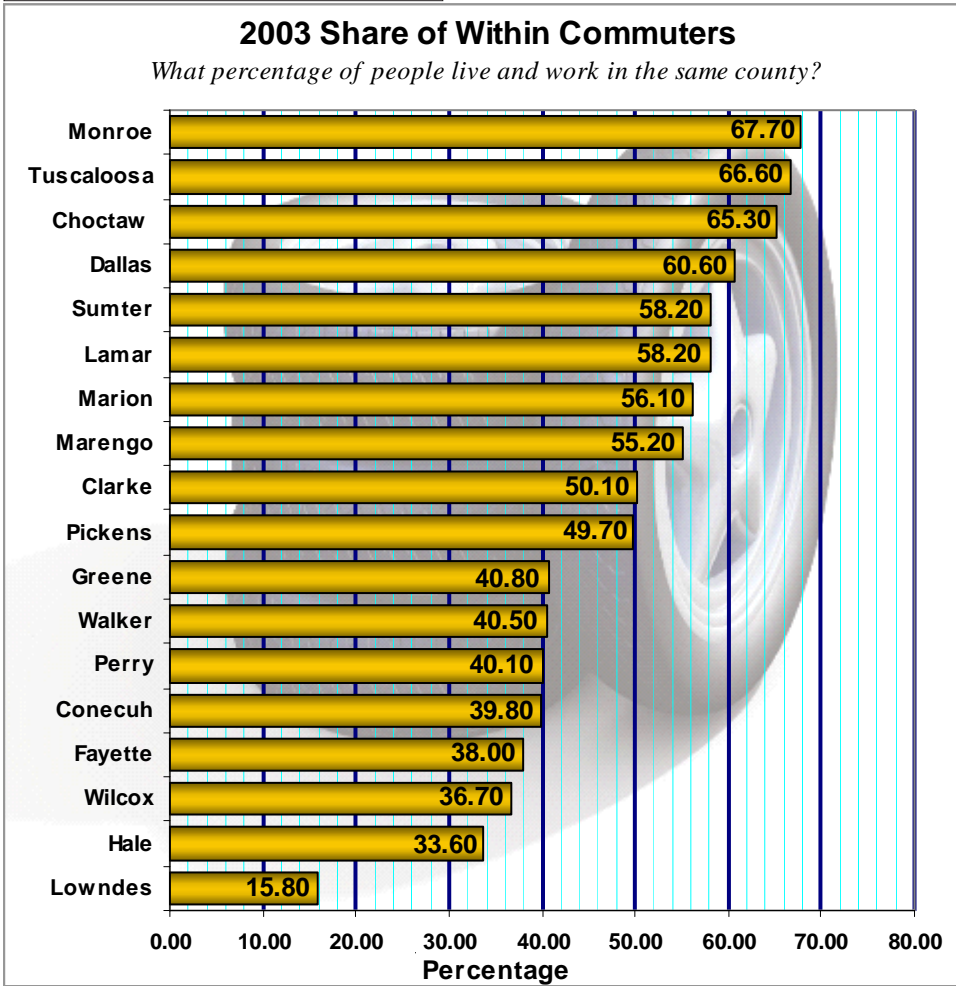
**Table 2 Labor Shed.**

Cities/Towns Where Workers Live	2003		2002	
	Count	Share	Count	Share
* Unincorporated Areas	70,909	52.00%	70,720	52.00%
* Tuscaloosa, AL	15,568	11.40%	16,202	11.90%
* Northport, AL	5,184	3.80%	5,249	3.90%
* Selma, AL	3,635	2.70%	4,029	3.00%
* Jasper, AL	2,524	1.80%	2,415	1.80%
* All Other Locations	38,614	28.30%	37,308	27.40%

Source: US Census Bureau & AL Dept. of Industrial Relations, LMI Division, LED Origin-Destination Data Base (2nd Quarter 2002 and 2003)

Within the WIRED area, there are several areas that qualify as labor markets. For example, while most resident jobholders from the City of Fayette are employed in the immediate area, many other small communities compete for Fayette workers such as Winfield, Guin, Vernon and Berry. Chart 6 shows the

Chart 6 Within Commuters.

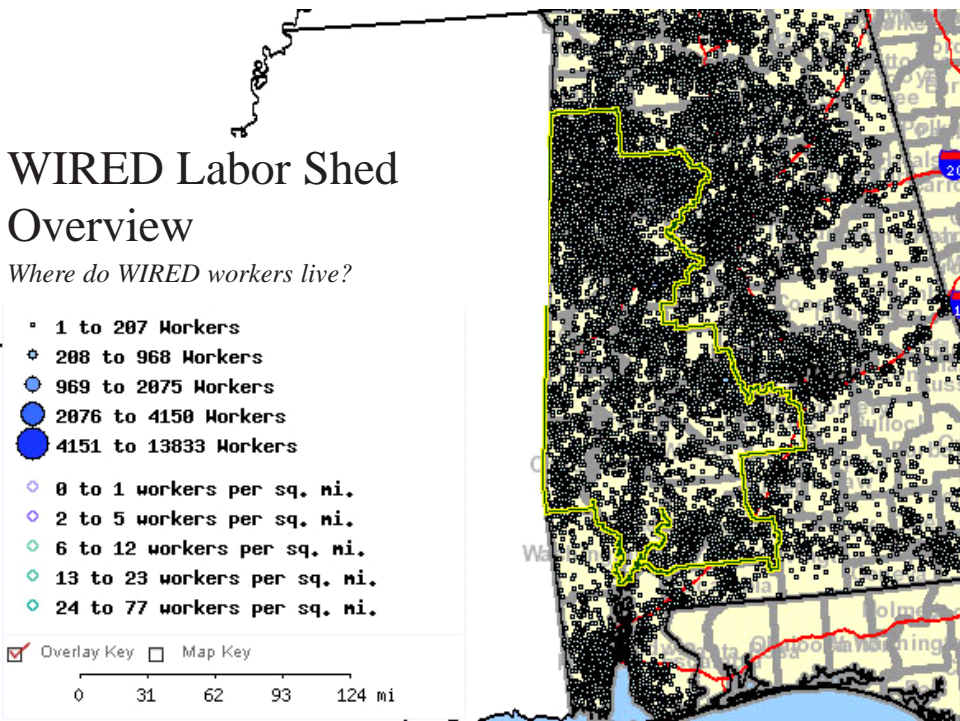


Source: US Census Bureau & AL Department of Industrial Relations, LMI Division, LED Origin-Destination Data Base (2nd Quarter 2002 and 2003).

percentages of people who, using 2003 commuting estimates, live and work in the same county within the WIRED area. Notice that only 15.8% of residents in Lowndes County also work in Lowndes. Over 45% of people who live in Lowndes County work in Montgomery County.

A note regarding the Labor and Commute Shed maps: Although employment locations are plotted as closely to the employee's worksite as possible, some employers with multiple worksites report all employment with the parent company. This effect can be seen in the subsequent labor shed figure. Birmingham, Mobile, Montgomery, and the Tuscaloosa Metros represent areas where many of these parent companies are located.

Figure 7 Labor Shed Map.



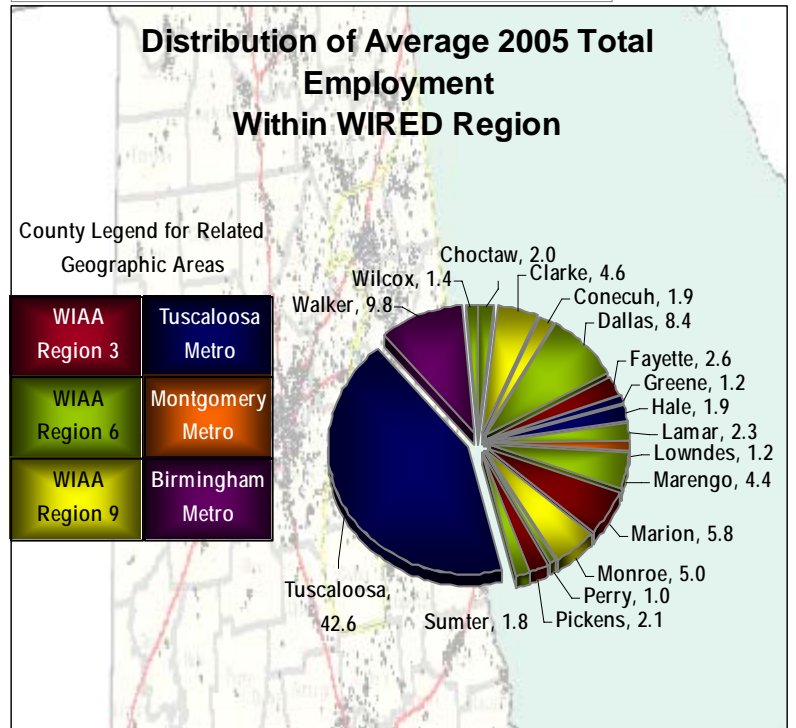
Source: US Census Bureau & AL Department of Industrial Relations, LMI Division, LED Origin-Destination Data Base (2nd Quarter 2002 and 2003).

# Industry

## Where is employment distributed?

Counties that are included in Metropolitan Statistical Areas (MSA's) by definition provide the greatest amount of employment. Although Tuscaloosa County provides the greatest amount of stable employment in the WIRED area, it is also the primary county in the Tuscaloosa MSA. In contrast, Walker County, a member county in the Birmingham MSA, contributes 9.8% to the WIRED total employment and is closely followed by Dallas County contributing 8.4%. Dallas is in the Workforce Investment Advisory Area (WIAA) 6 which has experienced little growth over the last decade. The largest labor market in WIAA 6 is the city of Selma, found in Dallas County. Marion County supplies the fourth largest number of employment opportunities at 5.8% and is the northernmost county in the WIRED region. The geographic distribution of counties makes it very unlikely that a contiguous labor market exists between all the counties in the WIRED region. Moreover, the labor markets that currently exist have diverse industrial profiles. The following discussion of industry employment is a generalized overview of the entire eighteen county region. Readers interested in a more specific portion of the WIRED area should refer to data published for the geographic areas noted in Chart 7.

Chart 7 Employment Distribution (%) by County



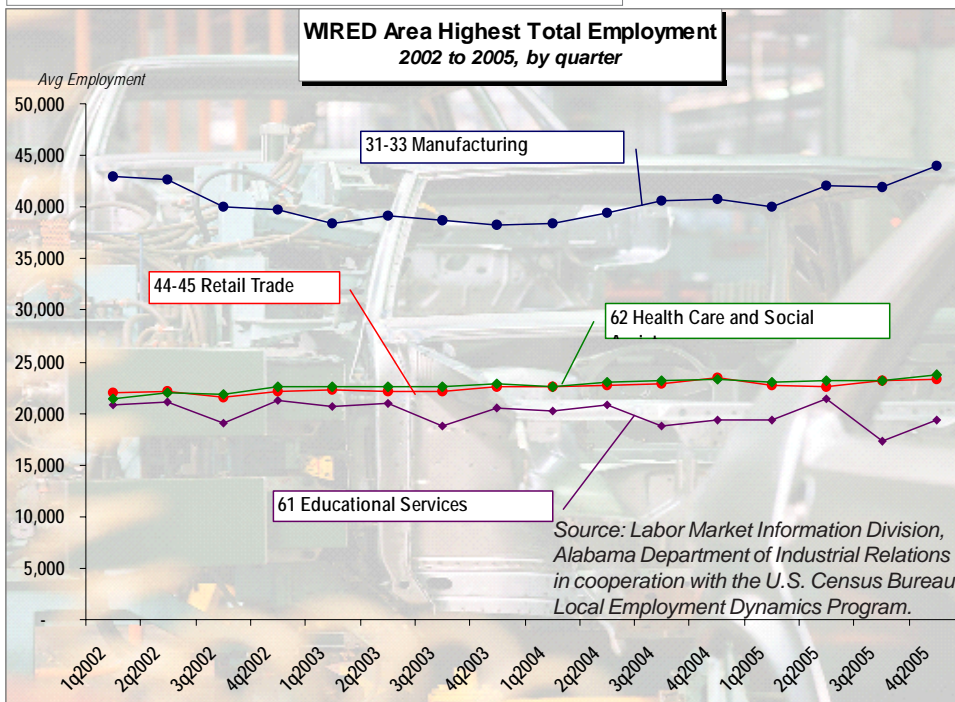
Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Census Bureau, Local Employment Dynamics Program.

## Which industries are the biggest employers?

The Total Employment Quarterly Workforce Indicator (QWI) shows which industry sectors are providing the greatest employment in the WIRED area. This particular QWI counts the total number of workers who were employed by the

same employer in both the current quarter of interest and the previous quarter. This QWI utilizes the full employment count from the first to the last day of each quarter.

Chart 8 Highest Employment Industry Sectors.



A brief analysis on this indicator was conducted using quarterly employment averages from 2002 through 2005 by industry sector. Except for the top four sectors, employment ranged from approximately 600 in Management of Companies and Enterprises at the close of 1st quarter, 2002 to 13,490 in Accommodation and Food Services, 4th quarter, 2005. The top four employing sectors were Manufacturing, Health Care and Social Assistance, Retail Trade, and Educational Services. Apart from those four, counties averaged a total employment of about 4,620 per quarter. The trend in these remaining sectors suggests

comparatively unchanging employment over the period. Also, employment levels from quarter to quarter indicate that employment either remained somewhat flat in the region or were consistent with statewide levels for the same period, depending on the particular industry.

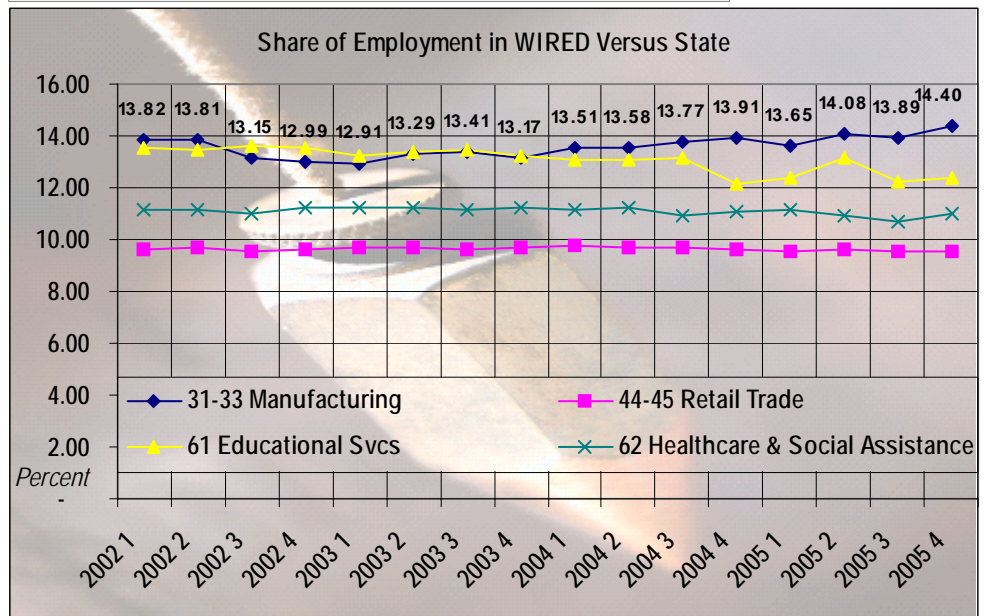
Educational Services, Retail Trade, and Health Care and Social Assistance sectors comprise a much larger employment group. In these industries, employment ranged from a low of 17,250 to a high of 23,732. Combined, these three sectors provided 36.3% of employment and represented an average 65,215 jobs during any quarter of the period. Even though third quarter drops are expected, Educational Services is the only sector of the top four with a downward trend over the 2002 to 2005 period.

Manufacturing was the lone sector that provided over 22.5% of employment during the period, and on average provided work in about 40,440 positions per quarter. Manufacturing is also the sector with the greatest amount of loss over the reference period. This is a concern when manufacturing facilities have historically provided the backbone of good-paying, stable jobs with greater financial investment in operations and facilities than other sectors.

Quarterly fluctuations in the employment share of Educational Services, Retail Trade, Health Care and Social Assistance, and Manufacturing industries were compared to statewide levels and reviewed for differences. That comparison is presented in Chart 9 with the WIRED percentage of statewide industry employment from quarter to quarter. This allows for assessment of changes in employment between the state and the region for the same time periods and industry sectors. Sharp changes from quarter to quarter within a sector should indicate an employment level in the WIRED area that deviates from statewide levels. As shown, Educational Services, Retail Trade and Health Care and Social Assistance did not fluctuate remarkably from 1<sup>st</sup> quarter 2002 through 4<sup>th</sup> quarter 2005. Manufacturing however, does show a decline

specifically from the beginning of 2<sup>nd</sup> quarter 2002 through the end of 1<sup>st</sup> quarter 2003. First to 2<sup>nd</sup> quarter 2003 indicates the strongest quarter of employment recovery, but was not enough to recoup losses of the previous year. Several detailed industries suffered layoffs or closings that contributed to this downturn and are summarized at the end of the Industry section. A skills perspective of this activity suggests that the individuals, who are no longer employed in manufacturing firms that closed, take with them knowledge and skill attributes that could potentially be retrained as labor for new industry development.

Chart 9 Employment Share.



Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Census Bureau, Local Employment Dynamics Program.

Location quotients go one step further and provide a measure of private industry concentrations in an area relative to the rest of the state. These quotients are the ratio of an industry's local employment rate to the industry's state employment rate. These quotients answer the question, "Which WIRED counties have export industries?" On the following page, scores that are lower than 1.0 mean there is less concentration of that industry in the county than the state. Scores over 1.0, but less than 2.0 indicate more of the industry locally than statewide. Industries with shares over 2.0 are considered very significant and represent export industries. Those cells in Table 3 with shares over 2.0 have been highlighted. This table illustrates a very important factor in the region. Seven of the counties in the region have a large share of exports in Agriculture, Forestry, and

Table 3 Location Quotients by Industry Sector.

West AL WIRED Location Quotients, 2005 Annual Quarterly Census of Employment and Wage

Industry	Choctaw	Clarke	Conecuh	Dallas	Fayette	Greene	Hale	Lamar	Lowndes
Base Industry: Total, all industries	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
NAICS 11 Agriculture, forestry, fishing & hunting	ND	5.9	ND	2.03	5.36	ND	9.97	ND	ND
NAICS 21 Mining	ND	NC	ND	0.59	21.88	ND	NC	ND	ND
NAICS 22 Utilities	ND	1.31	0.54	0.98	ND	ND	1.02	ND	ND
NAICS 23 Construction	0.73	0.68	0.36	0.64	0.39	0.38	0.56	0.32	1.72
NAICS 31-33 Manufacturing	2.32	1.36	0.73	1.75	1.85	1.12	2.1	2.15	2.45
NAICS 42 Wholesale trade	ND	0.29	2.6	0.37	ND	ND	0.29	ND	ND
NAICS 44-45 Retail trade	0.75	1.46	0.63	1.11	1.02	0.68	0.84	0.8	0.41
NAICS 48-49 Transportation & warehousing	1.16	0.98	8.25	0.6	0.81	0.29	0.87	4.26	1.03
NAICS 51 Information	0.55	0.58	0.4	0.58	0.58	0.31	0.49	0.49	ND
NAICS 52 Finance & insurance	0.56	1.09	0.33	0.45	0.45	0.4	0.68	ND	0.61
NAICS 53 Real estate & rental & leasing	0.28	0.57	0.2	0.71	0.33	NC	0.3	ND	0.33
NAICS 54 Professional & technical services	0.26	ND	ND	0.23	ND	0.14	0.19	0.25	0.1
NAICS 55 Management of companies & enterprises	NC	ND	ND	1.49	ND	NC	ND	NC	NC
NAICS 56 Administrative & waste services	0.08	0.21	0.26	0.33	0.39	0.13	ND	0.1	0.12
NAICS 61 Educational services	ND	ND	ND	1.17	0.18	ND	ND	NC	ND
NAICS 62 Health care & social assistance	ND	ND	ND	1.41	0.95	ND	ND	1.01	ND
NAICS 71 Arts, entertainment, & recreation	0.51	0.16	ND	0.48	ND	ND	ND	ND	ND
NAICS 72 Accommodation & food services	0.55	0.93	ND	0.79	ND	ND	ND	ND	ND
NAICS 81 Other services, except public administration	0.71	0.91	0.52	1.12	0.55	0.91	0.58	0.41	ND

Industry	Marengo	Marion	Monroe	Perry	Pickens	Sumter	Tuscaloosa	Walker	Wilcox
Base Industry: Total, all industries	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
NAICS 11 Agriculture, forestry, fishing & hunting	5.9	0.9	ND	5.2	ND	ND	0.4	1.8	10.18
NAICS 21 Mining	NC	0.8	ND	NC	ND	ND	6.99	5.5	NC
NAICS 22 Utilities	1.2	ND	0.46	ND	ND	0.8	0.48	3.4	ND
NAICS 23 Construction	0.7	0.3	0.24	0.5	0.74	0.6	1.41	0.6	1.44
NAICS 31-33 Manufacturing	2.1	2.5	2.41	1.6	1.31	1.0	1.11	0.7	1.8
NAICS 42 Wholesale trade	0.6	ND	0.52	ND	ND	1.2	0.55	0.4	0.55
NAICS 44-45 Retail trade	0.9	0.6	0.78	1.1	0.97	1.1	1.04	1.6	0.84
NAICS 48-49 Transportation & warehousing	1.2	0.9	2.85	ND	0.88	1.7	0.93	1.1	ND
NAICS 51 Information	0.6	0.3	0.69	ND	0.36	0.5	0.73	0.7	1.04
NAICS 52 Finance & insurance	0.9	0.8	0.58	0.7	1.21	0.7	0.64	0.8	1.03
NAICS 53 Real estate & rental & leasing	0.6	0.2	0.27	0.3	0.38	0.8	1.26	0.6	0.29
NAICS 54 Professional & technical services	ND	1.6	ND	ND	0.25	ND	0.7	0.5	ND
NAICS 55 Management of companies & enterprises	ND	ND	ND	NC	ND	ND	0.73	1.2	NC
NAICS 56 Administrative & waste services	0.3	ND	0.32	ND	ND	1.3	0.91	0.2	ND
NAICS 61 Educational services	1.1	NC	ND	13.1	ND	ND	0.95	ND	ND
NAICS 62 Health care & social assistance	0.7	1.0	ND	1.5	ND	ND	0.74	ND	ND
NAICS 71 Arts, entertainment, & recreation	0.6	0.3	ND	NC	0.54	0.5	0.92	0.7	ND
NAICS 72 Accommodation & food services	0.7	0.6	ND	0.5	0.45	1.0	1.22	1.2	ND
NAICS 81 Other services, except public administration	0.7	0.5	0.59	ND	1.23	0.6	1.09	1.0	1.21

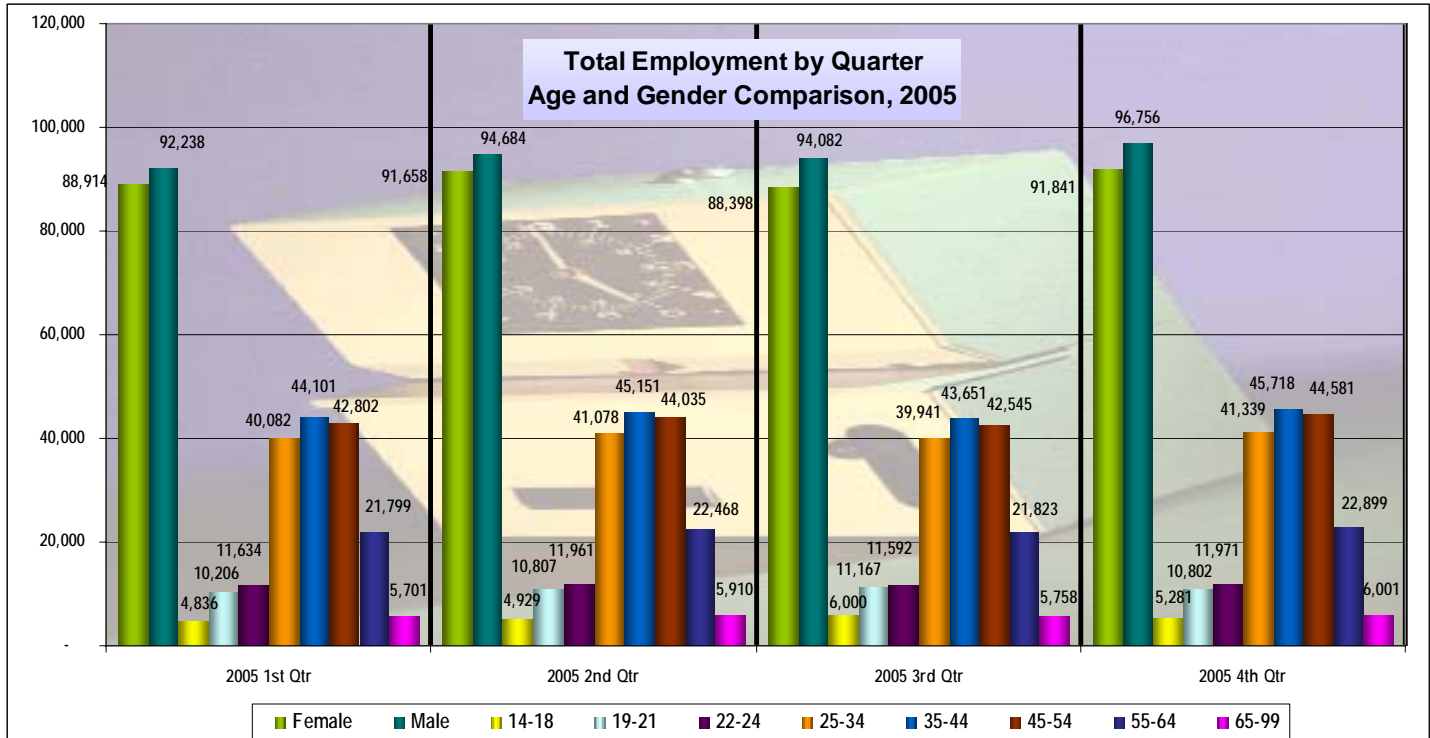
Source: Alabama Department of Industrial Relations, Labor Market Information Division in cooperation with the U.S. Bureau of Labor Statistics Quarterly Census of Employment Statistics program using 2005 Annual Average data.

Footnotes:

(ND) Not Disclosable

(NC) Not Calculable, the data does not exist or it is zero

**Chart 10 Employment by Age and Gender,**



Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Census Bureau, Local Employment Dynamics Program.

Fishing and Hunting. Since much of this industry includes small farms and self-employed family businesses, many employers in this industry are not counted in the industry employment figures. One can expect that this industry is very important to the region’s export business, but it is declining in this region as well as the state.

Location Quotients help to illustrate an area’s competitive advantage for strong industries. It is important to note that these quotients represent *private firms using 2005 average annual data*. Any of these reported cells can change drastically if a firm experiences a change of ownership from private to public.

Chart 10 breaks out Total Employment in the WIRED area by gender and age. Over the course of 2005, female employment levels varied more than males from quarter to quarter. The greatest difference occurred in the 3rd quarter as total employment for both genders declined. While employment for men declined by 602 across the quarter, employment numbers for women declined more sharply at 3,260. Employment by age in the WIRED region follows typical seasonality patterns with drops in 1st and 3rd quarter. The greatest changes occur in the 14 to 18 and 19 to 21 age categories. Seasonal patterns for these younger workers mean a slight *increase* in employment during 2nd and 3rd quarters. A large concern for the economy across the nation, as well as the WIRED region is the large number of baby boomers who are reaching retirement age, and will soon leave their jobs. Approximately 15% of the region’s workforce, as well as the state’s, in 3rd quarter 2005 was over the age of 55. In the WIRED region that equates to close to 29,000 people. In the next decade thousands of jobs will need to be filled due to these people leaving the workforce.

Health Care and Manufacturing industries are heavily affected by the employment of older workers, as these are important industries in the region. In 2005, Wood Product Manufacturing was the top private detailed industry in the region. Over 450 of the workers in this industry in 2005 were over the age of 55. More than 16% of the people employed in the region in Plastic and Rubber Products Manufacturing in 2005 were over the age of 55. Although this industry is expected to drop over 3 percent through 2014, it is likely that people will need to fill openings that retirees

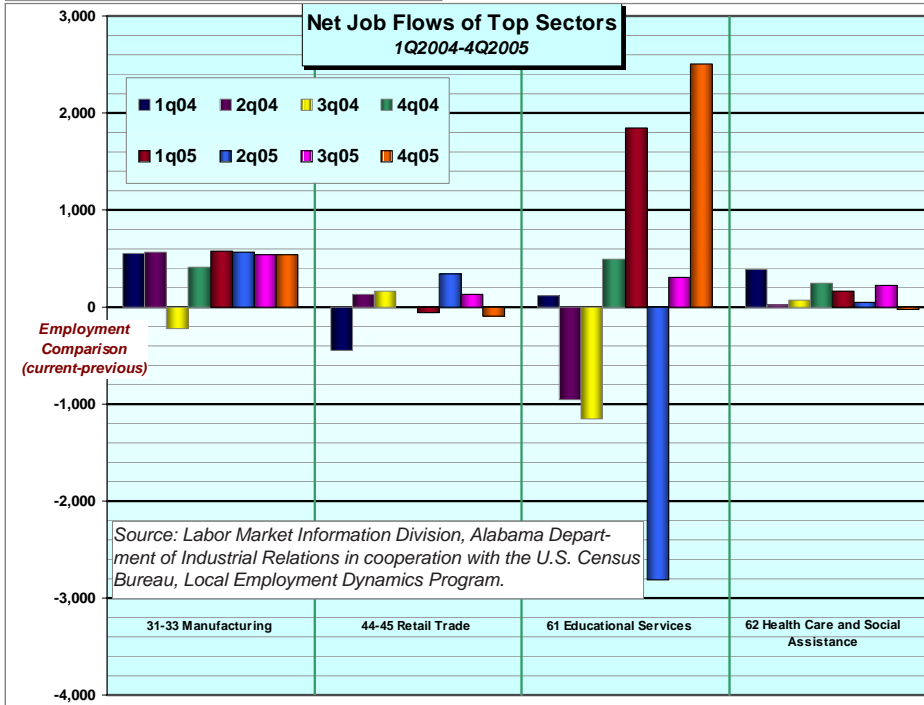
leave behind. Furthermore, Ambulatory Health Care Services and Nursing and Residential Care Facilities were in the top 5 industry employment in the region in 2005. These are also industries that employ a large amount of workers over 55, with over 700 in 2005. This is of much greater concern, since these health care industries are expected to grow much faster than average over the

**Table 4 Potential Openings Due to Worker Retirement and Industry Growth.**

Industry	Employment Over Age 55 4q2005	2014 Projected Openings Due to Growth	Potential Openings Due to Retirement & Industry Growth
452 General Merchandise Stores	557	430	987
321 Wood Product Manufacturing	462	90	552
621 Ambulatory Health Care Services	421	1,710	2,131
561 Administrative and Support Services	415	1,550	1,965
484 Truck Transportation	384	300	684
238 Specialty Trade Contractors	342	710	1,052
623 Nursing and Residential Care Facilities	315	660	975

Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Census Bureau, Local Employment Dynamics Program and Projections Managing Partnership.

**Chart 11 Job Flows of Top Sectors.**



Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Census Bureau, Local Employment Dynamics Program.

The Manufacturing sector experienced a positive change in employment during the years 2004 and 2005. Only one quarter in this period, 2004 3rd quarter, shows a contraction of 546 jobs. Although there were more expansions than contractions, some manufacturing firms did have layoffs or close. Overall, Manufacturing experienced a net increase of 3,523, Health Care and Social Assistance added 1,127, Educational Services netted 362, and Retail increased by 173 jobs over the eight quarter period.

Job Gains answer the question, “Which industries are creating the most jobs?”, and are shown on the right. Chart 12 illustrates the number of new jobs every quarter that were created by new area businesses or by

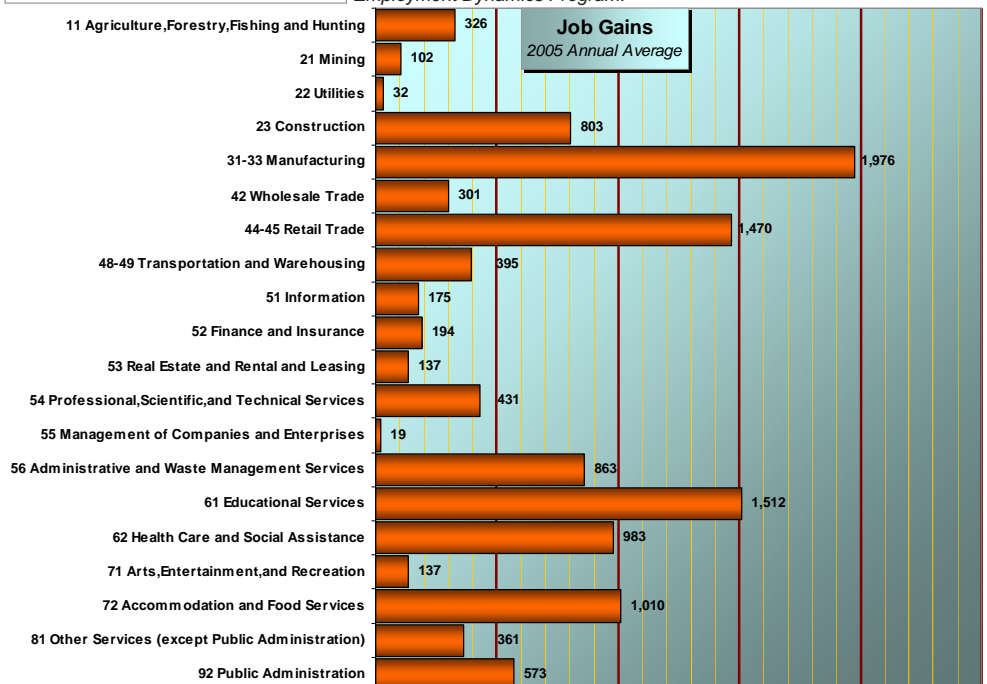
decade, thus creating new jobs. As a result, the region is going to have to produce a workforce for the growth of the industry *and* for the people who will be retiring from health care industries over the decade. Table 4 shows the potential openings through 2014 due to retiring workers and industry growth.

Which industries are expanding or contracting employment?

Net Job Flow is another QWI used to evaluate the WIRED area. This indicator shows the difference between the current quarter and previous quarter employment at each business.

**Chart 12 Job Gains, 2005.**

Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Census Bureau, Local Employment Dynamics Program.



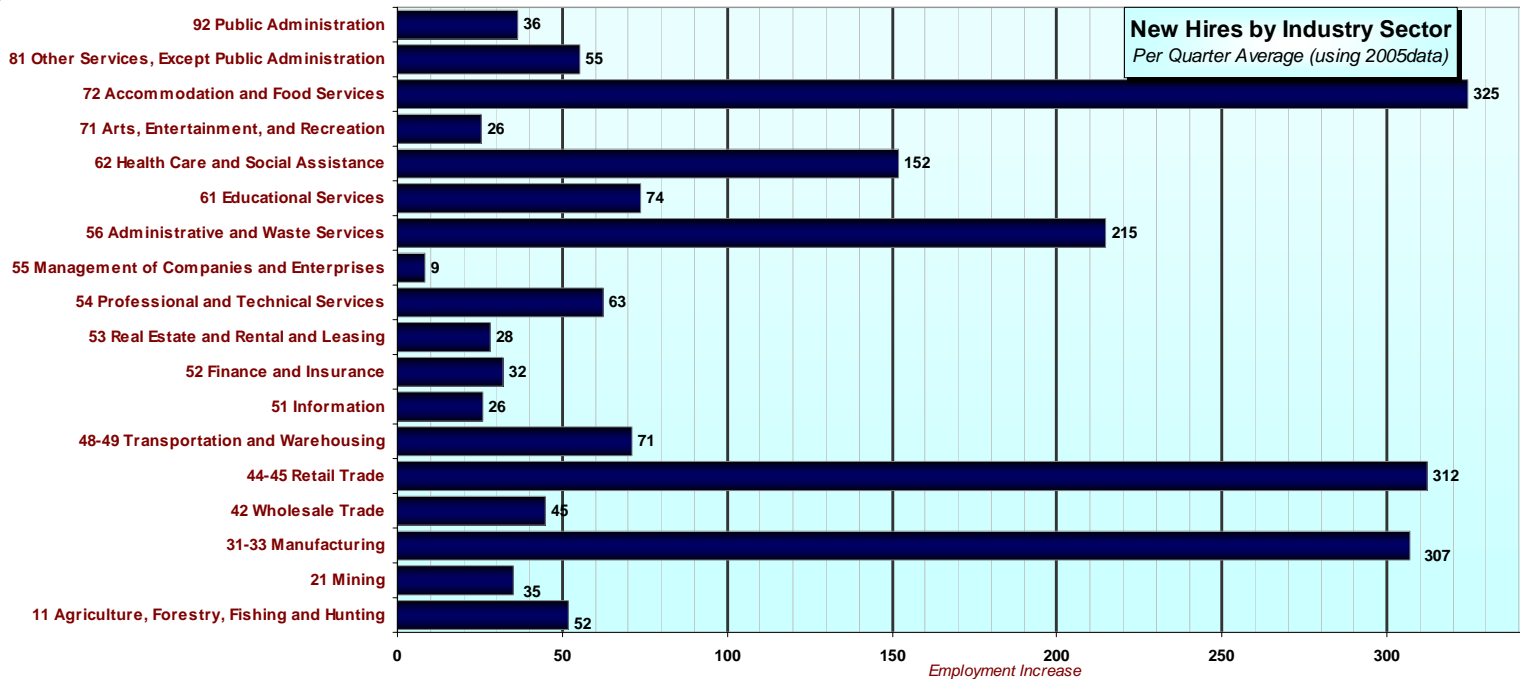
the expansion of employment in existing firms. For all quarters of 2005, those sectors with the most job creation were Manufacturing, Educational Services, and Retail Trade.

Which industries are hiring the most workers?

New Hires is a QWI that measures the number of new employees attached to a firm in the current quarter that were not employed with the same firm the previous four quarters. One benefit of using four quarters of data is in understanding which types of industries can successfully attract and retain quality personnel, thus keeping the investment made in

**Chart 13 New Hires, 2005.**

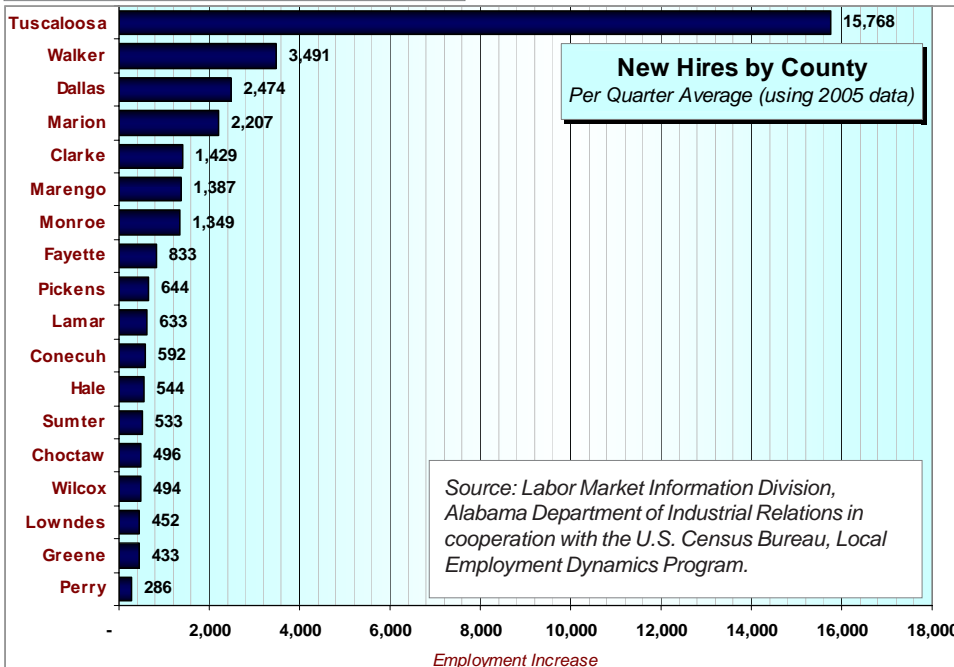
Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Census Bureau, Local Employment Dynamics Program.



new employees. Many industries have a large volume of new hire activity due to attrition without business expansion within the same time period.

**Chart 14 New Hires by County.**

In 2005 the Manufacturing sector hired an average of 307 new employees in



Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Census Bureau, Local Employment Dynamics Program.

WIRED counties every quarter. Accomodation and Food Services is an example of an industry sector which experienced a large amount of new hire activity, yet did not experience a great deal of business expansion. In sum for 2005, this sector hired over 22,000 people, but only experienced 1,010 jobs quarterly from new and expanding businesses. A look at these new hires by gender shows that although there were more men than women hired each quarter of 2005, the number of women entering employment as a stable new hire continued to rise from quarter to quarter, with only a modest setback of 429 from third to fourth quarter.



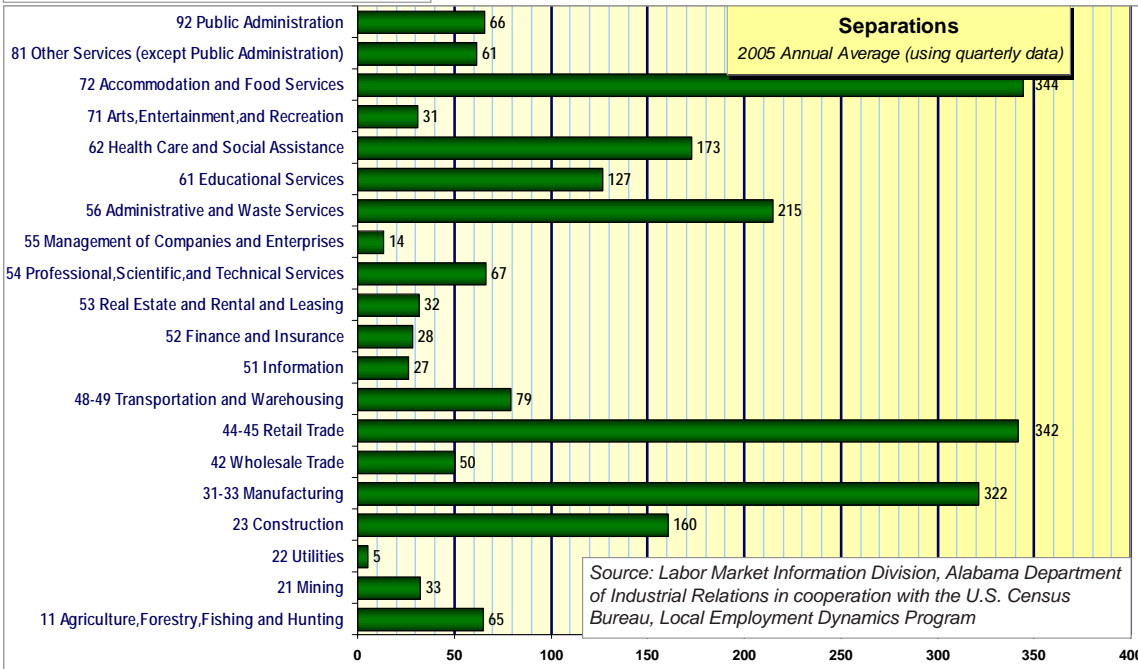
What geographic areas are doing the most hiring?

Counties expected to have the most new hires will be those in a metropolitan statistical area, or ones with greater numbers of employers. In the WIRED area, Tuscaloosa County has 4.5 times more new hires with over 15,700 than its closest rival Walker County at almost 3,500. Dallas and Marion Counties round out the top four with over 2,400 and 2,200 new hires respectively. Refer to Chart 14 for a full list of new hires by WIRED county.

Which industries are workers leaving?

Industry separations are illustrated below. A separation is defined as an employee not being attached to a firm in the current quarter that was attached to that business the previous quarter. Separations occur most frequently due to transient employment in industries that employ students

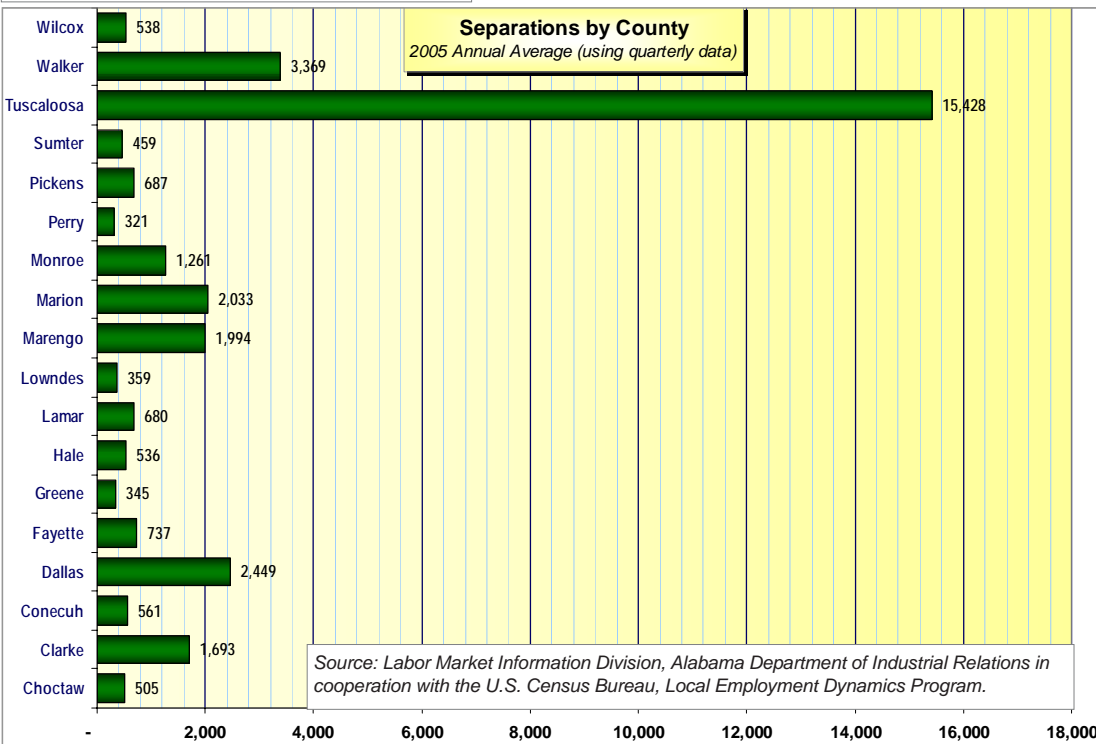
**Chart 15 Separations by Industry.**



or industries which provide low skill, low paying positions. The decline of textile and wood product manufacturing, the movement of other manufacturing processes out of the state, and the advances in technology which allow employers to produce more with less people have put the number of separations ahead of the number of new hires in Manufacturing. Retail Trade and Accommodation and Food Service typically have a lot of job turnover especially in

a county such as Tuscaloosa that houses and employs a large transient student population.

**Chart 16 Separations by County.**



Which areas experience the most separations?

Two factors that determine the number of separations in a county are the number of positions in, and health of the local labor market economy, so a percentage of total separations to total employment was used for each county in the region to determine if rates of workplace separations were similar between metro and non-metro counties. Values ranged overall from 3.82% in Choctaw to 7.91% in Wilcox Counties with a regional average of 5.02%. Tuscaloosa and Walker, (both

**Table 5 Industry Layoffs and Plant Closings.**

County Affected	Industry Changes Due to Layoff, Closure, or Projected Decline/Gain
<b>Clarke</b>	Paper Mfg <ul style="list-style-type: none"> <li>✦ Boise Paper Solutions / Boise Cascade Corp Jackson plant layoff in 12/2002</li> </ul> Public Administration <ul style="list-style-type: none"> <li>✦ Alabama Department of Mental Health / Thomasville Rehab. Center closed due to consolidation of statewide mental health facilities; effective 10/15/03</li> </ul>
<b>Conecuh</b>	Lumber and Wood Products Mfg (SIC 24) <ul style="list-style-type: none"> <li>✦ Dixie Chips Inc. in Evergreen closed effective 12/31/2003</li> </ul>
<b>Dallas</b>	Primary Metal Industries Mfg (SIC 33) <ul style="list-style-type: none"> <li>✦ Bush Hog in Selma had layoffs on 5/27/05 and 8/11/06. Loss of business due to seasonal conditions.</li> </ul> Retail Trade – Food Stores (SIC 54) <ul style="list-style-type: none"> <li>✦ Food World #126 in Selma closed effective 4/26/04</li> </ul>
<b>Fayette</b>	Textile Mills <ul style="list-style-type: none"> <li>✦ Fayette Cotton Mills, Inc. plant layoff/reduction in force on 9/28/03</li> </ul> Retail Trade – Food Stores <ul style="list-style-type: none"> <li>✦ Food World #220 in Fayette closed effective 4/26/04</li> </ul>
<b>Hale</b>	Lumber and Wood Products Mfg <ul style="list-style-type: none"> <li>✦ International Paper (aka Tuscaloosa Lumber Mill) in Moundville closed.</li> </ul>
<b>Lamar</b>	Equipment Mfg <ul style="list-style-type: none"> <li>✦ Weyerhaeuser Millport Plywood Facility in Millport closed effective 5/4/03</li> </ul> Apparel and Other Textile Products Mfg <ul style="list-style-type: none"> <li>✦ CMD Apparel in Detroit closed effective 12/4/04</li> </ul>
<b>Marengo</b>	Fabricated Metal Products Mfg (SIC 34) <ul style="list-style-type: none"> <li>✦ McClain E-Z Pack, Inc. in Demopolis had layoffs on 1/9/04, then closed effective 8/31/04</li> </ul> Lumber and Wood Products Mfg <ul style="list-style-type: none"> <li>✦ Linden Lumber Co. in Linden had layoffs on 1/13/05</li> </ul>
<b>Monroe</b>	Apparel and Other Textile Products Mfg <ul style="list-style-type: none"> <li>✦ Medline Industries Inc. in Monroeville phased out employees 12/30/04, 3/30/05, and 12/30/05</li> </ul>
<b>Perry</b>	Food and Kindred Products Mfg (SIC 20) <ul style="list-style-type: none"> <li>✦ Royal Harvest Foods in Marion closed effective 4/17/04</li> </ul>
<b>Pickens</b>	Primary Metal Industries/Fabricated Metal Products <ul style="list-style-type: none"> <li>✦ Durbin Durco in Reform phased out employees 2/15/03 – 5/30/03</li> </ul>
<b>Tuscaloosa</b>	Electronic & Other Electric Equipment Mfg (SIC 36) <ul style="list-style-type: none"> <li>✦ Trillium Tuscaloosa in Cottondale had layoffs on 10/6/02, workers should be rolled over to new contractor</li> <li>✦ JVC Magnetics America, Inc. (division of JVC America, Inc.) plant layoff on 1/31/04</li> </ul> Communications (SIC 48) <ul style="list-style-type: none"> <li>✦ BellSouth in Tuscaloosa closed effective 11/30/02</li> </ul> Coal Mining (SIC 12) <ul style="list-style-type: none"> <li>✦ Jim Walter Resources, Inc. in Brookwood phased out 12/2/03 – 12/31/04</li> </ul> Stone, Clay and Glass Products Mfg (SIC 32) <ul style="list-style-type: none"> <li>✦ Empire Coke Company in Holt closed effective 8/1/04</li> </ul> Business Services (SIC 73) <ul style="list-style-type: none"> <li>✦ Wal-Mart Check Collection center had layoffs on 9/16/04</li> </ul>
<b>Walker</b>	Food and Kindred Products <ul style="list-style-type: none"> <li>✦ Gold Kist Poultry, Inc. in Jasper closed effective 2/28/03</li> </ul>

**Table 5 Industry Layoffs and Plant Closings, Continued**

Naics Industry Sector 2004 2014	Net Change	Percent Change	Avg Annual Growth	
			WIAA 6	Alabama
21 Natural Resources	-10	-1.25	-0.13	-.33
22 Utilities	-20	-7.69	-0.80	0.04
23 Construction	-140	-8.59	-0.89	1.27
31-33 Manufacturing	-460	-4.35	-0.44	0.22
42 Whole Trade	-20	-2.20	-0.22	1.19
44-45 Retail Trade	-150	-3.36	-0.34	1.23
48-49 Transportation & Warehousing	-20	-1.60	-0.16	1.51
51 Information	-90	-27.27	-3.13	0.61
52 Finance & Insurance	-80	-9.64	-1.01	0.64
53 Real Estate & Rental & Leasing	-10	-3.45	-0.35	1.65
54 Professional, Scientific, & Technical Services	-10	-2.38	-0.24	2.90
55 Mgt. of Companies & Enterprises	0	0.00	0.00	1.16
56 Administrative & Support & Waste Mgt. & Remediation Services	40	5.88	0.57	3.18
61 Educational Services	-120	-2.76	-0.28	1.61
62 Health Care & Social Assistance	370	8.79	0.85	2.41
71 Arts, Entertainment, & Recreation	0	0.00	0.00	2.56
72 Accommodation & Food Services	-20	-1.03	-0.10	1.67
81 Other Services (except Pub. Administration)	-70	-4.90	-0.50	1.63
90 Government	-110	-3.02	-0.31	1.02
91 Federal	-10	-5.56	-0.57	0.78
92 State	30	4.23	0.41	0.65
93 Local	-120	-4.36	-0.45	1.27
ALL OTHER	-370	-6.99	-0.72	0.25

Employment data is rounded to the nearest 10. Percentages may not add due to rounding.

\*ALL OTHER consists of industries such as agriculture, self-employed, unpaid family workers, and private household workers not covered by unemployment insurance.

**Source:** Alabama State Dislocated Worker Unit, Office of Workforce Development, <http://216.226.178.187/wdd/alabamawarnlist.asp> and 2004-2014 Industry Projections for Workforce Investment Advisory Area 6.

member counties of metropolitan areas) had two of the highest rates of separation with 5.70% and 5.33% respectively.

Wilcox County separations were reviewed from 2nd quarter 2001 to 4th quarter 2005. Industries that contributed to separations the most tend to have seasonal employment and include Construction and Agriculture, Forestry, Fishing and Hunting. The third largest contributor to separations was Retail Trade. As previously discussed, this industry has a propensity for high turnover.

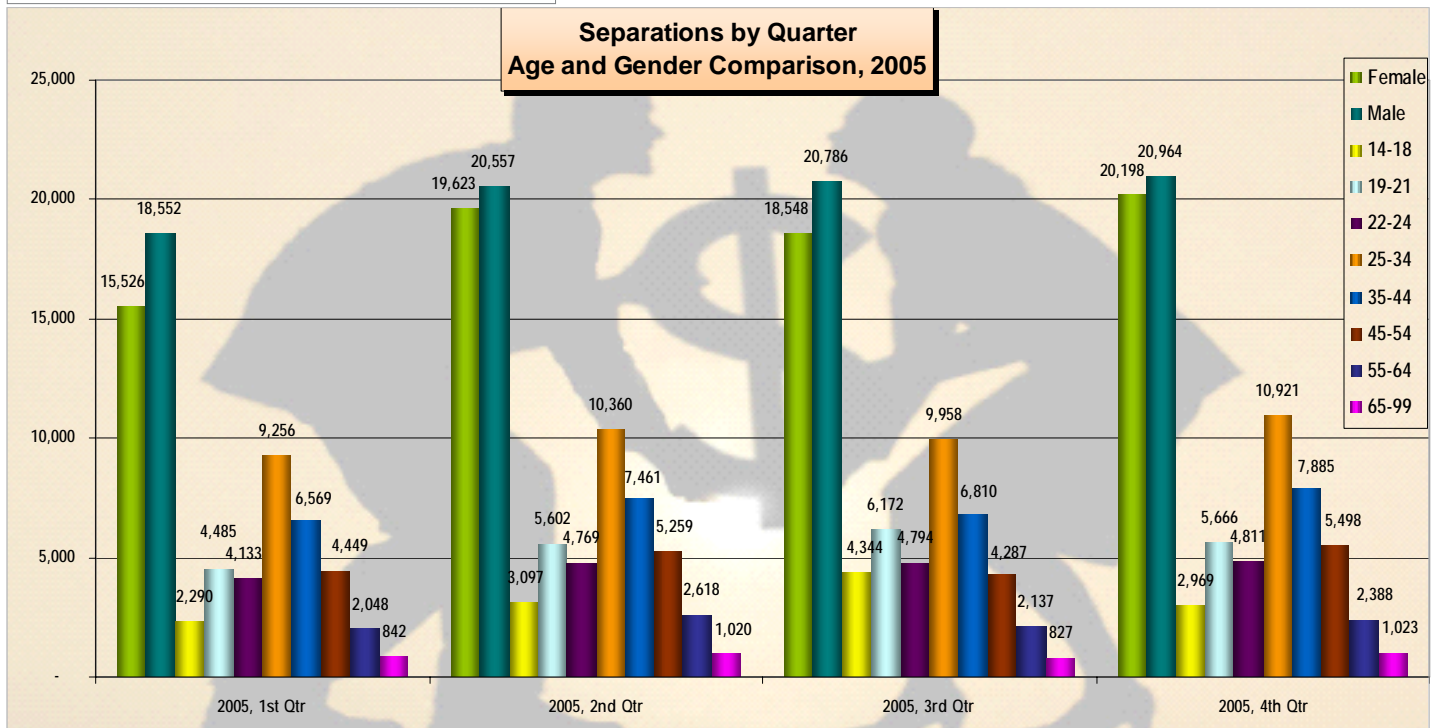
What workers are leaving?

Chart 17 shows that in 3rd quarter 2005, more 14 to 18 and 19 to 21 year olds exited employment than in any other quarter. For all other ages except 55 to 64 year old age group, the greatest number of job exits occurred during the 4th quarter of 2005. Fourth Quarter also showed the least amount of difference between male and female worker separations at 20,964 for males and 20,198 for females. For all quarters, males separated from employment more frequently.

What is projected for WIRED industries?

Industry projections developed by the Labor Market Information Division for 2004-2014 indicate growth in the region should occur in four major sectors: Administrative and Waste Services; Arts, Entertainment and Recreation; Professional and Technical Services; and Health Care and Social Assistance. The bulk of employment in two of these sectors, Arts, Entertainment and Recreation and Professional and Technical Services is present in counties such as Tuscaloosa and Walker that are connected to a metropolitan area. Administrative and Support Services (NAICS 561) is expected to

**Chart 17 Separations by Age and Gender.**



Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Census Bureau, Local Employment Dynamics Program.

grow just over three percent a year through 2014, and this industry occurs in various counties across the region. In addition, Social Assistance and Ambulatory Health Care Services are projected to grow over two percent a year in the region through 2014. Growth in these particular industries will likely benefit a majority of the counties in the region.

**Table 6 Fast Growing and Declining Industries.**

<b>Fastest Growing Industries Through 2014 Growth over 2.0% a year</b>
Transit and Ground Passenger Transportation
Administrative and Support Services
Social Assistance
Warehousing and Storage
Amusement, Gambling, and Recreation Industries
Ambulatory Health Care Services
Miscellaneous Store Retailers
Performing Arts, Spectator Sports, and Related Industries
<b>Fastest Declining Industries Through 2014 Decline over 1.0% a Year</b>
Apparel Manufacturing
Telecommunications
Rail Transportation
Chemical Manufacturing
Oil and Gas Extraction
Mining (except Oil and Gas)
Paper Manufacturing

Source: Labor Market Information Division, Alabama Department of Industrial Relations in cooperation with the U.S. Bureau of Labor Statistics, Projections Managing Partnership.

Industries expected to decline in the region through 2014 occur in sectors such as Nondurable Goods Manufacturing and Natural Resources. It is not surprising that the fastest declining industry in the region is expected to be in Apparel Manufacturing. This trend is not limited to the WIRED region. Paper Manufacturing has also taken a hit in this region in recent years, and is projected to continue to drop through 2014. Table 6 lists the fastest growing and fastest declining industries in the region through 2014.

**Industry Summary**

- \* Manufacturing in the West WIRED must utilize displaced workers from declining industries as well as retain older workers to remain competitive with other areas of the state.
- \* Export industries are found in Manufacturing in Choctaw, Hale, Lamar, Lowndes, Marengo, Marion, and Monroe counties.
- \* Transportation and Warehousing have very high employment concentrations in Conecuh, Lamar, and Monroe Counties compared to the state.

## Occupations

The Bureau of Labor Statistics has identified 11 education and training categories that “describe the most significant postsecondary education or training pathway to employment in an occupation”. Although these levels do not necessarily represent the educational hiring preferences of employers, they do provide information on the most significant path of entry into these occupations. Table 7 reflects the five highest paid occupations by these 11 education and training categories. These salaries are based on 2005 estimates provided by the Occupational Employment Statistics section of the Labor Market Information Division in cooperation with the U.S. Bureau of Labor Statistics (BLS). The occupations highlighted in red are those which are expected to be fast growing in the WIRED region over the 2004-2014 projection period.

Table 8 on the following page lists occupations expected to be in demand in the WIRED region through 2014. **Retail Salespersons** sell merchandise such as cars, furniture, clothes, or appliances. In the WIRED area, these workers earn an average salary of \$20,152 per year and employment is expected to increase from 5,390 in 2004 to 6,140 in 2014. **Team Assemblers** are projected at the top of the list for both high demand and fast growing, with an expected 2,000 new jobs through 2014. This occupation involves rotating through tasks in the full assembly of a product. Team assemblers are present in several industries such as Transportation, Wood and Fabricated Metal Product Manufacturing. The average annual salary in 2005 across all industries is \$25,755. **Registered Nurses** is a fast-growing and high-demand occupation. While many other health care workers share this distinction, Registered Nurses are expected to grow by over 1,000 positions before the year 2014 in the WIRED region and currently earn an average annual salary of \$48,580. Many of these occupations are not available to workers without postsecondary educational backgrounds. However, a study conducted by the U.S. Bureau of Labor Statistics of employees aged 25 to 44 indicates that although there is frequently a *most significant* educational pathway for employment in an occupation, it may not be the *only* pathway. Moreover, an occupation may not require a postsecondary degree in order to perform the duties of the job, although many employers may still try to hire candidates with some college education. Fifty-eight percent of registered nurses surveyed reported having a bachelor’s degree or higher, 40% have had some college, and 2% reported an education of high school or less. In the BLS study, 58% of **General Maintenance and Repair Workers** had an education level of high school or less, 34% had some college, and 8% had bachelor’s degrees or higher. This work involves the skill of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. According to BLS, 72% of Team Assemblers had an educational level of high school or less, 22% had some college, and 6% held a bachelor’s degree or higher. Retail Salespersons that were surveyed indicated that 41% had a high school education or less, 33% had some college, and 26% had a bachelor’s degree. More information regarding this BLS survey and its application to occupational outlook is available at <http://www.bls.gov/emp/optd/optd.pdf>.

Occupations in the WIRED area are also being transformed due to technology. This is reflected in Team Assemblers and the various engineering occupations *as well as* **Desktop Publishers**. This occupation is expecting an increase in all industries across the nation because software technologies have simplified the process of preparing materials for publication. **Computer Software Engineers** specializing in applications are in demand due to an increase in the need for custom software in all industries. **Network Systems and Data Communications Analysts** will grow because of an increased need to ensure the security of digital information. In summary, occupations that are in demand and are fast growing are those that support the health care needs of an aging population as well as the changes in industrial technologies that increase productivity and automate processes.

Occupations in decline are also the result of technology changes in addition to plant closings and industry outsourcing. High on the list above are those jobs affected by an employer’s decision to relocate to overseas locations. As the textile industry continues to decline, so will occupations related to the manufacturing of apparel. Other occupations are expected to continue declining because of advancement in manufacturing technologies. Fewer people are required as processes become automated and the functions of remaining workers shift toward monitoring or programming machines in the manufacturing environment. As an example, Order Clerks are declining due to the expansion of electronic com-

**Table 7 Highest Paying Occupations by Educational Level.**

**Short-term on-the-job training**

Soc	Occupation	Employment	Average Annual Salary
53-6011	Bridge and Lock Tenders	10	\$48,761
43-5051	Postal Service Clerks	120	\$43,998
43-5052	Postal Service Mail Carriers	580	\$40,915
53-6041	Traffic Technicians	***	\$39,863
51-9111	Packaging and Filling Machine Operators and Tenders	1,270	\$37,141

**Moderate-term on-the-job training**

Soc	Occupation	Employment	Average Annual Salary
41-4011	Sales Reps., Wholesale & Manuf., Technical & Scientific Products	180	\$59,045
45-4011	Forest and Conservation Workers	100	\$52,430
51-9011	Chemical Equipment Operators and Tenders	***	\$48,793
41-4012	Sales Reps., Wholesale & Manuf., Except Technical & Scientific Products	1,140	\$45,223
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	***	\$41,647

**Long-term on-the-job training**

Soc	Occupation	Employment	Average Annual Salary
51-8012	Power Distributors and Dispatchers	***	\$56,820
49-9051	Electrical Power-Line Installers and Repairers	420	\$51,082
13-1031	Claims Adjusters, Examiners, and Investigators	60	\$43,944
49-3021	Automotive Body and Related Repairers	250	\$41,474
13-1041	Compliance Officers, Except Agric., Construction, Health & Safety, & Transp.	120	\$41,216

**Work experience in a related occupation**

Soc	Occupation	Employment	Average Annual Salary
11-3051	Industrial Production Managers	340	\$73,177
11-9199	Managers, All Other	1,060	\$63,235
11-3071	Transportation, Storage, and Distribution Managers	110	\$59,319
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	440	\$57,963
33-1021	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers	50	\$56,794

**Postsecondary vocational training**

Soc	Occupation	Employment	Average Annual Salary
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	***	\$56,952
29-9012	Occupational Health and Safety Technicians	10	\$47,843
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	***	\$42,883
13-2021	Appraisers and Assessors of Real Estate	***	\$38,558
17-3019	Drafters, All Other	20	\$37,915

**Associate degree**

Soc	Occupation	Employment	Average Annual Salary
11-9061	Funeral Directors	80	\$58,214
29-1124	Radiation Therapists	***	\$55,843
29-2033	Nuclear Medicine Technologists	30	\$55,784
17-3023	Electrical and Electronic Engineering Technicians	***	\$51,063
17-3029	Engineering Technicians, Except Drafters, All Other	30	\$48,595

**Bachelor's degree**

Soc	Occupation	Employment	Average Annual Salary
13-2052	Personal Financial Advisors	100	\$149,219
29-1199	Health Diagnosing and Treating Practitioners, All Other	***	\$115,200
<b>17-2141</b>	<b>Mechanical Engineers</b>	<b>270</b>	<b>\$88,285</b>
17-1011	Architects, Except Landscape and Naval	70	\$77,227
<b>17-2199</b>	<b>Engineers, All Other</b>	<b>180</b>	<b>\$75,269</b>

**Table 7 Highest Paying Occupations by Educational Level (Con't.).**

**Bachelor's or higher degree, plus work experience**

Soc	Occupation	Employment	Average Annual Salary
11-1011	Chief Executives	450	\$111,033
13-1111	Management Analysts	300	\$104,710
11-2022	Sales Managers	230	\$87,616
11-9041	Engineering Managers	130	\$86,673
<b>11-1021</b>	<b>General and Operations Managers</b>	<b>2,170</b>	<b>\$83,492</b>

**Master's degree**

Soc	Occupation	Employment	Average Annual Salary
25-1011	Business Teachers, Postsecondary	140	\$65,883
<b>29-1123</b>	<b>Physical Therapists</b>	<b>150</b>	<b>\$63,708</b>
29-1122	Occupational Therapists	50	\$58,195
19-2042	Geoscientists, Except Hydrologists and Geographers	***	\$53,252
25-1022	Mathematical Science Teachers, Postsecondary	120	\$51,657

**Doctoral degree**

Soc	Occupation	Employment	Average Annual Salary
25-1072	Nursing Instructors and Teachers, Postsecondary	90	\$53,915
25-1125	History Teachers, Postsecondary	70	\$47,059
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary	***	\$40,751
19-3031	Clinical, Counseling, and School Psychologists	70	***

**First professional degree**

Soc	Occupation	Employment	Average Annual Salary
29-1069	Physicians and Surgeons, All Other	190	\$174,881
29-1063	Internists, General	***	\$171,320
29-1065	Pediatricians, General	***	\$138,311
29-1066	Psychiatrists	***	\$127,876
29-1021	Dentists, General	***	\$122,196

*Prepared by the Labor Market Information Division of the Alabama Department of Industrial Relations in cooperation with the U.S. Bureau of Labor Statistics Occupational Employment Statistics Program and the Projections Managing Partnership.*

merce. Although e-commerce makes more products available to the rural areas of west Alabama, that same electronic accessibility is one reason many jobs are being outsourced to overseas locations.

The following pages list fast growing and declining occupations as well as the skills mix needed for occupations in the WIRED area that are both high demand and fast growing. These are skills that are at least moderately important for the job, and are required at a moderate level or higher.

**Table 8 Fast Growing Occupations.**

**Fast Growing Occupations  
Alabama WIRED Region**

Soc	Occupation	Employment		10-YR Change(%)	Avg Annual Growth(%)	Avg Annual Openings <sup>2</sup>
		2004	2014			
512092	Team Assemblers	4,040	6,090	50.74	4.19	310
172112	Industrial Engineers	220	330	50.00	4.14	15
151031	Computer Software Engineers, Applications	60	90	50.00	4.14	5
319092	Medical Assistants	180	260	44.44	3.75	10
172199	Engineers, All Other	180	250	38.89	3.34	10
439031	Desktop Publishers	80	110	37.50	3.24	5
151081	Network Systems and Data Communications Analysts	110	150	36.36	3.15	5
292021	Dental Hygienists	180	240	33.33	2.92	5
151071	Network and Computer Systems Administrators	120	160	33.33	2.92	5
433011	Bill and Account Collectors	430	570	32.56	2.86	25
311011	Home Health Aides	930	1,230	32.26	2.84	40
399031	Fitness Trainers and Aerobics Instructors	190	250	31.58	2.78	10
172141	Mechanical Engineers	270	350	29.63	2.63	15
319091	Dental Assistants	390	500	28.21	2.52	20
291123	Physical Therapists	150	190	26.67	2.39	5
172071	Electrical Engineers	160	200	25.00	2.26	10
232011	Paralegals and Legal Assistants	120	150	25.00	2.26	5
291111	Registered Nurses	4,280	5,290	23.60	2.14	190
399021	Personal and Home Care Aides	350	430	22.86	2.08	15
319094	Medical Transcriptionists	220	270	22.73	2.07	10
252011	Preschool Teachers, Except Special Education	540	660	22.22	2.03	20
393099	Entertainment Attendants and Related Workers, All Other	90	110	22.22	2.03	5
312021	Physical Therapist Assistants	90	110	22.22	2.03	5
251199	Postsecondary Teachers, All Other	410	500	21.95	2.00	20
292071	Medical Records and Health Information Technicians	230	280	21.74	1.99	10
131079	Human Resources, Train., & Labor Rel. Spec., All Other	230	280	21.74	1.99	10
412021	Counter and Rental Clerks	740	900	21.62	1.98	45
292052	Pharmacy Technicians	560	680	21.43	1.96	15
291069	Physicians and Surgeons, All Other	190	230	21.05	1.93	10
212021	Directors, Religious Activities and Education	190	230	21.05	1.93	5

Selection Criteria: At least 5 average annual job openings and an annual growth rate of at least 1.9%.

Employment level data is rounded to the nearest 10 and Openings data is rounded to the nearest 5

Source: Alabama Department of Industrial Relations, Labor Market Information Division in cooperation with the Projections Managing Partnership Consortium.



**Table 9 Declining Occupations.**

### Declining Occupations Alabama WIRED Region

Soc	Occupation	Employment		Net Change	10-YR Change(%)
		2004	2014		
516031	Sewing Machine Operators	2,500	1,370	-1,130	-45.2
517041	Sawing Machine Setters, Operators, and Tenders, Wood	790	650	-140	-17.7
454021	Fallers	940	830	-110	-11.7
434071	File Clerks	280	180	-100	-35.7
519031	Cutters and Trimmers, Hand	270	200	-70	-25.9
517099	Woodworkers, All Other	320	250	-70	-21.9
519199	Production Workers, All Other	410	340	-70	-17.1
439011	Computer Operators	160	100	-60	-37.5
537063	Machine Feeders and Offbearers	500	440	-60	-12.0
516062	Textile Cutting Machine Setters, Operators, and Tenders	130	80	-50	-38.5
434151	Order Clerks	170	120	-50	-29.4
435041	Meter Readers, Utilities	90	50	-40	-44.4
492022	Telecom. Equip. Instal. & Repair., Exc. Line Installers	150	110	-40	-26.7
452093	Farmworkers, Farm and Ranch Animals	350	310	-40	-11.4
439051	Mail Clerks and Mail Machine Operators, Ex. Postal Ser.	80	50	-30	-37.5
516091	Extruding & Form. Mach. Set., Oper, Synthetic & Glass	130	100	-30	-23.1
475081	Helpers--Extraction Workers	150	120	-30	-20.0
516021	Pressers, Textile, Garment, and Related Materials	210	180	-30	-14.3
519011	Chemical Equipment Operators and Tenders	220	190	-30	-13.6
519132	Photographic Processing Machine Operators	70	50	-20	-28.6
435111	Weighers, Measurers, Check., & Samp., Recordkeeping	70	50	-20	-28.6
516063	Text. Knitting & Weaving Mach. Setters, Oper.,& Tenders	80	60	-20	-25.0
516099	Textile, Apparel, and Furnishings Workers, All Other	110	90	-20	-18.2
434061	Eligibility Interviewers, Government Programs	120	100	-20	-16.7
499091	Coin, Vend., & Amusement Mach. Servicers & Repairers	40	30	-10	-25.0
475061	Roof Bolters, Mining	40	30	-10	-25.0
534021	Railroad Brake, Signal, and Switch Operators	50	40	-10	-20.0
514033	Grind., Lap., Polishing, Tool Set., Oper., Metal & Plastic	50	40	-10	-20.0
518092	Gas Plant Operators	60	50	-10	-18.2

Selection Criteria: Employment decline from 2004 - 2014 of at least 10 with at least a 11% decline over the period.

Data is rounded to nearest 10.

Source: Alabama Department of Industrial Relations, Labor Market Information Division in cooperation with the Projections Managing Partnership Consortium.

**Table 10 Skills.**

**O\*Net Skills for Fast-Growing, High Demand Occupations in West AL WIRED**

<b>Computer Software Engineers, Applications</b>	<b>Network and Computer Systems Administrators</b>	<b>Network Systems and Data Communications Analysts</b>
Active Learning Active Listening Complex Problem Solving Coordination Critical Thinking Equipment Selection Installation Instructing Judgment and Decision Making Learning Strategies Mathematics Monitoring Operations Analysis Persuasion Programming Quality Control Analysis Reading Comprehension Speaking Systems Analysis Systems Evaluation Technology Design Time Management Troubleshooting Writing	Active Learning Active Listening Complex Problem Solving Coordination Critical Thinking Equipment Maintenance Equipment Selection Installation Instructing Judgment and Decision Making Learning Strategies Mathematics Monitoring Negotiation Operation and Control Operations Analysis Persuasion Reading Comprehension Repairing Service Orientation Speaking Systems Analysis Systems Evaluation Technology Design Time Management Troubleshooting Writing	Active Learning Active Listening Complex Problem Solving Coordination Critical Thinking Equipment Maintenance Equipment Selection Installation Instructing Judgment and Decision Making Learning Strategies Management of Financial Management of Material Monitoring Operation Monitoring Operation and Control Operations Analysis Persuasion Programming Quality Control Analysis Reading Comprehension Repairing Service Orientation Social Perceptiveness Speaking Systems Analysis Systems Evaluation Technology Design Time Management Troubleshooting Writing
<b>Electrical Engineers</b>	<b>Industrial Engineers</b>	<b>Mechanical Engineers</b>
Active Learning Active Listening Complex Problem Solving Coordination Critical Thinking Equipment Selection Installation Instructing Judgment and Decision Making Learning Strategies Management of Financial Management of Material Management of Personnel Mathematics Monitoring Operation and Control Operations Analysis Persuasion Quality Control Analysis Reading Comprehension Science Service Orientation Speaking Systems Analysis Systems Evaluation Technology Design Time Management Troubleshooting Writing	Active Learning Active Listening Complex Problem Solving Coordination Critical Thinking Equipment Selection Instructing Judgment and Decision Making Learning Strategies Mathematics Negotiation Persuasion Reading Comprehension Speaking Time Management Troubleshooting Writing	Active Learning Active Listening Complex Problem Solving Coordination Critical Thinking Equipment Selection Installation Judgment and Decision Making Mathematics Monitoring Negotiation Operations Analysis Reading Comprehension Science Speaking Systems Analysis Time Management Writing
	<b>Registered Nurses</b>	<b>Dental Hygienists</b>
	Active Learning Active Listening Complex Problem Solving Coordination Critical Thinking Equipment Selection Instructing Judgment and Decision Making	Active Learning Active Listening Coordination

**Preschool Teachers, Except Special Education**

Active Listening  
 Coordination  
 Instructing  
 Learning Strategies  
 Monitoring  
 Reading Comprehension  
 Service Orientation  
 Social Perceptiveness  
 Speaking  
 Time Management

**Pharmacy Technicians**

Active Learning  
 Active Listening  
  
 Coordination  
 Critical Thinking  
 Instructing  
 Learning Strategies  
 Mathematics  
 Monitoring  
 Reading Comprehension  
 Service Orientation  
 Social Perceptiveness  
 Speaking  
 Time Management  
 Writing

**Dental Assistants**

Active Learning  
 Active Listening  
 Coordination  
 Critical Thinking  
 Equipment Maintenance  
 Equipment Selection  
 Instructing  
 Judgment and Decision Making  
 Learning Strategies  
 Management of Material  
 Monitoring  
 Operation Monitoring  
 Operation and Control  
 Persuasion  
 Reading Comprehension  
 Service Orientation  
 Social Perceptiveness  
 Speaking  
 Time Management  
 Troubleshooting  
 Writing

**Counter and Rental Clerks**

Active Listening  
 Mathematics  
 Reading Comprehension  
 Speaking

**Registered Nurses (con't)**

Learning Strategies  
 Mathematics  
 Monitoring  
 Negotiation  
 Operation Monitoring  
 Persuasion  
 Reading Comprehension  
 Science  
 Service Orientation  
 Social Perceptiveness  
 Speaking  
 Time Management  
 Writing

**Medical Records and Health Information Technicians**

Active Learning  
 Active Listening  
 Complex Problem Solving  
 Critical Thinking  
 Instructing  
 Judgment and Decision Making  
 Learning Strategies  
 Monitoring  
 Quality Control Analysis  
 Reading Comprehension  
 Service Orientation  
 Social Perceptiveness  
 Speaking  
 Systems Evaluation  
 Time Management  
 Writing

**Medical Assistants**

Active Learning  
 Active Listening  
 Coordination  
 Critical Thinking  
 Instructing  
 Judgment and Decision Making  
 Learning Strategies  
 Mathematics  
 Monitoring  
 Operation Monitoring  
 Operation and Control  
 Reading Comprehension  
 Service Orientation  
 Social Perceptiveness  
 Speaking  
 Time Management  
 Troubleshooting  
 Writing

**Dental Hygienists (con't)**

Critical Thinking  
 Equipment Selection  
 Instructing  
 Judgment and Decision Making  
 Learning Strategies  
 Monitoring  
 Persuasion  
 Reading Comprehension  
 Science  
 Service Orientation  
 Social Perceptiveness  
 Speaking  
 Time Management  
 Writing

**Home Health Aides**

Active Listening  
 Coordination  
 Instructing  
 Monitoring  
 Reading Comprehension  
 Service Orientation  
 Social Perceptiveness  
 Speaking  
 Writing

**Personal and Home Care Aides**

Active Learning  
 Active Listening  
 Coordination  
 Critical Thinking  
 Equipment Selection  
 Instructing  
 Learning Strategies  
 Monitoring  
 Persuasion  
 Reading Comprehension  
 Service Orientation  
 Social Perceptiveness  
 Speaking  
 Time Management  
 Writing

**Fitness Trainers and Aerobics Instr's**

Active Learning  
 Active Listening  
 Complex Problem Solving  
 Coordination  
 Critical Thinking  
 Equipment Maintenance  
 Equipment Selection  
 Instructing  
 Judgment and Decision Making  
 Learning Strategies  
 Monitoring  
 Science  
 Service Orientation  
 Social Perceptiveness  
 Speaking  
 Technology Design  
 Time Management  
 Troubleshooting

Source: Alabama Department of Industrial Relations, Labor Market Information Division in cooperation with the MicroMatrix Users Group and using the Occupational Information Network (O\*Net) database.





# **Mapping Alabama's Future**

Continuation of "LMI Tools You Can Use"

## **Labor Supply in Alabama**



**April 30, 2007  
9:00 AM - 12:00 PM**

### **Labor Market Intelligence in Planning and Decision Making**

*The Alabama Department of  
Industrial Relations*

Labor Market Information Division

*In partnership with*

**National Association of State Workforce Agencies (NASWA)  
National Center on Education & The Economy (NCEE)  
Advanced Workforce Systems**

*Mapping Alabama's Future  
Continuation of "LMI Tools You Can Use"*

# **Labor Supply in Alabama**

*Written by James Vollman*

**April 2007**

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*In partnership with  
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National Center on Education & The Economy (NCEE)  
Advanced Workforce Systems*

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# **The Headlines**

**In the 1<sup>st</sup> quarter of 2006, over 506,000 workers are readily available in Alabama to enter new jobs – over 6 times the number officially listed as unemployed**

**Even in areas with very low unemployment there is a substantial pool of workers that are on the move to new jobs each quarter.**

**There is a continuum of stability. Utilities, education and public administration anchor the stable end; restaurants and temporary help agencies are the revolving door end.**

**Young workers represent a disproportionate share of the “post it note” employees –those on the move.**

**They are concentrated in industries which are traditional first jobs.**

**There is a “food chain” of stability that is related to earnings, age of the workforce and perceived viability of the industry. After the volatile youth period, relative earnings within the sector tend to track with workforce stability.**

**Those entering the labor from education add a small portion to the much larger churn of existing workers.**

**There is a supply of labor on the sidelines that is actually larger than the number listed as officially unemployed. Ironically, the lower the unemployment rate the more likely these workers will come off the sidelines and enter the labor force.**

**Generally, the more highly educated/skilled the worker the more stable they are.**

# Alabama Labor Supply

## Introduction

As a continuation of the Alabama Department of Industrial Relations, Labor Market Information Division training series entitled, “Mapping Alabama’s Future, LMI Tools You can Use,” the LMI division has initiated a study on labor supply in Alabama. It seeks to answer the basic question of “where are the workers?” The report was prepared for the Alabama Department of Industrial Relations through a partnership with the National Association of State Workforce Agencies (NASWA), the National Center on Education and the Economy (NCEE) and Advanced Workforce Systems. The principal author is James Vollman, former Associate Assistant Secretary, US Department of Labor.

Traditionally, the unemployment rate has served as a convenient proxy for labor availability. Low rates of unemployment, like those being experienced by Alabama, have been equated with tightness in the labor market. That tightness makes the task of encouraging new businesses to locate within the State more difficult because of the perception that there “are no available workers.”

This report seeks to dispel that notion that low unemployment automatically equals “no workers available to hire” by looking more closely at the dynamics of the labor market through three lenses – the constant churn of workers between jobs, the steady flow of new entrants from the educational system and the potential workers who are sitting on the sidelines.

We used data from publicly available administrative records and regularly conducted government surveys exclusively so that the basic findings of this report can be updated on a regular basis. To look at churn, we used the data generated by the Local Employment Dynamics (LED) program, a joint effort of the US Census Bureau and more than 45 State labor market information agencies. LED allows us to view the transactions within the labor market over time using the wage record reporting done by nearly all businesses in a State married with demographic data (age, gender and residence location) drawn from Census records and those made available to Census from other federal agencies. The most recent LED data is from the 1<sup>st</sup> Quarter of 2006 (which we used for this study).

To look at the supply from education completers, we used data reported to the US Department of Education through the IPEDS system. That data source describes the numbers of individuals completing (graduating) a particular program of instruction. IPEDS data is traditionally reported based on the institution providing the instruction. Because we recognize that nearly all educated workers are highly mobile, we report this education completer data on a statewide basis only. We know that not all students educated in Alabama will stay in Alabama; but we also know that Alabama’s strong economy will probably attract a net influx of new college graduates. We are developing a separate appendix based on county of residence data for completers from public institutions which will be available to make some estimates of local talent availability. The most recent IPEDS data is from 2005.

To look at the supply on the sidelines, we analyzed the labor participation rate using Census population numbers and State generated employment and labor force numbers. We made adjustments in these numbers to account for institutionalized and military populations that would be counted in the population totals but not available for work.

While much of the data is reported for “industries,” workers are generally hired into occupations. We translated the churn and the education data into an estimate of availability for each occupation. We report estimates for individual occupations in an appendix; however, we believe that it is more instructive to look at aggregated data. We provide two types of aggregation of these occupational estimates – aggregation into 22 job families representing the major groups with the Standard Occupational Coding (SOC) system, and aggregation into 21 “clusters” based on Occupational Supply and Demand System developed by Georgia State University. Industry employment (or separations) was distributed to the individual occupations using the 3 digit NAICS code national staffing patterns produced by the US Bureau of Labor Statistics.

The report is structured into three sections: 1) narrative descriptions of the statewide findings grouped under a series of “headlines,” 2) tabular and graphic displays of the data that support the statewide narrative, 3) a brief look at the occupational distribution of the labor supply, and 4) narrative and data for each of the 12 Workforce Investment Areas in the State of Alabama.

We also have three appendices: A) a description of data sources and methodology, B) a detailed analysis of the occupational mix within the large separator group, C) details of the occupational clustering system used for some of the analysis and D) the industry distribution of employment, separations, and new hires statewide and within each of the twelve regions.

## Section 1 – The Narrative

### Over 506,000 workers are readily available in Alabama to enter new jobs – over 6 times the number officially listed as unemployed

Alabama has an enviable economy. Textile related manufacturing is being quickly replaced by high-paying jobs in motor vehicle manufacturing. Statewide, unemployment now hovers just above 3% with many Alabama counties experiencing unemployment approaching 2%. Most states would quickly trade their economies for Alabama's.

But even such an enviable position has some problems. Some site selection firms have begun to shy away from sections of Alabama because they fear that unemployment is so low that no workers will be found to fill jobs that the new facility would create. That fear is based on a misunderstanding of labor market dynamics that equates low unemployment with low availability of workers for new jobs.

In the 1st quarter of 2006, when the official unemployment rate was 3.4% and the number officially listed as unemployed averaged 75,000, nearly 506,000 workers were available to be hired into new jobs. That is more than 6 times the number officially listed as unemployed and over 7.5 times the number who actually applied for unemployment benefits during that quarter.

Because the differences are so stark, it will be useful to deconstruct this available labor supply to see its various sources. The balance of this report will explore in great detail each source and make estimates of not only overall supply but the supply in various regions and the supply of labor in particular occupational groupings.

The elements of the labor supply in the 1<sup>st</sup> quarter of 2006 for Alabama were approximately as follows:

Job Changers (re-employed in the quarter)	334,000
Laid off, unemployed and collecting UI benefits	23,000
Others recently separated but not receiving UI Benefits	20,000
Those entering the labor force for the first time	5,000
Those reentering the labor force after a absence	25,000
Those on the sidelines but readily available	99,500
Total	506,000

Alabama businesses have a very large pool of workers available for recruitment. Hiring businesses are not just chasing the 3% that are officially listed as unemployed but an overall pool that is many times larger. The basic message to businesses thinking of moving to Alabama or expanding their existing facilities is: **“If you build it, the workers will come.”** Many will be moving directly from other jobs to a better opportunity. Some will start the new job after a brief spell of unemployment. Others will come off the sidelines either for their first jobs or rejoining the labor market after a substantial period of absence (parents rejoining after children leave home, those with disabilities rejoining after rehabilitation, retirees seeking supplemental income or an end to

boredom). Still others will be waiting on the sidelines, interested in working but not yet drawn into the active labor force.

*Businesses offering the right kinds of employment will find a ready pool of Alabama workers waiting to apply.*

**Even in areas with very low unemployment there is a substantial pool of workers that move to new jobs each quarter.**

Each quarter, over 377,000 Alabama workers separate from their current employers with over 85% landing a job with a new employer that same quarter. That represents 18.2% of the active labor force moving from an old job to a new job in just the 1<sup>st</sup> quarter of 2006. By contrast, between 50-65,000 workers apply for unemployment benefits in a typical quarter. Those moving from job to job outnumber those passing through the unemployment office six to one.

Traditional employment/unemployment statistics will divide the world into just those two camps. A more productive way to look at the truly dynamic US/Alabama labor market is to divide the labor force into three parts – the unemployed, the loosely employed and the solidly employed. The difference between the two groups of employed individuals is their attachment to a particular job. An analogy might be helpful.

The job-to-job movers might be seen as “post-it note” employees. They stick but not too tight -- they can be easily moved from one job or one industry to another. While statistics always like to draw bright lines, the reality of the labor market is more of a continuum. An employee’s “stickiness” will depend on a number of factors (explored in detail by the Alabama Underemployment Study) that will move the adhesive quality from post-it note to super glue.

The overall findings of this supply analysis tend to confirm the message of the Underemployment Study (See [www2.dir.state.al.us/WIA%20UndE%20finalreport.pdf](http://www2.dir.state.al.us/WIA%20UndE%20finalreport.pdf) for a copy of the entire report). There is a substantial supply of workers that will move to new jobs and will come into the labor force for the right opportunities. This labor supply study approached the issue of labor availability from the perspective of who was actually moving from job to job and who might be available to move into the labor force from the sidelines (based on historic patterns of labor participation). It did not, as the Underemployment Study did, seek to answer why movement was taking place. It simply cataloged the supply. Despite the difference in approach, the supply estimates from the two approaches are remarkably similar. The Underemployment Study found that 24% of Alabamians would change jobs for a better opportunity. This labor supply study found that 18.2% actually did change jobs during the 1<sup>st</sup> quarter of 2006 alone. The overall supply estimate from this study of about 27.9% of the current employment base is likewise consistent with the message of the Underemployment Study.

*The simple message – even when stated unemployment is low, movement between jobs is strong. The keys to stimulating that move will be found in great detail in the Alabama Underemployment Study*

**There is a continuum of stability. Utilities, education and public administration anchor the stable end; restaurants and temporary help agencies are the revolving door end.**

Stickiness is driven by factors within the individual and within industries. Job movement is not uniform within the Alabama economy but varies considerably from industry to industry. In terms of sectors (large groupings of industries), utilities, education and government have churn that is under 10% per quarter. The average churn for all Alabama industries is over 20% per quarter. The revolving door industries on the other end of the spectrum are restaurants/food service and temporary help agencies with over 45% churn each quarter.

Looking below the major sector level, we can see several other highly stable Alabama industries with churn under 10%:

- Oil and Gas Extraction
- Paper Manufacturing
- Petroleum and Coal Products Manufacturing
- Chemical Manufacturing
- Oil and Gas Extraction
- Lessors of Intangible Assets
- Pipeline Transportation
- Scenic and Sightseeing Transportation
- Primary Metal Manufacturing
- Beverage and Tobacco Product Manufacturing
- Funds, Trusts and Other Financial Management
- Transportation Equipment Manufacturing
- Securities, Commodity Contracts and Other Financial Investments
- Credit Intermediaries

There are also several industries with churn between 10-15%:

- Computer and Electronic Product Manufacturing
- Electrical Equipment Manufacturing
- Textile Product Mills
- Other Mining
- Plastics and Rubber Products Manufacturing
- Printing and Related Support Activities
- Nonmetallic Mineral Product Manufacturing
- Machinery Manufacturing
- Merchant Wholesalers, Durable Goods
- Wholesale Electronic Markets and Agents and Brokers
- Air Transportation
- Transit and Ground Passenger Transportation
- Publishing Industries (except Internet)
- Broadcasting (except Internet)
- Telecommunications

- Couriers and Messengers
- Other Information Services
- Insurance Carriers and Related Activities
- Museums, Historical Sites and Similar Institutions
- Ambulatory Health Care Services
- Hospitals
- Fabricated Metal Product Manufacturing

The low churn industries share several characteristics: higher than average skill requirements, higher than average wages (particularly as measured against sector peers) and a perception of stability and/or growth. The major exceptions are textile product mills which have relatively low wages and have been shrinking for a long time. In this industry and (the two related textile industries), there is significant regional variation with mills that are operating having relatively little churn and those regions where the mills are closing seeing large degrees of separation with hiring taking place in other industries. While it is always disruptive to towns and individuals, the decline of the textile-related industry in Alabama has allowed for the freeing of labor for higher skilled and higher paying manufacturing jobs in the electrical, electronic and transportation equipment manufacturing segments.

At the other end of the spectrum are several industries with churn in excess of 25% but less than 45%: (note that temporary help agencies and food and drinking establishments have quarterly churn in excess of 45%)

- Mining Support Activities
- Construction of Building
- Heavy and Civil Engineering Construction
- Specialty Trade Contractors
- Food and Beverage Stores
- Gasoline Stations
- Clothing and Clothing Accessory Stores
- Motion Picture and Sound Recording Industries
- Waste Management
- Furniture and Home Furnishings Stores
- Miscellaneous Store Retailers
- Accommodations
- Agriculture
- Sporting Goods, Hobby, Music and Book Stores
- Leather and Related Product Manufacturing

The reasons for the high volatility in these industries vary. Several are seasonal or semi-seasonal – construction, accommodations, clothing and accessory stores. Others are more project related activities that often see the labor force moving from one employer to another with the same or similar industries – mining support, motion picture and sound recording, and temporary help. Still others (retail, eating and drinking establishments) employ the most volatile group of workers –

those under 25 – and have increased overall volatility because of the rapid turnover of this youth cohort. With the exception of the mining and construction industries, the bulk of the high velocity industries are also relatively low paying industries.

*There is a continuum of employment stability that depends on the age of the workforce, the relative pay of the workers and perception among the workers about the industry's current and future prospects.*

**Young workers represent a disproportionate share of the “post it note” employees. They are concentrated in industries which are traditional first jobs.**

Young workers (those under the age of 25) represent less than 17% of the total Alabama labor force but over 40% of the churn, the post-it-note employees. These 300,000 workers move between jobs at over 2.5 times the rate of their older peers. Nearly 60% of all young workers are on the move each quarter. This volatility is driven by a variety of factors including the seasonality of the jobs, the movement from temporary/during school jobs and post school jobs, the natural wanderlust of youth, and the youth orientation of some industries.

Young workers are dominant in a number of Alabama industries where they represent more than 25% of the workforce. Those industries also tend to show a high degree of employment volatility. The following is a list of those industries with 25% or more of their workers under the age of 25. Those with highlighting are industries with quarterly churn in excess of 25%.

- Electronics and Appliance Stores
- Food and Beverage Stores
- Home and Personal Care Stores
- Clothing and Clothing Accessories Stores
- Sporting Goods, Hobby, Book and Music Stores
- General Merchandise Stores
- Motion Picture and Sound Recording Industries
- Amusement, Gambling, and Recreation Industries
- Food Services and Drinking Places

Retailers are heavily represented on the list but not all retailers appear. There appears to be a high degree of correlation between youth oriented products (electronics, clothing, sporting goods, music, and personal care items) and the types of retailers that draw a young workforce. Perhaps the attraction and the volatility are related to an employee benefit that is common in those industries – the employee discount. The discount draws the young person in need of a new sound system to the electronics store one quarter and then draws them to the clothing store the next in search of a new wardrobe.

On the flip side, there is a considerable overlap between industries that employ relatively few young workers and those with low volatility. The following industries have fewer than 10% of their workers under the age of 25 (compared to an overall participation of nearly 15%). Those with highlighting also are industries with very low volatility (less than 15% churn).



- Mining (not Oil and Gas)
- Utilities
- Textile Mills
- Paper Manufacturing
- Printing and Related Support Activities
- Petroleum and Coal Products Manufacturing
- Chemical Manufacturing
- Nonmetallic Mineral Product Manufacturing
- Primary Metal Manufacturing
- Fabricated Metal Products Manufacturing
- Publishing Industries (except Internet)
- Plastic and Rubber Products Manufacturing
- Machinery Manufacturing
- Computer and Electronic Product Manufacturing
- Electrical Equipment, Appliance, and Component Manufacturing
- Transportation Equipment Manufacturing
- Wholesale Electronic Markets and Agents and Brokers
- Truck Transportation
- Textile Mills
- Transportation Support Activities
- Real Estate
- Leather and Allied Product Manufacturing
- Transit and Ground Passenger Transportation
- Pipeline Transportation
- Internet Publishing and Broadcasting
- Securities, Commodity Contracts, and Other Financial Investments and Related Activities
- Merchant Wholesalers, Durable Goods
- Telecommunications
- Insurance Carriers and Related Activities
- Funds, Trusts, and Other Financial Vehicles
- Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)
- Educational Services
- Ambulatory Health Care Services
- Hospitals
- Public Administration

These industries tend to provide higher than average earnings for their overall workforce. That may reflect a generally better educated workforce (e.g. education services, health care, public administration) or a more highly skilled workforce in the manufacturing area.

*Young workers represent a very large fraction of the overall volatility in the Alabama labor market. They also represent a very large source of supply for those companies who need workers and can provide the sense of growth/stability and compensation package that leads to on-going worker retention.*

**Those entering the labor force from education add a small portion to the much larger churn of existing workers.**

In 2004-05 school year, over 53,000 Alabamans received a degree or a certificate from a higher education institution within the State – an average of 13,000 per quarter with a surge in the 2<sup>nd</sup> quarter, the time of traditional graduation. Some of those entered the labor market for the first time. Others moved from their college job as a lab assistant or bartender to their first “career” job. Still others stayed with their same employers but picked up a raise or a promotion based on their new education.

The number of truly new workers from among these new graduates is very small when compared with the churn of workers leaving one job to enter a new one. There are certain occupational groups where the flow of new graduates represents a sizeable potential addition to the supply of workers available. While the graduates represent just 3% of the overall employment base, they have the potential to add considerably to the skilled/educated labor pool in certain job families and to add very little to others. If you eliminate the large blocks of occupations where post-high school education is not the norm (more than two thirds of all employment), the relative percentage of recently graduated workers jumps to 9% of the employment base. Newly graduated workers make up more than 10% of the employment base in three occupational groups – business operations and financial services, community and social services, and health care professionals. These new graduates make up over 15% of the employment base in two additional categories – physical, social and life sciences, and artistic and creative occupations.

It is important to note that the distributions to occupational groups are approximate for a number of reasons. First, a number of degrees (e.g. liberal arts, psychology) do not have a set career path. Second, even degrees like computer science or engineering which appear to have a logical career path do not require the graduates to work in their fields. Finally, not all Alabama graduates will work in Alabama; and graduates from other States will come to Alabama to work attracted by the strong Alabama economy.

**There is a supply of labor on the sidelines. Ironically, the lower the unemployment rate the more likely these workers will come off the sidelines.**

There is always a supply of labor on the sidelines waiting for the right opportunity to take the field. Custodial parents who want to return to work after the children leave home, individuals living in rural communities with limited local job prospects, mothers of school-aged children looking for the right part time job are all part of that sideline pool.

The official way to measure this sideline group is in terms of a labor participation rate. That rate looks at the percentage of the working age population that is either employed or actively looking for work. Alabama traditionally has a labor participation rate that is below the national

average. Even at the peak of the economic boom in the late 1990's, under 65% of working age Alabamans were part of the labor force. Nationally, at the same time over 67% of all working age Americans were part of the labor force.

The gap between the Alabama's labor participation rate and the national average fluctuates between 2% and 3.5%. In 2005, it stood at 3.2% or 110,000 workers. The gap between Alabama's 1<sup>st</sup> quarter 2006 rate and its peak in 2000 stood at 2.9% or about 99,000 workers. As the Alabama economy has heated, these "potential" workers have moved from the sidelines into the labor pool.

*There are workers on the sidelines, not counted among the officially unemployed, that can be and are often drawn into the active labor market. That occurs most often when official unemployment is low. At those times, there may be the assumption that because nearly everyone has a job, anyone can get a job.*

**Generally, the more highly educated/skilled the worker the more stable they are.**

There is a churn in nearly every occupation in the Alabama economy every quarter. But the level of churn varies significantly among the clusters of occupations that are traditionally used for analysis.

Using the job families/major groups from the Standard Occupational Code (SOC) system, the most volatile family is food service workers at over 47% turnover in the 1st quarter of 2006. Rounding out the high volatility group are building and grounds maintenance (38%), construction and mining (30%), and three groups – personal service, sales, and agricultural workers – clustered at 27%

Anchoring the stable end of the SOC groups are education and library workers (11.4%). Rounding out the relatively stable group are science workers (14%), architects and engineers (14%), health care professionals and technicians (15%), lawyers and related workers (16%), computer and math workers and productions workers (17%).

In linking the labor supply and the flow of graduates from the college and university systems, we used another occupational clustering system that shows similar results.

At the high volatility end stands food service and hospitality workers (39%). Construction workers (28%), sales personnel (25%), agricultural workers (26%), and personal service workers (24%) round out the high end. Government and Social Services workers at 8% anchor the stable end of the spectrum at 13%. They are followed science and math workers (10%), medical professionals (13%), architects and engineers (14%), medical technicians (15%), manufacturing workers both skilled and general (17%) and management and professional and technical business services also at 17%.

In either way of slicing up the occupational pie, there are few surprises. The relative stability of health care professions does seem to run counter to the pages and pages of help wanted ads each Sunday, but perhaps that simply reflects the technical and often specialized nature of each

job requiring more ad copy and allowing fewer instances where the hospital or clinics need several of the same type of worker. The fact that production occupations showed up on the stable end of the spectrum may also be a surprise with the constant headlines about mills closing and the steady loss of manufacturing jobs. Yet, some of the most stable industries, in terms of employment churn, are in manufacturing, particularly those industries paying high wages and those which have been growing. It is useful to recall that several manufacturing industries have churn under 10%.

*There is a spectrum of volatility among occupations that is driven by two factors: the underlying stability of the firms where the particular occupations are clustered and the relative skill/education of the workers themselves.*

## Section 2 – The Statewide Details

### Overview and Some Notes on the Data

This section is designed to flesh out the data behind the headlines and the narrative in the prior section. We will use as an organizing principle the elements of the over 506,000 individuals that make up the Alabama labor supply in the 1st quarter of 2006. To the extent possible, we will provide detailed looks at each of the major groupings that make up that supply. Specifically, we will look at the industry and regional detail behind the largest group – those leaving one place of employment and either moving directly to another or waiting in “active inventory” as an unemployed worker. Next, we will look in greater detail at all the unemployed at both the regional and the county level. Then, we will look at those waiting on the sidelines at the regional level. Finally, we will look in greater detail at those graduating from Alabama colleges and universities.

For details on how each of the data elements was created, please refer to Appendix A. We will attempt to tackle each major element of the labor supply puzzle in turn. The first element we will look at is the separator data which represents the largest fraction of the “available” labor supply in Alabama and the element that gets the least public attention. We will look at the different patterns of separation by industry and the different patterns by regions.

Next we will look at the unemployed at the statewide level and within the regions. We will then turn to those on the sidelines and provide regional detail and some alternate estimates based on different assumptions. We will then turn to those with newly minted education credentials providing a general sense of how they might be distributed through the various occupations. Finally, we will look at an estimate of the occupational distribution of the separator data using a couple of clustering techniques and displaying the data for individual occupations.

### Separators

#### Industry Distribution of Separators – 1<sup>st</sup> Quarter 2006

The following table will show both the number of separators within each of Alabama’s 3 digit industries for the 1<sup>st</sup> quarter of 2006 as reported in LED. You will note that both agriculture and public administration are reported effectively at the 2 digit level. The reason is simple. Even at the national level, 3 digit industry staffing patterns were not available for all of the sub industries in these two sectors. Display of the 2 digit results, while not ideal, allows for a more complete picture. Across all industries, an average of 20.6% of the workforce will separate from their current employer (over 378,000 individuals in an employed payroll workforce of 1.83 million workers). We have highlighted in **green/light shading** the industries with separation rates substantially below average and have highlighted in **red/dark shading** industries with separation that is substantially above average. We have included the average monthly wage for the industry (combining all occupations) for comparison purposes. The statewide average monthly wage is just over \$2,975. You will note a significant correlation between high wages and low separation rates; however, that correlation is far from universal. Often the correlation is within the broad sector and is related to relative wage levels within the sector rather than the economy as a whole.

Industries	NAICS 3 -- Separators as % of Employment	Statewide Number of Separators	Statewide Percentage	Average Monthly Wages
119	Agriculture (all 3 digits combined)	3,860	29.5%	\$ 2,553.00
211	Oil and Gas Extraction	39	6.7%	\$ 5,876.00
212	Mining (not Oil and Gas)	692	10.4%	\$ 4,731.00
213	Mining Support Activities	328	35.3%	\$ 3,965.00
221	Utilities	1,025	5.4%	\$ 4,857.00
236	Construction of Building	8,787	31.0%	\$ 3,338.00
237	Heavy and Civil Engineering Construction	4,728	26.8%	\$ 3,346.00
238	Specialty Trade Contractors	13,883	30.4%	\$ 2,876.00
311	Food Manufacturing	5,506	17.3%	\$ 2,257.00
312	Beverage and Tobacco Product Manufacturing	282	9.3%	\$ 3,298.00
313	Textile Mills	2,076	17.8%	\$ 2,593.00
314	Textile Product Mills	1,192	11.0%	\$ 1,988.00
315	Apparel Manufacturing	3,143	22.6%	\$ 2,263.00
316	Leather and Allied Product Manufacturing	36	29.8%	\$ 1,846.00
321	Wood Product Manufacturing	4,166	19.8%	\$ 2,819.00
322	Paper Manufacturing	807	6.1%	\$ 4,803.00
323	Printing and Related Support Activities	644	10.9%	\$ 3,293.00
324	Petroleum and Coal Products Manufacturing	107	5.3%	\$ 4,622.00
325	Chemical Manufacturing	617	6.6%	\$ 4,863.00
326	Plastics and Rubber Products Manufacturing	2,002	14.0%	\$ 3,022.00
327	Nonmetallic Mineral Product Manufacturing	1,051	11.6%	\$ 3,634.00
331	Primary Metal Manufacturing	1,507	7.9%	\$ 4,297.00
332	Fabricated Metal Product Manufacturing	4,212	14.6%	\$ 3,279.00
333	Machinery Manufacturing Computer and Electronic Product	1,380	10.0%	\$ 3,509.00
334	Manufacturing Electrical Equipment and Component	2,522	15.6%	\$ 3,873.00
335	Manufacturing	837	12.5%	\$ 3,717.00
336	Transportation Equipment Manufacturing	5,020	9.6%	\$ 4,479.00
337	Furniture and Related Product Manufacturing	3,782	23.7%	\$ 2,529.00
339	Miscellaneous Manufacturing	1,149	15.1%	\$ 2,637.00
423	Merchant Wholesalers, Durable Goods	4,621	11.1%	\$ 3,835.00
424	Merchant Wholesalers, Nondurable Goods	3,709	14.2%	\$ 3,553.00
425	Wholesale Electronic Markets and Brokers	1,646	14.2%	\$ 4,982.00
441	Motor Vehicle and Parts Dealers	5,805	18.1%	\$ 3,186.00
442	Furniture and Home Furnishings Stores	2,466	25.8%	\$ 2,287.00
443	Electronics and Appliance Stores	1,244	21.6%	\$ 2,714.00
444	Building and Garden Supply Stores	3,231	16.7%	\$ 2,392.00
445	Food and Beverage Stores	9,094	27.1%	\$ 1,639.00

<b>Industries</b>	<b>NAICS 3 -- Separators as % of Employment</b>	<b>Statewide Number of Separators</b>	<b>Statewide Percentage</b>	<b>Average Monthly Wages</b>
446	Home and Personal Care Stores	2,501	17.2%	\$ 2,634.00
447	Gasoline Stations	7,590	43.0%	\$ 1,580.00
448	Clothing and Clothing Accessories Stores	7,304	37.0%	\$ 1,463.00
451	Sporting Goods, Hobby, Book and Music Stores	2,559	29.3%	\$ 1,774.00
452	General Merchandise Stores	15,564	24.2%	\$ 1,710.00
453	Miscellaneous Store Retailers	3,217	27.4%	\$ 1,834.00
454	Non-store Retailers	597	15.1%	\$ 2,575.00
481	Air Transportation	123	12.1%	\$ 2,760.00
482	Rail Transportation	0		
483	Water Transportation	109	22.9%	\$ 4,503.00
484	Truck Transportation	5,964	20.4%	\$ 3,239.00
485	Transit and Ground Passenger Transportation	580	10.6%	\$ 2,145.00
486	Pipeline Transportation	47	7.5%	\$ 5,467.00
487	Scenic and Sightseeing Transportation	3	7.9%	\$ 2,004.00
488	Transportation Support Activities	1,186	16.7%	\$ 3,452.00
491	Postal Service	3	16.7%	\$ 2,394.00
492	Couriers and Messengers	679	13.4%	\$ 3,112.00
493	Warehousing and Storage	1,208	16.2%	\$ 2,363.00
511	Publishing Industries (except Internet)	907	13.0%	\$ 3,573.00
512	Motion Picture and Sound Recording Industries	738	37.6%	\$ 1,399.00
515	Broadcasting (except Internet)	558	11.5%	\$ 3,442.00
516	Internet Publishing and Broadcasting	29	19.1%	\$ 3,163.00
517	Telecommunications	1,913	12.9%	\$ 4,364.00
518	Internet Service Providers and Data Processing Services	250	15.0%	\$ 4,021.00
519	Other Information Services	95	11.0%	\$ 1,718.00
521	Monetary Authorities -- Central Banks	0		
522	Credit Intermediation and Related Activities	4,336	9.6%	\$ 3,614.00
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	343	8.9%	\$ 6,493.00
524	Insurance Carriers and Related Activities	3,087	12.3%	\$ 4,141.00
525	Funds, Trusts, and Other Financial Vehicles	17	8.9%	\$ 4,952.00
531	Real Estate	2,775	16.8%	\$ 2,766.00
532	Rental and Leasing Services	2,290	23.0%	\$ 2,641.00
533	Lessors of Nonfinancial Intangible Assets	10	7.4%	\$ 4,802.00
541	Professional, Scientific, and Technical Services	14,783	15.8%	\$ 4,465.00
551	Management of Companies and Enterprises	2,125	15.0%	\$ 3,755.00
561	Administrative and Support Services	56,639	54.0%	\$ 1,928.00
562	Waste Management and Remediation Services	916	25.3%	\$ 3,265.00
611	Educational Services	9,915	6.3%	\$ 2,753.00

<b>Industries</b>	<b>NAICS 3 -- Separators as % of Employment</b>	<b>Statewide Number of Separators</b>	<b>Statewide Percentage</b>	<b>Average Monthly Wages</b>
<b>621</b>	Ambulatory Health Care Services	9,925	13.2%	\$ 3,680.00
<b>622</b>	Hospitals	9,027	11.7%	\$ 3,120.00
<b>623</b>	Nursing and Residential Care Facilities	9,758	23.5%	\$ 1,911.00
<b>624</b>	Social Assistance	4,893	20.0%	\$ 1,722.00
	Performing Arts, Spectator Sports, and Related Industries	918	24.4%	\$ 1,584.00
<b>711</b>				
<b>712</b>	Museums and Historical Sites	194	14.5%	\$ 1,997.00
<b>713</b>	Amusement, Gambling, and Recreation	2,825	24.6%	\$ 1,531.00
<b>721</b>	Accommodations	5,345	38.4%	\$ 1,500.00
<b>722</b>	Food Services and Drinking Places	62,863	47.5%	\$ 1,149.00
<b>811</b>	Repair and Maintenance Services	4,662	24.7%	\$ 2,868.00
<b>812</b>	Personal and Laundry Services	3,267	21.5%	\$ 1,904.00
<b>813</b>	Religious, Civic, Professional Organizations	1,676	17.6%	\$ 2,099.00
<b>999</b>	Public Administration	5,107	5.6%	\$ 2,788.00

Source: Census Local Employment Dynamics, Alabama Department of Industrial Relations

**Notes:** 1) A few industries (central banks, rail transportation) report no activity primarily for confidentiality reasons; 2) The “postal service” listing does not include the US Postal Service because neither federal nor postal employment is in the LED data.

### Separator Labor Supply by Regions – 1<sup>st</sup> Quarter 2006

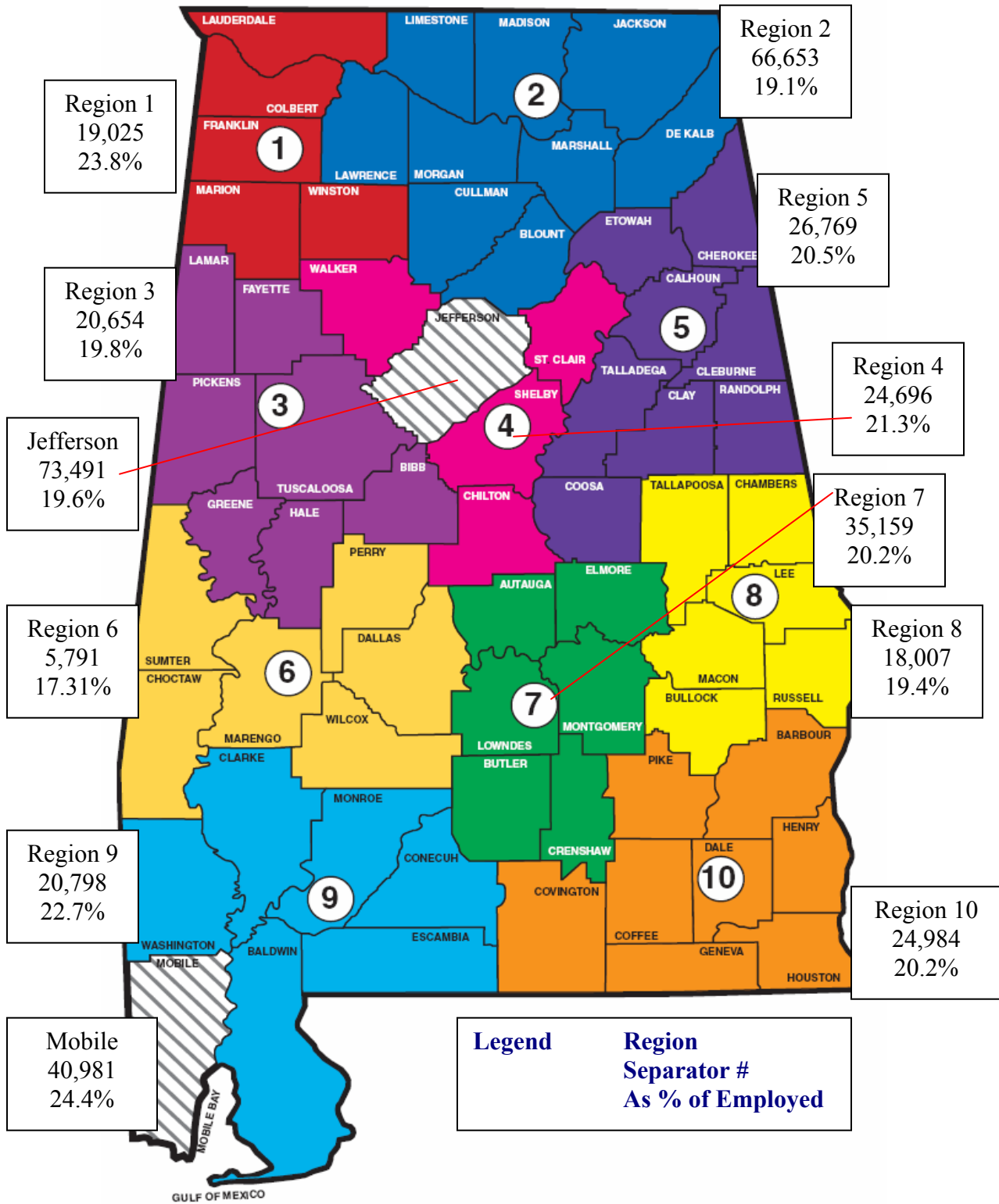
<b>Regions</b>	<b>Separating as a % of Employment</b>	<b>Number Separating</b>
<b>1</b>	23.8%	19,025
<b>2</b>	19.1%	66,653
<b>3</b>	19.8%	20,654
<b>4</b>	21.3%	24,696
<b>5</b>	20.5%	26,769
<b>6</b>	17.3%	5,791
<b>7</b>	20.2%	35,159
<b>8</b>	19.4%	18,007
<b>9</b>	22.9%	20,798
<b>10</b>	20.2%	24,984
<b>Jefferson</b>	19.6%	73,491
<b>Mobile</b>	24.4%	40,981

Source: Alabama Department of Industrial Relations



# Separator Labor Supply by Regions

## Alabama Workforce Development Regional Advisory Councils



While the numbers vary based on the population/workforce size of the region, the percentage of the employed workforce that separates from each region is fairly consistent. The major outliers are Region 6 (lowest percentage and Mobile and Region 1 (highest percentage). The statewide average separation rate is 20.6%. It is also important to remember that this separation rate is based on the location of the job and not on the location of the individual worker. For example, a worker employed in Mobile and living across Mobile Bay in Baldwin County (Region 9) would be counted in the Mobile totals and not in the Region 9 totals.

## **Unemployment Data**

Another aspect of the labor supply is unemployment. There is an overlap between the “separator” supply and “unemployed” supply. Most individuals who leave one job will be hired into a new job (or be recalled to their old job) within the same quarter as they separate. Some of those individuals will pass through a period, usually brief, where they are **unemployed**. Between 50,000 and 65,000 Alabamans will make a claim for unemployment benefits during an average quarter. These individuals who leave jobs (for whatever reason) will all show up as “separators” in the statistics generated by the LED program and displayed in the previous section. Many of these individuals will find new jobs (or be recalled to old jobs) within the same quarter as they separate. Most will be employed again (in a new job or in their old one) within 2 quarters.

The “inventory” in the unemployment will generally consist of roughly the same number of people but the individuals within that “inventory” will be constantly changing. New people will be leaving jobs, applying for unemployment benefits, collecting them or, in some cases being denied them. Other people will find jobs – perhaps their first job, perhaps returning to their old jobs after a temporary layoff, perhaps getting a job after a long absence from the labor force. Others will move off the sidelines and begin an active job search and be counted in the labor force if not yet among the employed. Still others will move onto the sidelines – perhaps frustrated that the right job just was not there, perhaps disabled or going back to school full time.

The best we can do is to take a snapshot of the inventory at a point in time. Below we present two such snapshots. The first looks at some of the flows into unemployment. The second divides the inventory by region and by reason for unemployment. As noted earlier, the supply in the two “recently employed” categories is probably the only segment of the labor supply that can be known by name because nearly all of them will have made an application for unemployment compensation.

While the bulk of this report focuses on the 1<sup>st</sup> quarter of 2006, it is useful to take a look at a period of rapid economic dislocation in at least a part of Alabama – Hurricane Katrina.

## Newly Unemployed – September 2005

The impact of Katrina, which hit in the last week of August 2005, is clear in the initial claims data from the regions. Both the Mobile and the Southwest regions show above average levels of new claims with Mobile showing claims from over 5% of the entire labor force. As a general rule, only about 40% of those making an initial claim for unemployment benefits will receive a check (and therefore maintain an on-going relationship with a government agency). The reasons for denial of benefits vary but the pattern is consistent over time. A major exception to this rule will be Katrina related layoffs. Nearly all such laid off individuals will receive an unemployment check under special rules that cover disasters.

### New Claims by Regions – September 2005

Region	Region Description	Initial Claims September 2005	Initial Claims as a percentage of the Labor Force	Those Collecting Benefits as a percentage of the Labor Force
1	Northwest Area	1,001	1.0%	1.2%
2	Huntsville and Northeast	2,921	0.7%	0.9%
3	Tuscaloosa Area	792	0.6%	0.7%
4	Birmingham Suburban	845	0.5%	0.6%
5	Talladega and Anniston Area	1,514	0.8%	1.2%
6	West Central Area	743	1.8%	2.6%
7	Capitol Area	1,433	0.8%	1.1%
8	Auburn and East Central Area	1,490	1.1%	1.0%
9	Southwest Area	2,141	1.7%	1.1%
10	Southeast Area	986	0.7%	0.9%
11	Birmingham/Jefferson County	2,189	0.7%	1.2%
12	Mobile City and County	9,197	5.1%	1.9%
Totals		25,252	1.3%	1.2%

Source: Alabama Department of Industrial Relations

There is some variation in the unemployment rate between the regions but the rate is remarkably consistent throughout the State (more variation would be seen at the county level). It is important to note that there is some impact from Katrina in these numbers. In Mobile City and County there is a greater proportion of the recently employed collecting benefits than in other parts of the State. In most regions, the group that is not collecting is larger than the one that is collecting. A small amount of that impact can be seen in Region 9 (Southwest) where some of Baldwin County's residences would have been impacted by Katrina related layoffs. It is useful to remember that this unemployment data is based on a survey of households and the data is reported based on the place the individual lives and not where they worked.

Now let's look at March 2006.

### New Claims by Regions – March 2006

<b>Region</b>	<b>Region Description</b>	<b>Initial Claims March 2006</b>	<b>Initial Claims as a percentage of the Labor Force</b>	<b>Those Collecting Benefits as a percentage of the Labor Force</b>
1	Northwest Area	1,489	1.4%	1.4%
2	Huntsville and Northeast	3,515	0.8%	1.0%
3	Tuscaloosa Area	982	0.8%	0.9%
4	Birmingham Suburban	1,065	0.6%	0.8%
5	Talladega and Anniston Area	1,810	1.0%	1.3%
6	West Central Area	607	1.4%	1.8%
7	Capitol Area	1,194	0.6%	1.0%
8	Auburn and East Central Area	1,563	1.2%	1.1%
9	Southwest Area	799	0.6%	0.9%
10	Southeast Area	1,106	0.7%	0.9%
11	Birmingham/Jefferson County	2,665	0.8%	1.3%
12	Mobile City and County	1,223	0.7%	0.9%
	<b>Totals</b>	<b>18,018</b>	<b>0.8%</b>	<b>1.1%</b>

Source: Alabama Department of Industrial Relations

There is some variation in the unemployment rate between the regions but the rate is remarkably consistent throughout the State (more variation would be seen at the county level). Regions 1 and 6 are on the high end. Mobile and its neighboring region 9 have shaken off the impact of Katrina and are now in the lowest tier of regions. Only in region 8 are the number of new claims larger than the group that is currently collecting benefits.

**Distribution of the Unemployed by Region and Category  
March 2006**

<b>Region</b>	<b>Region Description</b>	<b>Unemployment Rate March 2006</b>	<b>Estimated New and Re- entrants</b>	<b>Recently Unemployed but not Collecting Benefits</b>	<b>Recently Unemployed and Collecting Benefits</b>
1	Northwest Area	3.72%	1,627	853	1,489
2	Huntsville and Northeast	3.18%	5,650	3,628	4,502
3	Tuscaloosa Area	3.07%	1,627	1,159	1,182
4	Birmingham Suburban	2.89%	2,123	1,662	1,393
5	Talladega and Anniston Area	3.56%	2,627	1,525	2,254
6	West Central Area	5.45%	937	603	746
7	Capitol Area	3.36%	2,557	1,733	1,946
8	Auburn and East Central Area	3.63%	1,977	1,385	1,460
9	Southwest Area	3.41%	1,741	1,358	1,148
10	Southeast Area	3.15%	1,936	1,495	1,291
11	Birmingham/Jefferson County	3.50%	4,574	2,481	4,101
12	Mobile City and County	3.50%	2,619	2,057	1,713

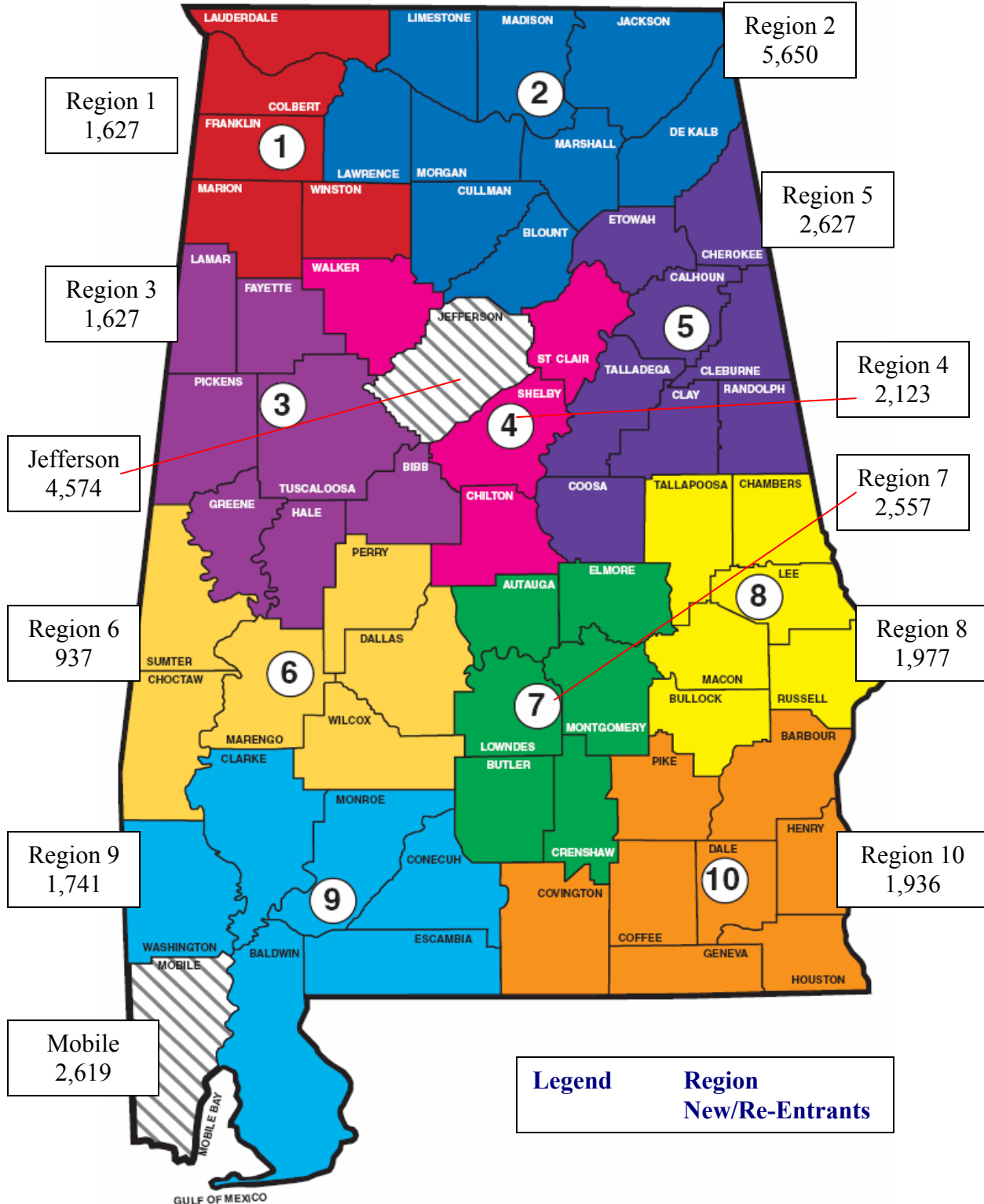
Source: Alabama Department of Industrial Relations and Bureau of Labor Statistics

When combining the separator data and the unemployment “inventory” data it is important to avoid double counting. Despite the different data sources (LED and CPS), the separator data almost certainly contains the individuals listed as “recently employed.” It might be useful to think of the “separator” group as having two components – job changers and the unemployed (but just recently). The job changers move from one job to another without making a stop in the unemployment office. They actually represent the vast majority of those who are newly hired. The new and re-entrants are additional workers that have come off the sidelines to begin an active job search. The map below will display that new/re-entrant supply.

# New and Re-Entrant Labor Supply by Region

## March 2006

Alabama Workforce Development  
Regional Advisory Councils



## The Sidelines Supply

There is a supply on the sidelines of any labor market. Ironically, low unemployment and the general perception that jobs are available will bring more of those on the sidelines into the active labor force. It is a classic case of demand creating its own supply. To illustrate that point, Region 6 has the highest unemployment rate in March 2006 and the lowest labor participation rate (5.45% unemployment and a participation rate of 48.6%). Conversely, Region 4, the Birmingham suburbs, had the lowest rate of unemployment and the highest labor participation rate (a 2.89% unemployment rate and a 66.9% labor participation rate.) For most of the regions in Alabama, the year 2000 represented their most recent peek in terms of labor force participation; it was the end of the long 1990's economic expansion.

The following chart shows the labor force and the participation rates for the 12 regions in Alabama in 2000 and 2006. The participation rate is measured using the average labor force for the year and the July 1<sup>st</sup> population estimate provided by the Census Bureau. (Note: since county level population figures for 2006 had not been published yet by Census, the population base for 2006 was calculated using the 1.1% population growth rate estimated by Census for Alabama as a whole.) The population figures have been adjusted to remove active duty military, prisoners and those in residential care for mental health issues.

### Labor Force Participation Rates Alabama Regions – 2000 and 2006

Region	Region Description	July 2000 Labor Force	Adjusted 2000 Over 18 Population	2000 Participation Rate	March 2006 Labor Force	Adjusted 2006 Over 18 Population	2006 Participation Rate
1	Northwest Area	110,846	174,722	63.4%	106,722	176,803	60.4%
2	Huntsville and Northeast	423,288	603,139	70.2%	433,983	649,267	66.8%
3	Tuscaloosa Area	126,244	198,423	63.6%	129,275	205,847	62.8%
4	Birmingham Suburban	166,428	233,949	71.1%	179,189	267,665	66.9%
5	Talladega/Anniston Area	178,379	288,665	61.8%	179,919	295,068	61.0%
6	West Central Area	46,737	88,210	53.0%	41,975	86,297	48.6%
7	Capitol Area	180,587	266,865	67.7%	185,459	281,028	66.0%
8	Auburn/East Central Area	131,108	207,339	63.2%	132,738	215,327	61.6%
9	Southwest Area	121,879	191,904	63.5%	124,405	211,584	58.8%
10	Southeast Area	149,786	230,179	65.1%	149,718	240,349	62.3%
11	Birmingham/Jefferson County	332,550	491,249	67.7%	318,748	499,043	63.9%
12	Mobile City and County	186,720	287,233	65.0%	182,541	295,236	61.8%

Source: US Census for population estimates; Alabama Department of Industrial Relations for labor force estimates. See also Appendix A for population adjustment methodology.

Estimating the sideline supply requires some assumptions. The estimates of the potential will vary depending on what benchmark is used to estimate how many potential workers there are just outside the labor market. Three benchmarks present themselves: the national average (65.7%),

the 2000 peak for the region, and highest of either method. The following chart shows the results in terms of estimated numbers of available workers who are sitting on the sidelines.

## Potential Workers in Alabama Regions 2006 Selected Benchmarks

Region	Region Description	Sideline Potential if Region at National Average	Sideline Potential if Region at its 2000 Peak	Sideline Potential (highest of 2000 peak or national average)
1	Northwest Area	9,437	5,444	9,437
2	Huntsville and Northeast	Above	21,678	21,678
3	Tuscaloosa Area	5,967	1,693	5,967
4	Birmingham Suburban	Above	11,225	11,225
5	Talladega and Anniston Area	13,941	2,417	13,941
6	West Central Area	14,722	3,749	14,722
7	Capitol Area	Above	4,712	4,712
8	Auburn and East Central Area	8,732	3,422	8,732
9	Southwest Area	14,606	9,973	14,606
10	Southeast Area	8,192	6,686	8,192
11	Birmingham and Jefferson County	9,123	19,078	19,078
12	Mobile City and County	11,429	9,381	11,429
		96,149	99,457	143,719
	Potential as % of 18 plus Population	2.8%	2.9%	4.2%

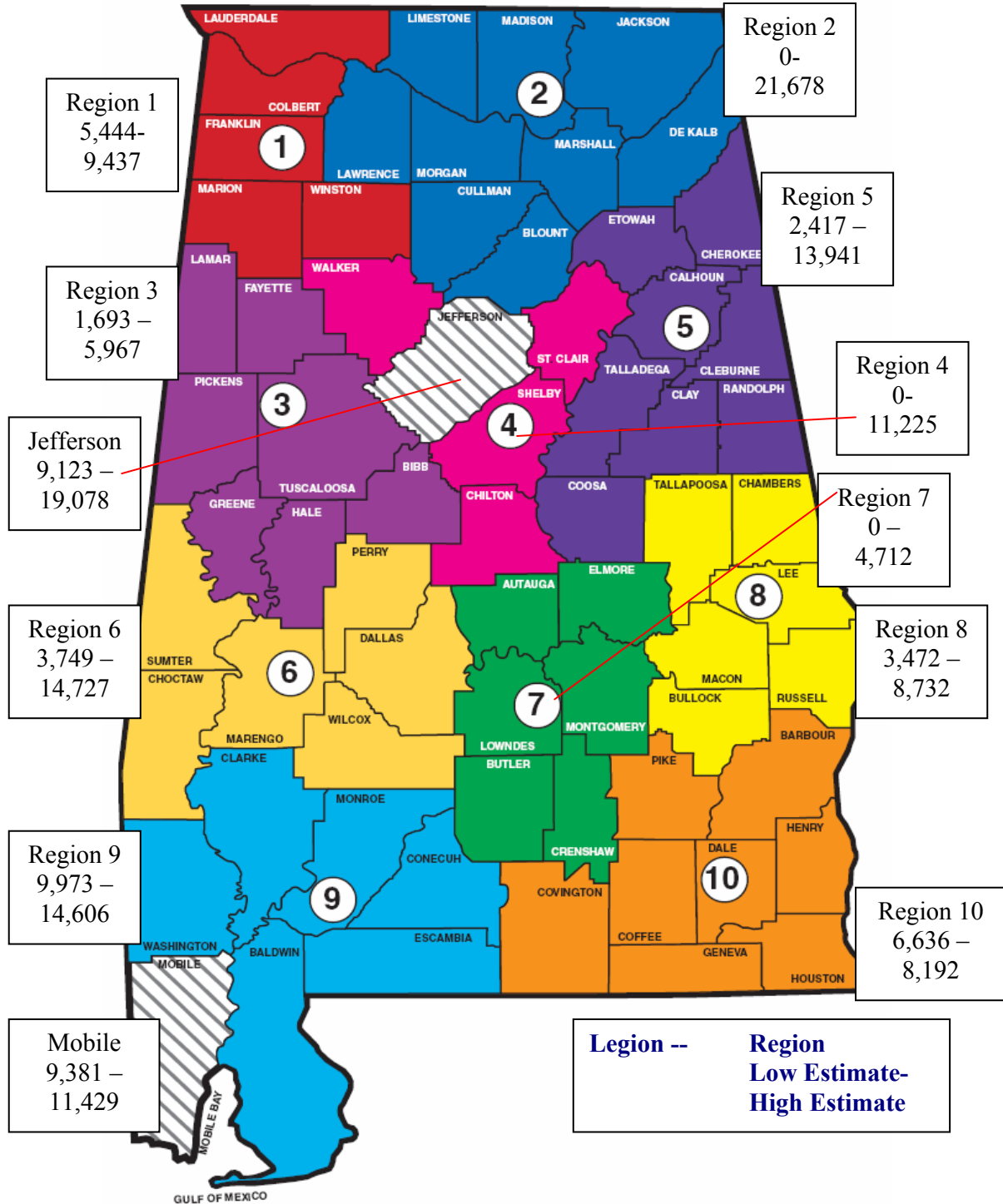
Source: U.S. Census for population estimates, Alabama Department of Industrial Relations for labor force estimates.

The different benchmarks yield different estimates of potential labor market participants. The lowest estimate, reaching the national average, would add about 2.8% to the labor force or over 96,000 workers statewide (a number higher than those who are officially unemployed). The return to the 2000 peak would increase the supply in all regions and would yield just under 100,000 additional workers or just under 3% of the working age population. Taking the best of either method would have nearly 150,000 workers added to the labor force. Such a movement workers is possible (in most areas it happened as recently as 2000); the trick is motivation. Here, the message of low unemployment and plentiful jobs is the critical factor. The key will be motivating the potential workers without frightening away the prospective employers. Alabama's steadily declining unemployment rate may paradoxically be creating more workers.



# The Sideline Supply – High and Low Estimates

## Alabama Workforce Development Regional Advisory Councils



## The Overall Supply Picture

To get a complete picture of the labor supply in Alabama, it is necessary to combine pieces of the puzzle and to avoid duplication. Since the data comes from different sources, some assumptions need to be made in doing the combination. First, we start with the number of separators, derived from the LED data, by region. Next, we add in from the “unemployed” pool just the new entrants and the re-entrants. To avoid double counting we eliminated that portion of the unemployed pool that was recently employed because they are already captured in the separation data. Finally, we selected one of the estimates of sideline workers. The estimate based on the 2000 peak participation rate was chosen because it represents the middle estimate. The combined total is a reasonable estimate of the supply that employers can attract to their jobs in an average quarter.

### Estimated Alabama Regional Labor Supply 1<sup>st</sup> Quarter 2006

Region	Region Description	Separator Supply	Estimated New and Re-entrants	Sideline Potential if Region at Its 2000 Peak	Estimated Total Supply
1	Northwest Area	19,025	1,627	5,444	26,097
2	Huntsville and Northeast	66,653	5,650	21,678	93,981
3	Tuscaloosa Area	20,654	1,627	1,693	23,974
4	Birmingham Suburban	24,696	2,123	11,225	38,044
5	Talladega/Anniston Area	26,769	2,627	2,417	31,812
6	West Central Area	5,791	937	3,749	10,477
7	Capitol Area	35,159	2,557	4,712	42,428
8	Auburn/East Central Area	18,007	1,977	3,422	23,406
9	Southwest Area	20,798	1,741	9,973	32,512
10	Southeast Area	24,984	1,936	6,686	33,607
11	Birmingham/Jefferson County	73,491	4,574	19,078	97,143
12	Mobile City and County	40,981	2,619	9,381	52,982
		377,008	29,997	99,457	506,462

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations and US Census Population Estimates.

The overall number is useful since it gives a sense of labor availability that is not limited to the number of unemployed workers. However, recruitment strategies are likely to be different in Region 6 where almost 50% of the potential supply is either unemployed or on the sidelines and in Regions 3, 5, 7 & 8 where less than 20% of the supply is not employed already.

Another way to look at the supply is in terms of the number of people employed in the region. The following chart supplies that information. Statewide, the total supply of available labor is 27.6% of the employment base. There is considerable regional variation from with Tuscaloosa, Talladega/Anniston, Capitol Area and Auburn/East Central regions on the low end and regions 1, 4, 6, and 9 and Mobile on the high end. It is useful to note that the areas with low relative supply as also the regions where job changers make up 80% or more of the total supply.

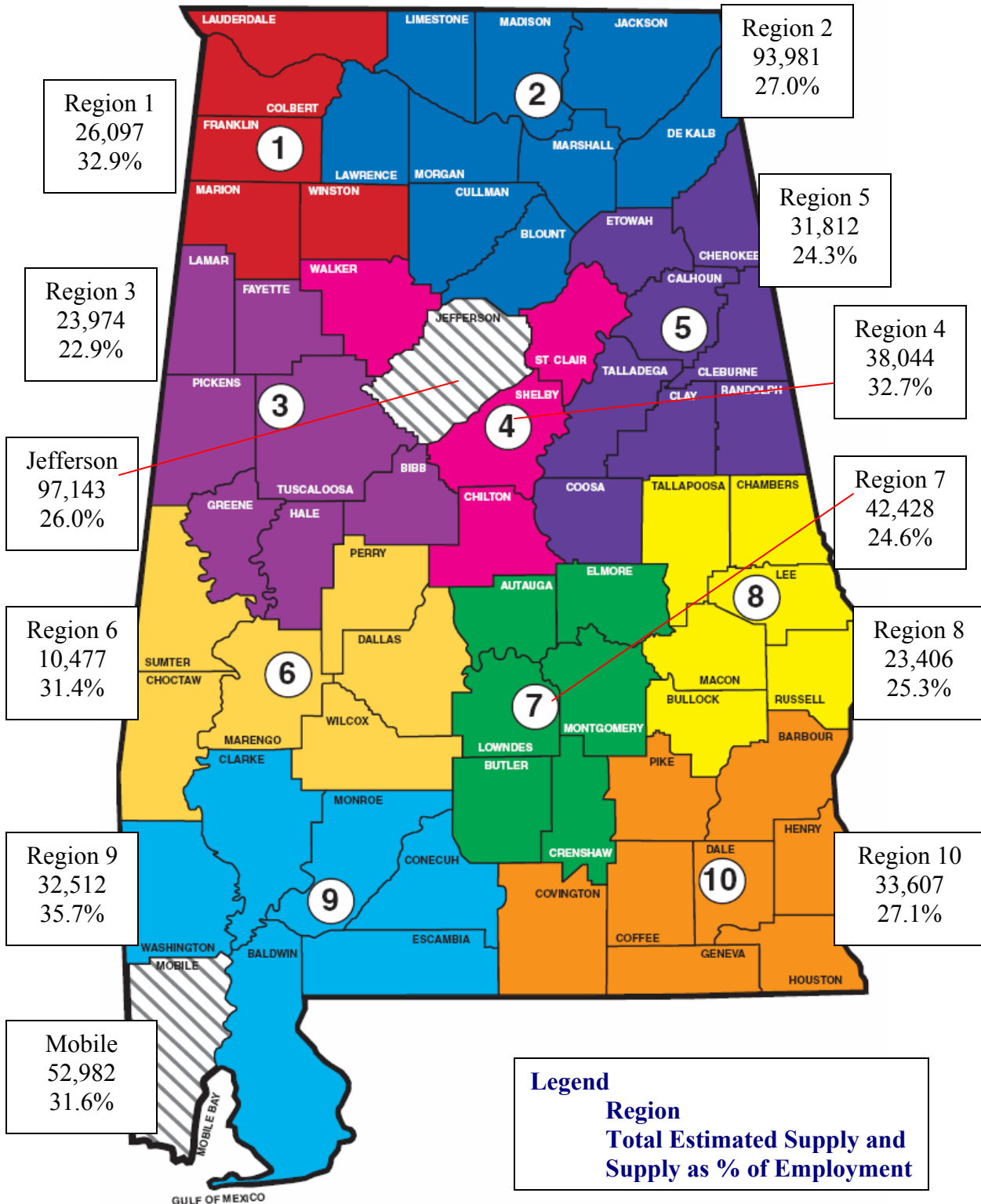
### **Total Labor Supply / Total Employment 1<sup>st</sup> Quarter 2006**

<b>Region</b>	<b>Region Description</b>	<b>Estimated Total Employment</b>	<b>Estimated Total Supply</b>	<b>Total Supply as a % of Employment</b>
1	Northwest Area	79,378	26,097	32.9%
2	Huntsville and Northeast	347,636	93,981	27.0%
3	Tuscaloosa Area	104,543	23,974	22.9%
4	Birmingham Suburban	116,194	38,044	32.7%
5	Talladega/Anniston Area	130,698	31,812	24.3%
6	West Central Area	33,401	10,477	31.4%
7	Capitol Area	172,451	42,428	24.6%
8	Auburn/East Central Area	92,548	23,406	25.3%
9	Southwest Area	91,001	32,512	35.7%
10	Southeast Area	124,024	33,607	27.1%
11	Birmingham/Jefferson County	374,272	97,143	26.0%
12	Mobile City and County	167,706	52,982	31.6%
	Statewide Total	1,833,852	506,462	27.6%

Source: Census Local Employment Dynamics, Alabama Department of Industrial Relations, US Census.

# Overall Regional Labor Supply – 1<sup>st</sup> Quarter 2006

## Alabama Workforce Development Regional Advisory Councils



# Looking Behind the Overall Numbers

## The New Graduates

In 2005, Alabama educational institutions conferred degrees or certificates on over 53,000 students who completed a post-secondary education program. Such programs range from a certificate for a certified nurse assistant to a doctorate in micro-biology. As noted earlier, the total flow of newly educated workers represents just 3% of the employed workforce in Alabama. There are a number of occupational groups which have relatively large numbers of newly educated workers – highlighted below.

Job Family	Estimated Employment	Estimated Number of New Graduates	Graduates as a percentage of Estimated Employment
Management Occupations	79,041	3,021	3.8%
Business Operations and Finance Occupations	66,905	7,134	10.7%
Computer and Mathematics Occupations	35,737	1,810	5.1%
Architecture and Engineering Occupations	33,649	2,935	8.7%
Physical, Social and Life Sciences Occupations	14,152	3,157	22.3%
Community and Social Services Occupations	20,038	2,119	10.6%
Legal and Related Occupations	11,509	573	5.0%
Education and Library Occupations	102,532	8,470	8.3%
Artistic and Creative Occupations	18,792	2,825	15.0%
Health Care Professional and Technical Occupations	91,465	11,472	12.5%
Health Care Support Occupations	47,790	1,937	4.1%
Protective Services Occupations	32,879	993	3.0%
Food Service Occupations	149,588	829	0.6%
Building/Grounds Maintenance Occupations	52,745	0	0.0%
Personal Service Occupations	33,693	299	0.9%
Sales and Related Occupations	204,313	3,501	1.7%
Administrative and Clerical Occupations	296,741	0	0.0%
Farming, Fishing and Forestry Occupations	11,433	455	4.0%
Construction and Mining Occupations	82,218	354	0.4%
Installation and Repair Occupations	78,758	843	1.1%
Production Occupations	201,764	498	0.2%
Transportation and Material Moving Occupations	141,691	319	0.2%
	1,807,433	53,544	3.0%

Source: US Department of Education Integrated Post-secondary Education System (IPEDS), Census Local Employment Dynamics and Alabama Department of Industrial Relations.

It is useful to note that nearly 85% of the education program completers are concentrated in the first 11 occupational groups. Those 11 groups represent less than one third of the total employment.

While it is important to know these newly education workers are in the labor force, very few of them are actually just entering the labor force for the first time. Many of these students are non-traditional (older or mid-career) and may still be holding a job while going to school. Still others will be making the migration from their “youth” employment in retail or food service into their more “adult” jobs in finance, health care, or education. Still others will stay with the same firm and now qualify for that internal promotion. Unfortunately, there is no set of survey data or administrative records that can presently help us relate these new graduates to the other categories of the labor supply (job changers, the unemployed and those on the sidelines). We will, therefore, not consider this group as another separate labor supply element but rather adding depth to the labor supply picture that we have developed from other sources.

### **Young Workers – Highly Volatile but Highly Attractive**

Another piece of the labor supply picture is young workers. As noted earlier, they represent less than 15% of the total Alabama labor force but over 33% of the churn, the post-it-note employees. (These young workers represent about 17% of the workforce during the “summer job” season as nearly 40% of the separations in the 3<sup>rd</sup> quarter or any given year when they go back to school.) These 275,000 young workers move between jobs at over 2 times the rate of their older peers (2.5 times during the back to school period). About 46% of these younger workers leave their current jobs each quarter – that is high volatility. However, nearly all of them have landed a new job quickly.

The following charts will provide a sense of where that volatility is strongest and what industries have begun to hold onto to these workers, at least a little more tightly than their peers. The occupational groups with significantly higher than average youth volatility (56% or higher separation rate) are highlighted in red/dark shading and those with significantly lower than average volatility (under 36% separation rate) are highlighted in green/light shading. The first chart looks at the occupations grouped using the SOC job families. The second chart uses the more education oriented occupational clusters.

## Workers 14-24 – 1<sup>st</sup> Quarter 2006 SOC Job Families

SOC Job Families	Employment	Separators	Separation Rate
Management Occupations	9,751	4,121	42.3%
Business Operations and Finance Occupations	6,869	2,516	36.6%
Computer and Mathematics Occupations	3,501	1,306	37.3%
Architecture and Engineering Occupations	2,910	1,017	35.0%
Physical, Social and Life Sciences Occupations	1,142	377	33.0%
Community and Social Services Occupations	1,766	624	35.3%
Legal and Related Occupations	1,061	378	35.6%
Education and Library Occupations	5,379	1,600	29.8%
Artistic and Creative Occupations	2,603	1,036	39.8%
Health Care Professional and Technical Occupations	9,241	2,486	26.9%
Health Care Support Occupations	4,857	1,730	35.6%
Protective Services Occupations	3,456	2,048	59.3%
Food Service Occupations	60,393	35,125	58.2%
Building and Grounds Maintenance Occupations	7,606	5,274	69.3%
Personal Service Occupations	4,840	2,004	41.4%
Sales and Related Occupations	47,137	20,602	43.7%
Administrative and Clerical Occupations	37,230	15,097	40.6%
Agricultural, Fishing and Forestry Occupations	1,283	1,040	81.1%
Construction and Mining Occupations	10,137	5,063	49.9%
Installation and Repair Occupations	8,982	3,681	41.0%
Production Occupations	21,498	8,565	39.8%
Transportation and Material Moving Occupations	17,950	8,317	46.3%
<b>Total</b>	<b>269,592</b>	<b>124,008</b>	<b>46.0%</b>

Source: Census Local Employment Dynamics and Alabama Department of Industrial Relations.

## Workers 14-24 – 1<sup>st</sup> Quarter 2006 Occupational Clusters

Occupational Clusters	Employment	Separators	% Separators
Architecture and Engineering	4,767	1,697	35.6%
Science and Math	763	236	30.9%
Social and Government Services	7,946	2,392	30.1%
Professional and Technical Business Services	16,041	6,399	39.9%

Occupational Clusters	Employment	Separators	% Separators
Management	9,009	3,749	41.6%
Artistic	1,601	662	41.3%
Medical Professional	5,535	1,357	24.5%
Medical -- Technical	3,565	1,071	30.0%
Medical -- Support	6,406	2,207	34.5%
Office	26,734	11,256	42.1%
Personal Services	7,118	3,655	51.3%
Lodging, Food Service and Hospitality	69,012	40,381	58.5%
Sales	54,459	23,590	43.3%
Installation and Repair Technicians	7,122	2,962	41.6%
Construction	9,752	4,813	49.4%
Machine Operation and General Manufacturing	14,878	6,044	40.6%
Skilled Manufacturing	3,177	1,280	40.3%
Hourly Worker Supervision	3,704	1,503	40.6%
Transportation -- Licensed	5,114	2,063	40.3%
Transportation -- Helpers	10,747	5,254	48.9%
Agriculture, Forestry and Fishing	2,140	1,438	67.2%
<b>Total</b>	<b>269,592</b>	<b>124,008</b>	<b>46.0%</b>

Source: Census Local Employment Dynamics and Alabama Department of Industrial Relations for the data and Georgia State University for the clusters.

Health care occupations tend to be “stickier” (less volatile) than average regardless of the occupational groupings used. Science, mathematical, and engineering occupations are in that relatively low volatility group (depending on the grouping scheme used) but even where they are not highlighted in green/light shading they are just on the border. The winner in the volatility race is the food service. It is not your imagination that all the wait staff at the local restaurant seem to be new; they probably are.

The final look at the patterns of youth employment and separation will be done at the industry level. Here some of the patterns we have seen in the occupational data will be repeated within the industry data. The industries with significantly higher than average youth volatility are highlighted in red/dark shading (56% or higher separation rate) and those with significantly lower than average volatility are highlighted in green/light shading (36% or less separation rate).



## Youth Employment and Separation by Industry (14-24 Year Old Workers) 1<sup>st</sup> Quarter 2006

	Industry	Youth Employment	Youth Share of Total Employment	Youth Separators	Separation Rate
119	Agriculture (all 3 digit industries)	1,382	10.6%	1,305	94.4%
211	Oil and Gas Extraction	11	1.9%	0	NA
212	Mining (not Oil and Gas)	389	5.9%	102	26.2%
213	Mining Support Activities	116	12.5%	86	74.1%
221	Utilities	727	3.8%	89	12.2%
236	Construction of Building Heavy and Civil Engineering	3,368	11.9%	1,878	55.8%
237	Construction	2,123	12.0%	1,077	50.7%
238	Specialty Trade Contractors	6,730	14.7%	3,189	47.4%
311	Food Manufacturing Beverage and Tobacco Product Manufacturing	4,961	15.6%	1,791	36.1%
312	Textile Mills	327	10.8%	64	19.6%
313	Textile Mills	1,033	8.8%	320	31.0%
314	Textile Product Mills	1,175	10.8%	316	26.9%
315	Apparel Manufacturing Leather and Allied Product Manufacturing	1,492	10.7%	610	40.9%
316	Wood Product Manufacturing	10	8.3%	7	70.0%
321	Paper Manufacturing	2,628	12.5%	1,163	44.3%
322	Printing and Related Support Activities	526	4.0%	121	23.0%
323	Petroleum and Coal Products Manufacturing	465	7.8%	126	27.1%
324	Chemical Manufacturing	111	5.5%	21	18.9%
325	Plastics and Rubber Products	434	4.7%	97	22.4%
326	Manufacturing Nonmetallic Mineral Product	1,385	9.7%	528	38.1%
327	Manufacturing	643	7.1%	257	40.0%
331	Primary Metal Manufacturing Fabricated Metal Product	1,131	5.9%	253	22.4%
332	Manufacturing	2,865	9.9%	944	32.9%
333	Machinery Manufacturing Computer and Electronic Product	1,118	8.1%	303	27.1%
334	Manufacturing	1,108	6.9%	375	33.8%
335	Electrical Equipment, Appliance, and Component Manufacturing	371	5.5%	86	23.2%

	<b>Industry</b>	<b>Youth Employment</b>	<b>Youth Share of Total Employment</b>	<b>Youth Separators</b>	<b>Separation Rate</b>
336	Transportation Equipment Manufacturing Furniture and Related Product	3,992	7.6%	912	22.8%
337	Manufacturing	2,150	13.5%	1,035	48.1%
339	Miscellaneous Manufacturing	809	10.7%	275	34.0%
423	Merchant Wholesalers, Durable Goods Merchant Wholesalers,	3,793	9.1%	1,049	27.7%
424	Nondurable Goods Wholesale Electronic Markets and	2,729	10.5%	1,004	36.8%
425	Agents and Brokers	689	6.0%	214	31.1%
441	Motor Vehicle and Parts Dealers Furniture and Home Furnishings	4,843	15.1%	1,624	33.5%
442	Stores	1,787	18.7%	699	39.1%
443	Electronics and Appliance Stores	1,944	33.7%	644	33.1%
444	Building and Garden Supply Stores	3,612	18.7%	1,048	29.0%
445	Food and Beverage Stores	12,054	35.9%	5,020	41.6%
446	Home and Personal Care Stores	4,214	28.9%	1,183	28.1%
447	Gasoline Stations Clothing and Clothing Assessories	3,192	18.1%	2,400	75.2%
448	Stores Sporting Goods, Hobby, Book and	9,340	47.3%	4,752	50.9%
451	Music Stores	3,516	40.2%	1,522	43.3%
452	General Merchandise Stores	16,911	26.3%	6,108	36.1%
453	Miscellaneous Store Retailers	2,880	24.5%	1,412	49.0%
454	Non-store Retailers	465	11.7%	152	32.7%
481	Air Transportation	124	12.2%	24	19.4%
482	Rail Transportation	0	0.0%	0	NA
483	Water Transportation	51	10.7%	20	39.2%
484	Truck Transportation	1,718	5.9%	628	36.6%
485	Transit and Ground Passenger Transportation	216	3.9%	60	27.8%
486	Pipeline Transportation Scenic and Sightseeing	12	1.9%	3	25.0%
487	Transportation	0	0.0%	0	NA
488	Transportation Support Activities	622	8.8%	238	38.3%
491	Postal Service	0	0.0%	0	NA
492	Couriers and Messengers	992	19.5%	290	29.2%
493	Warehousing and Storage	1,457	19.5%	433	29.7%

	<b>Industry</b>	<b>Youth Employment</b>	<b>Youth Share of Total Employment</b>	<b>Youth Separators</b>	<b>Separation Rate</b>
511	Publishing Industries (except Internet)	679	9.7%	257	37.8%
512	Motion Picture and Sound Recording Industries	1,033	52.7%	465	45.0%
515	Broadcasting (except Internet)	521	10.7%	105	20.2%
516	Internet Publishing and Broadcasting	14	9.2%	0	0.0%
517	Telecommunications Internet Service Providers, Web Search Portals, and Data Processing Service	1,349	9.1%	414	30.7%
518	Processing Service	181	10.9%	39	21.5%
519	Other Information Services	88	10.2%	21	23.9%
521	Monetary Authorities -- Central Banks	0	0.0%	0	NA
522	Credit Intermediation and Related Activities	5,735	12.6%	964	16.8%
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	203	5.3%	44	21.7%
524	Insurance Carriers and Related Activities	1,703	6.8%	437	25.7%
525	Funds, Trusts, and Other Financial Vehicles	6	3.1%	0	0.0%
531	Real Estate	1,432	8.7%	518	36.2%
532	Rental and Leasing Services Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	2,374	23.8%	998	42.0%
533	Works)	5	3.7%	0	0.0%
541	Professional, Scientific, and Technical Services	9,630	10.3%	3,556	36.9%
551	Management of Companies and Enterprises	1,842	13.0%	683	37.1%
561	Administrative and Support Services	18,478	17.6%	17,879	96.8%
562	Waste Management and Remediation Services	369	10.2%	197	53.4%
611	Educational Services	7,232	4.6%	1,891	26.1%
621	Ambulatory Health Care Services	6,727	8.9%	1,655	24.6%
622	Hospitals	6,514	8.4%	1,115	17.1%

	<b>Industry</b>	<b>Youth Employment</b>	<b>Youth Share of Total Employment</b>	<b>Youth Separators</b>	<b>Separation Rate</b>
	Nursing and Residential Care				
623	Facilities	4,661	11.2%	2,086	44.8%
624	Social Assistance	3,247	13.3%	1,506	46.4%
711	Performing Arts, Spectator Sports, and Related Industries	691	18.4%	332	48.0%
712	Museums, Historical Sites, and Similar Institutions	203	15.2%	62	30.5%
713	Amusement, Gambling, and Recreation Industries	3,356	29.2%	1,247	37.2%
721	Accommodations	2,467	17.7%	1,521	61.7%
722	Food Services and Drinking Places	61,817	46.7%	36,645	59.3%
811	Repair and Maintenance Services	2,820	14.9%	1,474	52.3%
812	Personal and Laundry Services Religious, Grant-making, Civic, Professional, and Similar	2,604	17.1%	1,038	39.9%
813	Organizations	1,153	12.1%	398	34.5%
999	Public Administration	4,817	5.3%	900	18.7%
	All Industries	274,692	14.9%	126,304	46.0%

Source: Census Local Employment Dynamics, Alabama Department of Industrial Relations

While we have highlighted a number of industries in green/light shading, the low volatility among young workers is only relative. Even the industries with the lowest volatility, utilities and credit intermediaries, have a youth separation rates that are relatively high and many time higher than the rate for their older peers. These industries with “relatively” low volatility include some surprises. They are dominated by manufacturing and include large elements of the retail sector. Nearly a quarter of youth employment is in one industry – food and drinking establishments. While that industry does not have the highest youth volatility, the sheer volume of young workers and young worker turnover means you will often not see that same smiling face at the local Applebee’s two visits in a row.

## Section 3 – Occupational Detail

### Overview

We had a taste of the occupational data in the section on youth employment and education completers. This section is designed to look behind the separation numbers to estimate the number of workers that might be available in various occupational categories. The occupational information is aggregated using two occupational grouping schemes. The first is the occupational clusters derived from the work done by Georgia State University to match educational programs with the Standard Occupational Code (SOC) structure. The other is the job family/major occupational grouping structure in the SOC. While the pictures they present are similar, there are enough differences to make displaying both sets of data productive.

### Employment and Separation by Occupational Clusters Statewide 1<sup>st</sup> Quarter 2006

Occupational Clusters	Employment	Separators	Separation Rate
Architecture and Engineering	51,376	7,383	14.4%
Science and Math	11,091	1,106	10.0%
Social and Government Services	138,236	11,123	8.0%
Professional and Technical Business Services	144,277	24,496	17.0%
Management	80,413	13,796	17.2%
Artistic	10,474	1,931	18.4%
Medical Professional	58,770	7,614	13.0%
Medical -- Technical	37,865	5,625	14.9%
Medical -- Support	59,097	9,930	16.8%
Office	232,524	41,826	18.0%
Personal Services	49,170	11,847	24.1%
Lodging, Food Service and Hospitality	202,663	79,430	39.2%
Sales	233,069	57,203	24.5%
Installation and Repair Technicians	61,254	11,050	18.0%
Construction	81,197	20,670	25.5%
Machine Operation/General Manufacturing	144,814	23,910	16.5%
Skilled Manufacturing	30,020	5,084	16.9%
Hourly Worker Supervision	33,734	6,136	18.2%
Transportation -- Licensed	53,060	9,541	18.0%
Transportation -- Helpers	77,374	17,460	22.6%
Agriculture, Forestry and Fishing	16,955	4,323	25.5%
<b>Total</b>	<b>1,807,433</b>	<b>371,482</b>	<b>20.6%</b>

Source: Census Local Employment Dynamics, Alabama Department of Industrial Relations (Occupation/Education Clusters established by Georgia State in the OSDS System, see appendix C for more details)

## Employment and Separation by SOC Job Families Statewide 1<sup>st</sup> Quarter 2006

SOC Job Families	Employment	Separators	Separation Rate
Management Occupations	79,041	14,056	20.4%
Business Operations and Finance Occupations	66,905	10,141	17.7%
Computer and Mathematics Occupations	35,737	5,375	16.3%
Architecture and Engineering Occupations	33,649	4,645	13.9%
Physical, Social and Life Sciences Occupations	14,152	1,669	13.7%
Community and Social Services Occupations	20,038	2,715	16.9%
Legal and Related Occupations	11,509	1,598	15.5%
Education and Library Occupations	102,532	7,519	11.4%
Artistic and Creative Occupations	18,792	3,210	20.7%
Health Care Professional/Technical Occupations	91,465	12,658	14.6%
Health Care Support Occupations	47,790	8,373	18.0%
Protective Services Occupations	32,879	6,843	25.3%
Food Service Occupations	149,588	63,404	47.0%
Building and Grounds Maintenance Occupations	52,745	17,215	38.0%
Personal Service Occupations	33,693	6,594	27.7%
Sales and Related Occupations	204,313	50,465	27.0%
Administrative and Clerical Occupations	296,741	53,599	20.5%
Agricultural, Fishing and Forestry Occupations	11,433	3,117	27.0%
Construction and Mining Occupations	82,218	21,922	30.1%
Installation and Repair Occupations	78,758	13,872	20.3%
Production Occupations	201,764	32,954	16.9%
Transportation and Material Moving Occupations	141,691	29,538	24.1%
<b>Total</b>	<b>1,807,433</b>	<b>371,482</b>	<b>20.6%</b>

Source: Census Local Employment Dynamics, Alabama Department of Industrial Relations

The professional, technical and scientific occupations tend to be relatively more stable in both occupational grouping methods. Production occupations are also relatively stable but not to the level of the more white-collar occupations in the first group. Food service is always the king of instability with sales, personal services and cleaning work also showing above average volatility.

### Regional Distribution of Separators with Occupational Groupings

While separations within regions tend to cluster around the state average, as we saw earlier, there are a couple of outliers. The next two charts display the regional distribution of separators (those leaving their jobs) as a percentage of employment in an occupational grouping. As we have done before, the display will include two views one based on the SOC and the other on occupational clusters. In the charts, the **green/light shading** highlight identifies the region with the lowest separation rate in all 12 regions. The **red/dark shading** highlight will mark the highest separation rate. Appendix B contains occupational level detail (SOC) on a statewide basis.

## Separators as Percentage of Employment for SOC Job Families Statewide and Regions 1<sup>st</sup> Quarter 2006

SOC Job Families	State	I	II	III	IV	V	VI	VII	VIII	IX	X	Jeff	Mobile
Management Occupations	20.4%	20.2%	16.6%	17.4%	17.8%	18.2%	14.9%	16.7%	17.4%	20.4%	18.0%	16.8%	21.5%
Business Operations and Finance Occupations	17.7%	17.1%	14.3%	15.2%	14.1%	16.2%	13.1%	13.2%	16.0%	16.9%	15.8%	14.2%	20.1%
Computer and Mathematics Occupations	16.3%	18.2%	13.3%	14.4%	13.6%	16.4%	14.8%	14.1%	16.1%	18.8%	16.9%	14.8%	18.2%
Architecture and Engineering Occupations	13.9%	18.9%	12.9%	11.0%	13.1%	12.5%	12.1%	11.2%	16.4%	17.3%	15.4%	14.2%	17.4%
Physical, Social and Life Sciences Occupations	13.7%	13.8%	10.5%	11.1%	11.8%	13.3%	10.6%	9.9%	11.3%	11.8%	14.4%	12.9%	12.3%
Community and Social Services Occupations	16.9%	12.9%	13.2%	12.6%	16.3%	15.3%	9.7%	12.5%	11.7%	14.6%	14.8%	14.0%	13.1%
Legal and Related Occupations	15.5%	18.7%	10.7%	14.8%	13.1%	16.9%	12.5%	10.8%	13.8%	15.9%	20.6%	15.4%	17.1%
Education and Library Occupations	11.4%	11.0%	6.1%	6.5%	6.0%	9.8%	5.1%	8.7%	5.6%	7.9%	7.6%	7.7%	7.1%
Artistic and Creative Occupations	20.7%	20.2%	15.0%	15.8%	17.0%	18.2%	15.9%	16.1%	19.6%	18.7%	18.5%	16.0%	19.5%
Health Care Professional and Technical Occupations	14.6%	11.5%	12.4%	9.4%	24.3%	14.2%	9.7%	13.5%	10.6%	19.8%	12.7%	14.6%	12.9%
Health Care Support Occupations	18.0%	16.0%	17.1%	13.5%	24.4%	18.1%	10.7%	18.2%	15.3%	19.8%	16.2%	18.4%	16.8%
Protective Services Occupations	25.3%	21.7%	22.6%	18.4%	18.9%	24.0%	12.2%	15.4%	19.7%	14.6%	16.8%	24.7%	28.6%
Food Service Occupations	47.0%	46.4%	41.6%	41.7%	48.3%	48.6%	34.2%	39.1%	38.7%	45.3%	43.1%	38.4%	46.4%
Building and Grounds Maintenance Occupations	38.0%	29.8%	31.9%	28.4%	29.1%	35.6%	21.0%	35.1%	28.7%	26.4%	27.1%	35.7%	38.8%
Personal Service Occupations	27.7%	17.4%	19.3%	19.2%	22.1%	20.4%	15.0%	18.5%	19.7%	21.3%	20.9%	19.0%	20.5%
Sales and Related Occupations	27.0%	32.4%	22.4%	25.4%	22.5%	24.1%	23.4%	28.4%	24.7%	27.6%	24.3%	22.5%	27.4%
Administrative and Clerical Occupations	20.5%	21.5%	17.0%	17.8%	17.2%	18.8%	15.4%	18.1%	17.4%	19.6%	17.5%	16.8%	21.8%
Agricultural, Fishing and Forestry Occupations	27.0%	21.0%	21.3%	44.6%	25.9%	32.7%	33.1%	22.0%	29.7%	24.0%	27.2%	19.1%	21.4%
Construction and Mining Occupations	30.1%	26.8%	23.7%	29.4%	22.7%	23.5%	26.3%	24.5%	27.7%	30.9%	24.0%	24.7%	37.4%
Installation and Repair Occupations	20.3%	18.6%	17.2%	18.1%	18.3%	15.7%	15.9%	17.7%	17.4%	22.8%	17.3%	15.4%	21.2%
Production Occupations	16.9%	22.0%	15.7%	13.4%	17.4%	12.5%	16.5%	14.9%	15.2%	16.7%	16.7%	15.6%	21.7%
Transportation and Material Moving Occupations	24.1%	24.1%	20.0%	21.0%	22.6%	19.4%	18.7%	20.7%	18.7%	22.3%	20.3%	19.6%	24.3%
Total	20.6%	23.8%	19.1%	19.8%	21.3%	20.5%	17.3%	20.2%	19.4%	22.9%	20.2%	19.6%	24.4%

## Separators as Percentage of Employment for Occupational Clusters Statewide and Regions 1<sup>st</sup> Quarter 2006

Occupational Clusters	State	I	II	III	IV	V	VI	VII	VIII	IX	X	Jeff	Mobile
Architecture and Engineering	14.4%	19.0%	13.2%	12.4%	13.2%	13.9%	13.1%	12.3%	17.0%	21.5%	15.9%	13.7%	18.2%
Science and Math	<b>10.0%</b>	<b>11.6%</b>	<b>8.9%</b>	<b>8.6%</b>	<b>9.7%</b>	<b>11.5%</b>	<b>7.8%</b>	<b>9.1%</b>	<b>10.3%</b>	<b>8.5%</b>	12.8%	<b>11.9%</b>	<b>8.8%</b>
Social and Government Services	<b>8.0%</b>	<b>10.8%</b>	<b>7.0%</b>	<b>7.1%</b>	<b>7.3%</b>	<b>10.5%</b>	<b>5.9%</b>	<b>8.3%</b>	<b>6.4%</b>	<b>8.5%</b>	<b>8.5%</b>	<b>8.5%</b>	<b>8.0%</b>
Professional and Technical Business Services	17.0%	18.9%	15.7%	17.2%	15.2%	19.3%	15.1%	15.9%	18.6%	18.0%	17.8%	15.7%	22.1%
Management	17.2%	19.8%	15.9%	17.0%	16.2%	17.5%	14.3%	15.6%	17.4%	19.1%	17.4%	16.6%	21.3%
Artistic	18.4%	23.7%	15.9%	16.3%	18.2%	18.9%	14.3%	17.7%	19.7%	20.0%	19.7%	17.7%	21.7%
Medical Professional	13.0%	<b>10.3%</b>	11.3%	<b>8.4%</b>	24.7%	13.3%	<b>9.1%</b>	12.3%	<b>9.4%</b>	19.7%	<b>12.0%</b>	13.9%	<b>11.6%</b>
Medical – Technical	14.9%	12.6%	13.5%	<b>11.0%</b>	23.4%	15.8%	<b>10.5%</b>	14.8%	12.3%	19.5%	13.6%	15.5%	14.5%
Medical – Support	16.8%	15.7%	16.5%	13.2%	22.9%	17.4%	<b>10.6%</b>	17.0%	14.5%	19.1%	15.8%	17.6%	16.1%
Office	18.0%	20.2%	16.9%	17.8%	17.0%	18.7%	15.0%	17.7%	17.4%	19.7%	17.5%	17.0%	21.9%
Personal Services	24.1%	22.3%	24.3%	22.3%	24.0%	25.8%	16.5%	23.2%	23.3%	22.1%	22.8%	25.3%	27.0%
Lodging, Food Service and Hospitality	<b>39.2%</b>	<b>41.8%</b>	<b>37.8%</b>	<b>37.9%</b>	<b>44.0%</b>	<b>44.7%</b>	<b>30.6%</b>	<b>37.4%</b>	<b>35.6%</b>	<b>41.3%</b>	<b>38.3%</b>	<b>36.8%</b>	<b>44.0%</b>
Sales	24.5%	33.3%	22.1%	24.9%	22.9%	23.7%	23.2%	28.5%	24.0%	27.3%	23.9%	22.5%	26.8%
Installation and Repair Technicians	18.0%	19.2%	17.3%	18.0%	20.1%	15.7%	17.0%	17.4%	17.4%	22.0%	17.7%	16.6%	21.4%
Construction	25.5%	25.6%	23.0%	28.5%	21.6%	22.3%	24.9%	23.8%	26.8%	29.5%	22.6%	23.3%	35.7%
Machine Operation and General Manufacturing	16.5%	20.7%	16.1%	13.2%	17.7%	12.6%	14.4%	15.3%	14.9%	16.1%	16.7%	16.4%	22.9%
Skilled Manufacturing	16.9%	26.3%	14.3%	15.2%	17.4%	12.1%	22.8%	14.5%	18.5%	19.7%	16.2%	15.1%	21.4%
Hourly Worker Supervision	18.2%	21.2%	16.8%	18.7%	18.6%	14.8%	17.0%	16.8%	17.3%	22.0%	18.2%	16.4%	24.8%
Transportation – Licensed	18.0%	21.7%	17.3%	19.4%	21.9%	15.8%	16.2%	16.0%	16.0%	21.6%	18.7%	15.9%	20.1%
Transportation – Helpers	22.6%	25.0%	21.2%	21.9%	22.5%	21.0%	19.9%	23.8%	20.0%	22.2%	21.1%	22.4%	27.4%
Agriculture, Forestry and Fishing	25.5%	21.8%	20.3%	<b>40.6%</b>	24.6%	28.2%	<b>31.9%</b>	22.1%	27.3%	23.8%	25.1%	21.8%	25.6%
Total	20.6%	<b>23.8%</b>	19.1%	19.8%	21.3%	20.5%	<b>17.3%</b>	20.2%	19.4%	22.9%	20.2%	19.6%	<b>24.4%</b>



# Section 4 – Regional Reports

## Overview

While a considerable amount of regional information has been provided in previous sections, the following pages provide the reader with a summary profile of each of Alabama's 12 regions. The regional summary will include:

- An estimate of the overall labor supply detailing the sources of that supply
- A detailed look at the separator pool at the 3 digit NAICS industry level
- Aggregate occupational analysis
- County level detail on unemployed workers and those waiting on the sidelines

The summaries are designed to provide a quick snapshot of the regional labor supply picture and provide some guidance for employers and workforce professionals seeking workers.

## Region 1 – Summary Northwest Alabama

### The Regional Labor Supply Scorecard Region 1 1<sup>st</sup> Quarter 2006 (Estimated Number and as a Percentage of Total Employment)

Total Supply	Job Changers	Recently Employed Collecting Benefits	Recently Employed Not Collecting Benefits	New and Re-Entrants	Sideline Potential at 2000 Peak
26,097	16,683	1,489	853	1,627	5,444
32.9%	21.0%	1.9%	1.1%	2.1%	6.9%

Region 1 has a total labor supply of over 26,000 representing about 33% of its 1<sup>st</sup> quarter of 2006 employment base. Over 70% of that supply has been employed recently and has either changed jobs or is experiencing a spell of unemployment between jobs. When comparing Region 1 to the other regions and Alabama as a whole, the Region 1 labor supply contains slightly fewer individuals with recent employment histories and depends more on those entering the labor force and those still remaining on the sidelines.

Region 1 has a higher overall separation rate when compared to the State as a whole (23.8% versus 20.6%). There are several occupation clusters with much higher separation rates – skilled manufacturing, sales and to some extent engineering. Medical workers, while generally stable overall are even less volatile than average in Region 1. The same basic pattern appears when the data is displayed using the Standard Occupational Code (SOC) job families.

### Separations as a Percentage of Employment State/Region 1 Comparison Occupational Clusters 1<sup>st</sup> Quarter 2006

Occupational Cluster	State	Region 1	Difference	Separations
Architecture and Engineering	14.4%	19.0%	4.6%	300
Science and Math	10.0%	11.6%	1.6%	46
Social and Government Services	8.0%	10.8%	2.8%	608
Professional and Technical Business Services	17.0%	18.9%	2.0%	947

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 1</b>	<b>Difference</b>	<b>Separations</b>
Management	17.2%	19.8%	2.7%	611
Artistic	18.4%	23.7%	5.3%	79
Medical Professional	13.0%	10.3%	-2.7%	250
Medical -- Technical	14.9%	12.6%	-2.3%	200
Medical -- Support	16.8%	15.7%	-1.1%	424
Office	18.0%	20.2%	2.2%	1,847
Personal Services	24.1%	22.3%	-1.8%	456
Lodging, Food Service and Hospitality	39.2%	41.8%	2.6%	3,709
Sales	24.5%	33.3%	8.7%	3,369
Installation and Repair Technicians	18.0%	19.2%	1.2%	496
Construction	25.5%	25.6%	0.2%	860
Machine Operation and General				
Manufacturing	16.5%	20.7%	4.2%	1,673
Skilled Manufacturing	16.9%	26.3%	9.4%	728
Hourly Worker Supervision	18.2%	21.2%	3.0%	344
Transportation -- Licensed	18.0%	21.7%	3.8%	426
Transportation -- Helpers	22.6%	25.0%	2.5%	1,002
Agriculture, Forestry and Fishing	25.5%	21.8%	-3.7%	173
<b>Total</b>	<b>20.6%</b>	<b>23.8%</b>	<b>3.2%</b>	<b>18,549</b>

**Separations as a Percentage of Employment  
State/Region 1 Comparison  
SOC Job Families  
1<sup>st</sup> Quarter 2006**

<b>SOC Job Family</b>	<b>State</b>	<b>Region 1</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	20.2%	-0.2%	633
Business Operations and Finance Occupations	17.7%	17.1%	-0.5%	401
Computer and Mathematics Occupations	16.3%	18.2%	1.9%	187
Architecture and Engineering Occupations	13.9%	18.9%	5.0%	212
Physical, Social and Life Sciences Occupations	13.7%	13.8%	0.1%	66
Community and Social Services Occupations	16.9%	12.9%	-4.0%	107
Legal and Related Occupations	15.5%	18.7%	3.1%	52

<b>SOC Job Family</b>	<b>State</b>	<b>Region 1</b>	<b>Difference</b>	<b>Separations</b>
Education and Library Occupations	11.4%	11.0%	-0.4%	463
Artistic and Creative Occupations	20.7%	20.2%	-0.5%	125
Health Care Professional and Technical Occupations	14.6%	11.5%	-3.1%	442
Health Care Support Occupations	18.0%	16.0%	-2.0%	353
Protective Services Occupations	25.3%	21.7%	-3.7%	303
Food Service Occupations	47.0%	46.4%	-0.6%	3,024
Building and Grounds Maintenance Occupations	38.0%	29.8%	-8.2%	721
Personal Service Occupations	27.7%	17.4%	-10.3%	234
Sales and Related Occupations	27.0%	32.4%	5.4%	2,857
Administrative and Clerical Occupations	20.5%	21.5%	1.0%	2,512
Agricultural, Fishing and Forestry Occupations	27.0%	21.0%	-6.0%	118
Construction and Mining Occupations	30.1%	26.8%	-3.3%	896
Installation and Repair Occupations	20.3%	18.6%	-1.7%	604
Production Occupations	16.9%	22.0%	5.0%	2,683
Transportation and Material Moving Occupations	24.1%	24.1%	0.0%	1,554
<b>Total</b>	<b>20.6%</b>	<b>23.8%</b>	<b>3.2%</b>	<b>18,549</b>

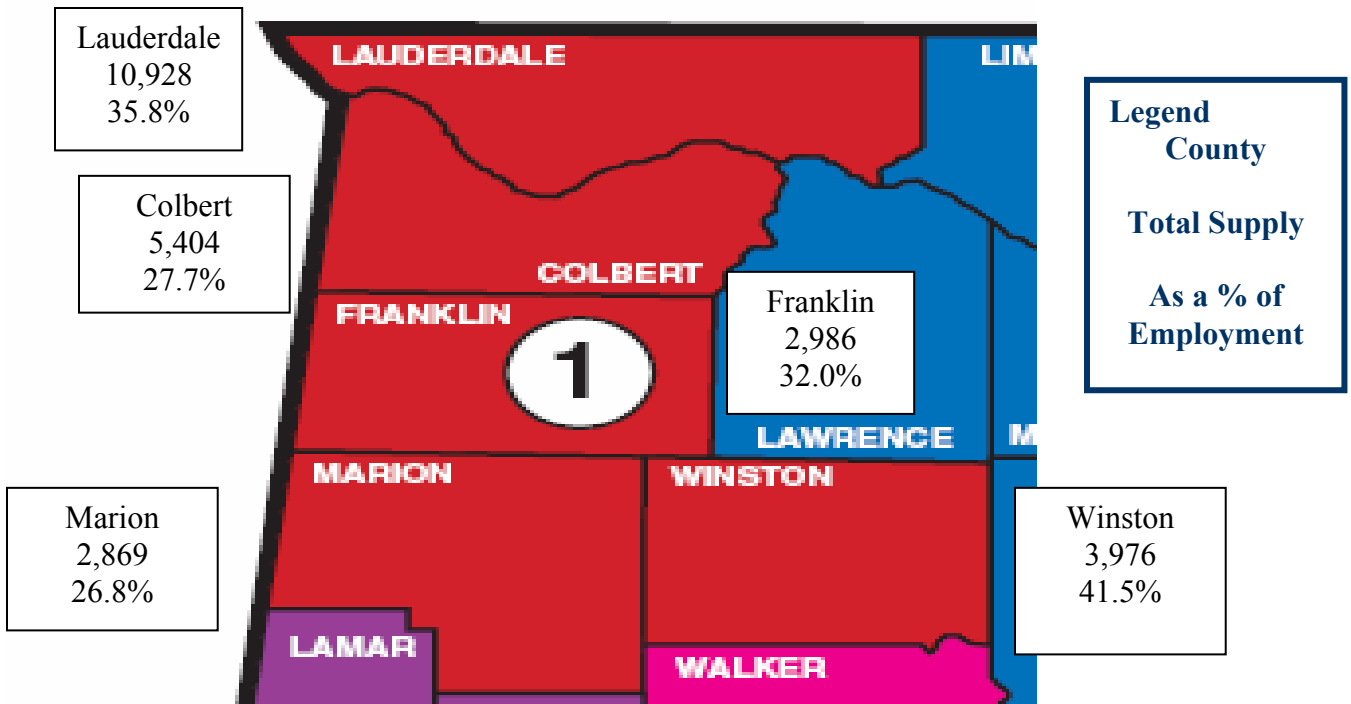
There are a significant number of workers on the move from one job to the next in every occupational category. With 18,000 workers on the move, a new large factory or office complex could easily be staffed with the flow that is already in motion.

## Regional Labor Supply County Distribution 1<sup>st</sup> Quarter 2006

COUNTY	Separations	Estimated New and Re-Entrants	Sideline Potential at 2000 Peak	Estimate Total Labor Supply	Labor Supply as % of Employment
Colbert County	3,774	417	1,213	5,404	27.7%
Franklin County	1,866	217	903	2,986	32.0%
Lauderdale County	8,388	650	1,891	10,928	35.8%
Marion County	2,431	182	255	2,869	26.8%
Winston County	2,606	162	1,208	3,976	41.5%

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations, and US Census Bureau

Lauderdale County represents the largest employment base in the region and the largest source of labor supply. Marion County is most dependent on job changers to fill its supply needs with over 85% of available workers in the separator category. Winston, by contrast has more than a third of its labor supply without recent employment experience.



## Region 2 – Summary Huntsville and Northeast Alabama

### The Regional Labor Supply Scorecard Region 2 1<sup>st</sup> Quarter 2006

(Estimated Number and as a Percentage of Total Employment)

Total Supply	Job Changers	Recently Employed Collecting Benefits	Recently Employed Not Collecting Benefits	New and Re-Entrants	Sideline Potential at 2000 Peak
93,981	58,523	4,502	3,628	5,650	21,678
27.0%	16.8%	1.3%	1.0%	1.6%	6.2%

Region 2 has a total labor supply of nearly 94,000 representing 27% of its 1<sup>st</sup> quarter of 2006 employment base. Over 70% of that supply has been employed recently and has either changed jobs or is experiencing a spell of unemployment between jobs. When comparing Region 2 to the other regions and Alabama as a whole, the Region 2 labor supply contains slightly fewer individuals with recent employment histories and depends more on those entering the labor force and those still remaining on the sidelines. The sideline pool is large compared with other areas in the State despite the fact that Region 2's labor participation rate is above the national average and second highest in the State. Nearly 3.5% of the over 18 population would have to join the labor force before the labor participation rate reaches its 2000 peak of 70.2%.

### Separations as a Percentage of Employment State/Region 2 Comparison Occupational Clusters 1<sup>st</sup> Quarter 2006

Occupational Cluster	State	Region 2	Difference	Separations
Architecture and Engineering	14.4%	13.2%	-1.1%	1,918
Science and Math	10.0%	8.9%	-1.1%	224
Social and Government Services	8.0%	7.0%	-1.0%	1,566
Professional and Technical Business Services	17.0%	15.7%	-1.2%	4,424
Management	17.2%	15.9%	-1.3%	2,526

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 2</b>	<b>Difference</b>	<b>Separations</b>
Artistic	18.4%	15.9%	-2.5%	378
Medical Professional	13.0%	11.3%	-1.7%	1,061
Medical -- Technical	14.9%	13.5%	-1.3%	864
Medical -- Support	16.8%	16.5%	-0.3%	1,552
Office	18.0%	16.9%	-1.1%	7,210
Personal Services	24.1%	24.3%	0.2%	1,942
Lodging, Food Service and Hospitality	39.2%	37.8%	-1.4%	14,311
Sales	24.5%	22.1%	-2.5%	9,469
Installation and Repair Technicians	18.0%	17.3%	-0.7%	2,102
Construction	25.5%	23.0%	-2.5%	2,832
Machine Operation and General Manufacturing	16.5%	16.1%	-0.4%	5,643
Skilled Manufacturing	16.9%	14.3%	-2.6%	881
Hourly Worker Supervision	18.2%	16.8%	-1.4%	1,104
Transportation -- Licensed	18.0%	17.3%	-0.7%	1,521
Transportation -- Helpers	22.6%	21.2%	-1.3%	3,209
Agriculture, Forestry and Fishing	25.5%	20.3%	-5.2%	662
<b>Total</b>	<b>20.6%</b>	<b>19.1%</b>	<b>-1.4%</b>	<b>65,399</b>

Region 2 has a below average separation rate when compared to the State as a whole (19.1% versus 20.6%). All but one of the clusters has lower than average separation rates. The same basic pattern appears when the data is displayed using the Standard Occupational Code (SOC) job families.

**Separations as a Percentage of Employment  
State/Region 2 Comparison  
SOC Job Families  
1<sup>st</sup> Quarter 2006**

<b>SOC Job Family</b>	<b>State</b>	<b>Region 2</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	16.6%	-3.8%	2,533
Business Operations and Finance Occupations	17.7%	14.3%	-3.4%	1,796
Computer and Mathematics Occupations	16.3%	13.3%	-3.0%	1,187
Architecture and Engineering Occupations	13.9%	12.9%	-1.0%	1,313
Physical, Social and Life Sciences	13.7%	10.5%	-3.3%	336

<b>SOC Job Family Occupations</b>	<b>State</b>	<b>Region 2</b>	<b>Difference</b>	<b>Separations</b>
Community and Social Services Occupations	16.9%	13.2%	-3.7%	398
Legal and Related Occupations	15.5%	10.7%	-4.8%	343
Education and Library Occupations	11.4%	6.1%	-5.4%	1,047
Artistic and Creative Occupations	20.7%	15.0%	-5.7%	594
Health Care Professional and Technical Occupations	14.6%	12.4%	-2.2%	1,836
Health Care Support Occupations	18.0%	17.1%	-0.9%	1,330
Protective Services Occupations	25.3%	22.6%	-2.8%	1,170
Food Service Occupations	47.0%	41.6%	-5.5%	11,325
Building and Grounds Maintenance Occupations	38.0%	31.9%	-6.1%	3,049
Personal Service Occupations	27.7%	19.3%	-8.5%	1,021
Sales and Related Occupations	27.0%	22.4%	-4.7%	8,296
Administrative and Clerical Occupations	20.5%	17.0%	-3.4%	9,154
Agricultural, Fishing and Forestry Occupations	27.0%	21.3%	-5.7%	372
Construction and Mining Occupations	30.1%	23.7%	-6.4%	2,961
Installation and Repair Occupations	20.3%	17.2%	-3.1%	2,475
Production Occupations	16.9%	15.7%	-1.2%	7,687
Transportation and Material Moving Occupations	24.1%	20.0%	-4.1%	5,176
<b>Total</b>	<b>20.6%</b>	<b>19.1%</b>	<b>-1.4%</b>	<b>65,399</b>

The region 2 economy is anchored by Huntsville with a diverse and technologically sophisticated set of industries. The long-term presence of the Army’s Redstone Arsenal in Huntsville has been an anchor for the local economy making it a technology hub and literally attracting “rocket scientists” and other highly skilled workers. The recent addition of two engine facilities – Toyota and International Diesel – has added another type of transportation equipment to the mix.

There are a significant number of workers on the move from one job to the next in every occupational category. While the percentage of separators in nearly all categories is below the statewide average, Region 2’s economy is robust and the sheer number of workers moving to new opportunities means new employers will find a large pool for educated and trained workers to choose from.

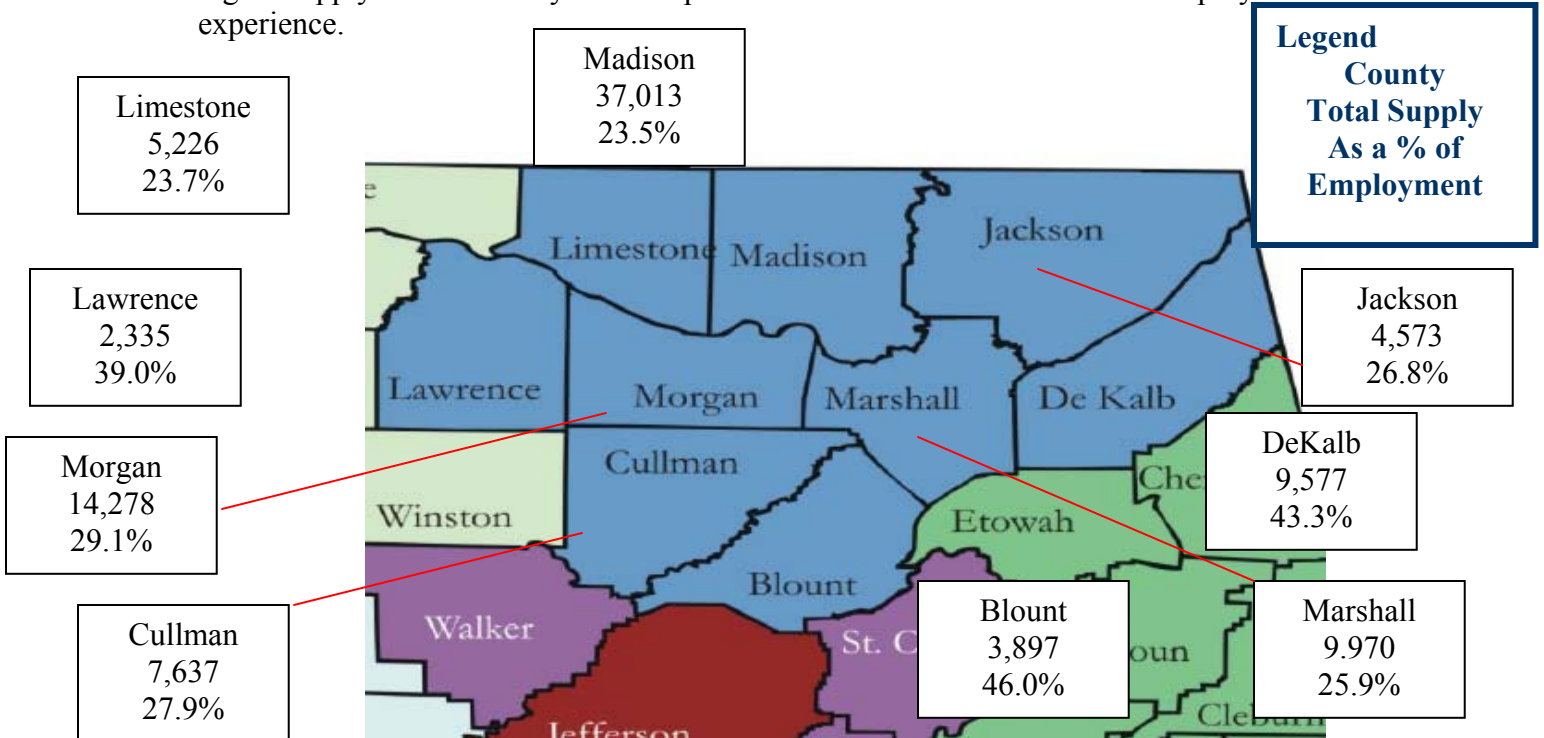


## Regional Labor Supply – Region 2 County Distribution 1<sup>st</sup> Quarter 2006

COUNTY	Separations	Estimated New and Re-Entrants	Sideline Potential at 2000 Peak	Estimate Total Labor Supply	Labor Supply as % of Employment
Blount County	1,788	294	1,815	3,897	46.0%
Cullman County	5,230	483	1,924	7,637	27.9%
DeKalb County	5,550	488	3,539	9,577	43.3%
Jackson County	2,570	444	1,559	4,573	26.8%
Lawrence County	917	280	1,138	2,335	39.0%
Limestone County	3,490	493	1,253	5,236	23.7%
Madison County	29,446	1,840	5,726	37,013	23.5%
Marshall County	8,270	505	1,195	9,970	25.9%
Morgan County	9,550	822	3,906	14,278	29.1%

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations, and US Census Bureau

Madison is the employment hub of the region and represents 40% of the available labor supply even though that supply represents the smallest fraction of the overall employment base for any county on the region. The more rural, outlying counties have a higher supply base but many of those potential workers do not have recent employment experience.



## Region 3 – Summary Tuscaloosa Area

### The Regional Labor Supply Scorecard Region 3 1<sup>st</sup> Quarter 2006

(Estimated Number and as a Percentage of Total Employment)

Total Supply	Job Changers	Recently Employed Collecting Benefits	Recently Employed Not Collecting Benefits	New and Re-Entrants	Sideline Potential at 2000 Peak
23,974	18,313	1,182	1,159	1,627	1,693
22.9%	17.5%	1.1%	1.1%	1.6%	1.6%

Region 3 has the tightest labor supply in the State and the second lowest regional unemployment rate. The tightness is driven in part because Tuscaloosa County, the employment center for the region has a labor participation rate that has exceeded its 2000 peak and the national average for labor participation. Despite the relative tightness, there are still more than 20,000 workers in the region moving from job to job during the quarter and an untapped supply in the more rural counties of the region.

Region 3 has a below average separation rate when compared to the State as a whole (19.8% versus 20.6%). All but one of the clusters has lower than average separation rates. The same basic pattern appears when the data is displayed using the Standard Occupational Code (SOC) job families.

### Separations as a Percentage of Employment State/Region 3 Comparison Occupational Clusters 1<sup>st</sup> Quarter 2006

Occupational Cluster	State	Region 3	Difference	Separations
Architecture and Engineering	14.4%	12.4%	-2.0%	323
Science and Math	10.0%	8.6%	-1.3%	51
Social and Government Services	8.0%	7.1%	-1.0%	646
Professional and Technical Business Services	17.0%	17.2%	0.2%	1,090
Management	17.2%	17.0%	-0.1%	714

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 3</b>	<b>Difference</b>	<b>Separations</b>
Artistic	18.4%	16.3%	-2.1%	90
Medical Professional	13.0%	8.4%	-4.6%	308
Medical -- Technical	14.9%	11.0%	-3.9%	240
Medical -- Support	16.8%	13.2%	-3.6%	448
Office	18.0%	17.8%	-0.1%	2,077
Personal Services	24.1%	22.3%	-1.8%	636
Lodging, Food Service and Hospitality	39.2%	37.9%	-1.3%	4,191
Sales	24.5%	24.9%	0.3%	2,821
Installation and Repair Technicians	18.0%	18.0%	0.0%	687
Construction	25.5%	28.5%	3.1%	1,788
Machine Operation and General Manufacturing	16.5%	13.2%	-3.4%	1,246
Skilled Manufacturing	16.9%	15.2%	-1.7%	352
Hourly Worker Supervision	18.2%	18.7%	0.5%	417
Transportation -- Licensed	18.0%	19.4%	1.4%	598
Transportation -- Helpers	22.6%	21.9%	-0.6%	964
Agriculture, Forestry and Fishing	25.5%	40.6%	15.1%	612
<b>Total</b>	<b>20.6%</b>	<b>19.8%</b>	<b>-0.8%</b>	<b>20,298</b>

**Separations as a Percentage of Employment  
State/Region 3 Comparison  
SOC Job Families  
1<sup>st</sup> Quarter 2006**

<b>SOC Job Family</b>	<b>State</b>	<b>Region 3</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	17.4%	-3.0%	749
Business Operations and Finance Occupations	17.7%	15.2%	-2.5%	475
Computer and Mathematics Occupations	16.3%	14.4%	-1.9%	221
Architecture and Engineering Occupations	13.9%	11.0%	-2.9%	210
Physical, Social and Life Sciences Occupations	13.7%	11.1%	-2.7%	78
Community and Social Services Occupations	16.9%	12.6%	-4.3%	147
Legal and Related Occupations	15.5%	14.8%	-0.7%	63
Education and Library Occupations	11.4%	6.5%	-4.9%	473

<b>SOC Job Family</b>	<b>State</b>	<b>Region 3</b>	<b>Difference</b>	<b>Separations</b>
Artistic and Creative Occupations	20.7%	15.8%	-4.9%	157
Health Care Professional and Technical Occupations	14.6%	9.4%	-5.2%	526
Health Care Support Occupations	18.0%	13.5%	-4.5%	366
Protective Services Occupations	25.3%	18.4%	-6.9%	306
Food Service Occupations	47.0%	41.7%	-5.3%	3,440
Building and Grounds Maintenance Occupations	38.0%	28.4%	-9.6%	812
Personal Service Occupations	27.7%	19.2%	-8.6%	389
Sales and Related Occupations	27.0%	25.4%	-1.6%	2,500
Administrative and Clerical Occupations	20.5%	17.8%	-2.7%	2,585
Agricultural, Fishing and Forestry Occupations	27.0%	44.6%	17.6%	565
Construction and Mining Occupations	30.1%	29.4%	-0.7%	1,968
Installation and Repair Occupations	20.3%	18.1%	-2.2%	803
Production Occupations	16.9%	13.4%	-3.6%	1,770
Transportation and Material Moving Occupations	24.1%	21.0%	-3.1%	1,695
<b>Total</b>	<b>20.6%</b>	<b>19.8%</b>	<b>-0.8%</b>	<b>20,298</b>

The location of the Mercedes-Benz facility in the region has facilitated the smooth transition of the local economy from textiles and other manufacturing to advanced manufacturing related to the auto industry. That transition should provide comfort to new businesses seeking to locate in the area. They will find a workforce ready to work and willing to adapt. It is useful to note the parallels to Region 5 which has experienced its own economic transformation driven by the location of the Honda facility in Talladega County.

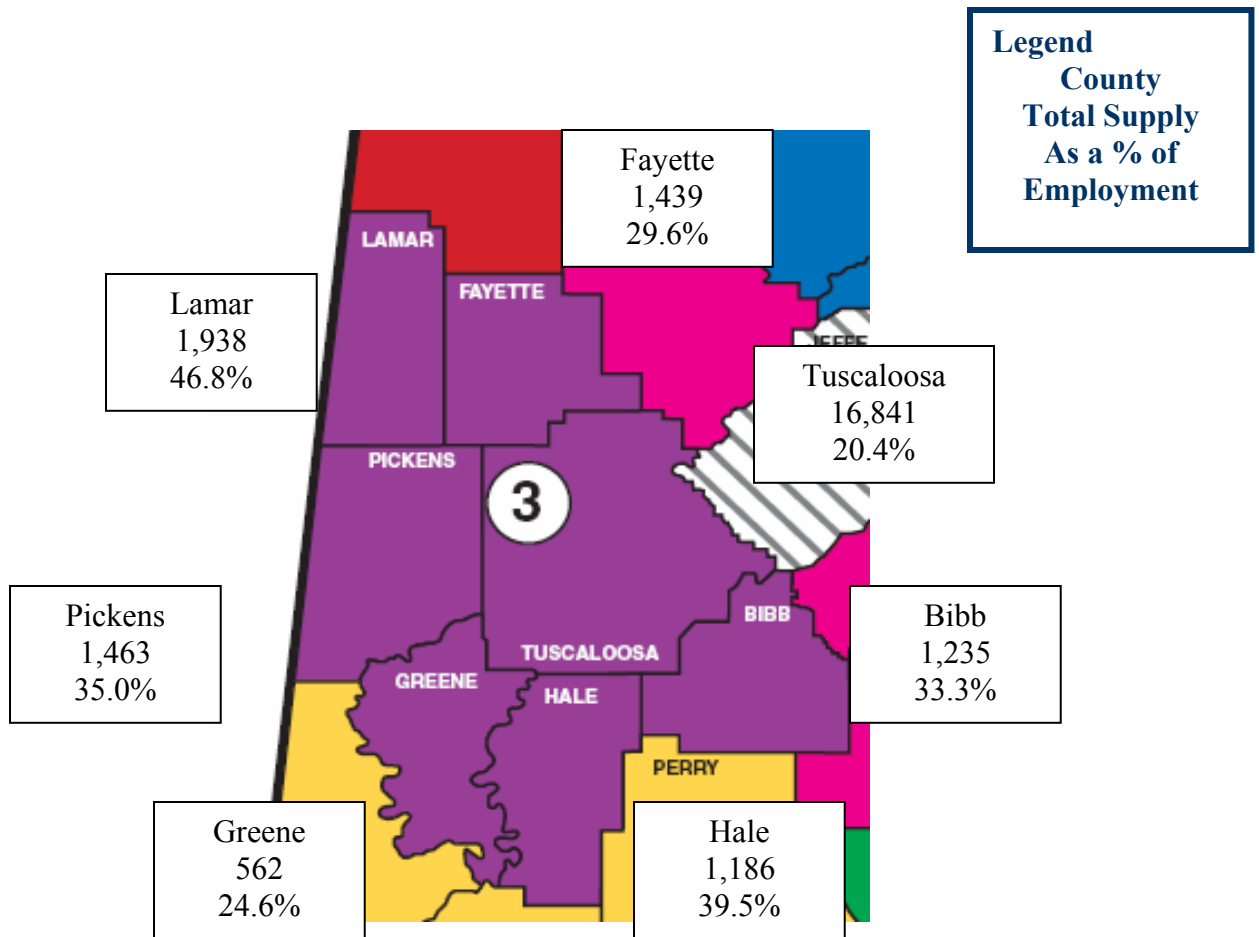
The economic impact of the University of Alabama as an innovation and research engine cannot be understated. The student body itself represents a renewing talent pool. While not all graduates will stay in the area, the growth of the local economy makes that more likely.

There are pockets of talent in the rural counties just waiting to be tapped by the right opportunity.

## Regional Labor Supply – Region 3 County Distribution 1<sup>st</sup> Quarter 2006

COUNTY	Separations	Estimated New and Re-Entrants	Sideline Potential at 2000 Peak	Estimate Total Labor Supply	Labor Supply as % of Employment
Bibb County	783	124	328	1,235	33.3%
Fayette County	905	108	426	1,439	29.6%
Greene County	490	72	Above	562	24.6%
Hale County	600	127	459	1,186	39.5%
Lamar County	857	105	977	1,938	46.8%
Pickens County	1,199	127	137	1,463	35.0%
Tuscaloosa County	15,878	963	Above	16,841	20.4%

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations, and US Census Bureau



## Region 4 – Summary Birmingham Suburban

### The Regional Labor Supply Scorecard Region 4 1<sup>st</sup> Quarter 2006

(Estimated Number and as a Percentage of Total Employment)

Total Supply	Job Changers	Recently Employed Collecting Benefits	Recently Employed Not Collecting Benefits	New and Re-Entrants	Sideline Potential at 2000 Peak
38,044	21,641	1,393	1,662	2,123	11,225
32.7%	18.6%	1.2%	1.4%	1.8%	9.7%

A full third of the Region 4 labor supply is made up of sideline sitters and recent entrants to the labor market. This large supply of labor on the sidelines comes despite the fact that Region 4 has the highest labor participation rate in the entire State at 66.9% and an unemployment rate of under 3% (the lowest in the State). It is a testament to the “build it and they will come” labor market.

The employment base in Region 4 is strong in its own right but still dominated by the much larger economic engine in Birmingham and Jefferson County. According to the 2000 Census, over half of the region’s residents travel to another county to work. That fact is easy to see every weekday morning on I-65 or I-20. The local employment base is more heavily weighted toward office rather than factory work. New construction to house a growing population and emerging retail to serve it also play a big part.

### Separations as a Percentage of Employment State/Region 4 Comparison Occupational Clusters 1<sup>st</sup> Quarter 2006

Occupational Cluster	State	Region 4	Difference	Separations
Architecture and Engineering	14.4%	13.2%	-1.1%	430
Science and Math	10.0%	9.7%	-0.3%	64
Social and Government Services	8.0%	7.3%	-0.8%	602
Professional and Technical Business	17.0%	15.2%	-1.7%	1,665

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 4</b>	<b>Difference</b>	<b>Separations</b>
Services				
Management	17.2%	16.2%	-0.9%	894
Artistic	18.4%	18.2%	-0.3%	119
Medical Professional	13.0%	24.7%	11.7%	649
Medical -- Technical	14.9%	23.4%	8.5%	430
Medical -- Support	16.8%	22.9%	6.1%	725
Office	18.0%	17.0%	-1.0%	2,721
Personal Services	24.1%	24.0%	-0.1%	690
Lodging, Food Service and Hospitality	39.2%	44.0%	4.8%	5,571
Sales	24.5%	22.9%	-1.6%	3,766
Installation and Repair Technicians	18.0%	20.1%	2.1%	763
Construction	25.5%	21.6%	-3.9%	1,468
Machine Operation and General				
Manufacturing	16.5%	17.7%	1.2%	1,174
Skilled Manufacturing	16.9%	17.4%	0.5%	262
Hourly Worker Supervision	18.2%	18.6%	0.4%	396
Transportation -- Licensed	18.0%	21.9%	3.9%	675
Transportation -- Helpers	22.6%	22.5%	0.0%	1,007
Agriculture, Forestry and Fishing	25.5%	24.6%	-0.9%	210
<b>Total</b>	<b>20.6%</b>	<b>21.3%</b>	<b>0.7%</b>	<b>24,279</b>

Region 4 has an above average separation rate when compared to the State as a whole (21.3% versus 20.6%). Despite this overall rate, many of the occupational clusters and SOC job families show a higher degree of stability than in the rest of the state. The major exception is in the health care field where all occupational groupings show significantly higher turnover and the more skilled the occupation, the higher the velocity. This may again be driven by the proximity to Birmingham and its numerous hospital and medical facilities making the opportunities to switch more plentiful.

### **Separations as a Percentage of Employment State/Region 4 Comparison SOC Job Families 1<sup>st</sup> Quarter 2006**

<b>SOC Job Family</b>	<b>State</b>	<b>Region 4</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	17.8%	-2.6%	935
Business Operations and Finance Occupations	17.7%	14.1%	-3.6%	721

<b>SOC Job Family</b>	<b>State</b>	<b>Region 4</b>	<b>Difference</b>	<b>Separations</b>
Computer and Mathematics Occupations	16.3%	13.6%	-2.7%	361
Architecture and Engineering Occupations	13.9%	13.1%	-0.8%	251
Physical, Social and Life Sciences Occupations	13.7%	11.8%	-1.9%	103
Community and Social Services Occupations	16.9%	16.3%	-0.7%	181
Legal and Related Occupations	15.5%	13.1%	-2.4%	100
Education and Library Occupations	11.4%	6.0%	-5.5%	379
Artistic and Creative Occupations	20.7%	17.0%	-3.8%	192
Health Care Professional and Technical Occupations	14.6%	24.3%	9.7%	1,033
Health Care Support Occupations	18.0%	24.4%	6.5%	615
Protective Services Occupations	25.3%	18.9%	-6.5%	343
Food Service Occupations	47.0%	48.3%	1.2%	4,726
Building and Grounds Maintenance Occupations	38.0%	29.1%	-8.9%	879
Personal Service Occupations	27.7%	22.1%	-5.6%	427
Sales and Related Occupations	27.0%	22.5%	-4.5%	3,357
Administrative and Clerical Occupations	20.5%	17.2%	-3.2%	3,502
Agricultural, Fishing and Forestry Occupations	27.0%	25.9%	-1.1%	153
Construction and Mining Occupations	30.1%	22.7%	-7.4%	1,546
Installation and Repair Occupations	20.3%	18.3%	-2.0%	1,005
Production Occupations	16.9%	17.4%	0.4%	1,611
Transportation and Material Moving Occupations	24.1%	22.6%	-1.5%	1,859
<b>Total</b>	<b>20.6%</b>	<b>21.3%</b>	<b>0.7%</b>	<b>24,279</b>

The more rural counties in the region have abundant supplies of labor, particularly labor on the sidelines. For potential workers in those areas, it may simply be a matter of motivation, seeing the right opportunity that makes it worth joining the lines of cars on the Interstate.

Shelby County has both a large group of mobile workers, and despite a county labor participation rate of over 75% still has another 4 percentage points before it reaches its 2000 peak.

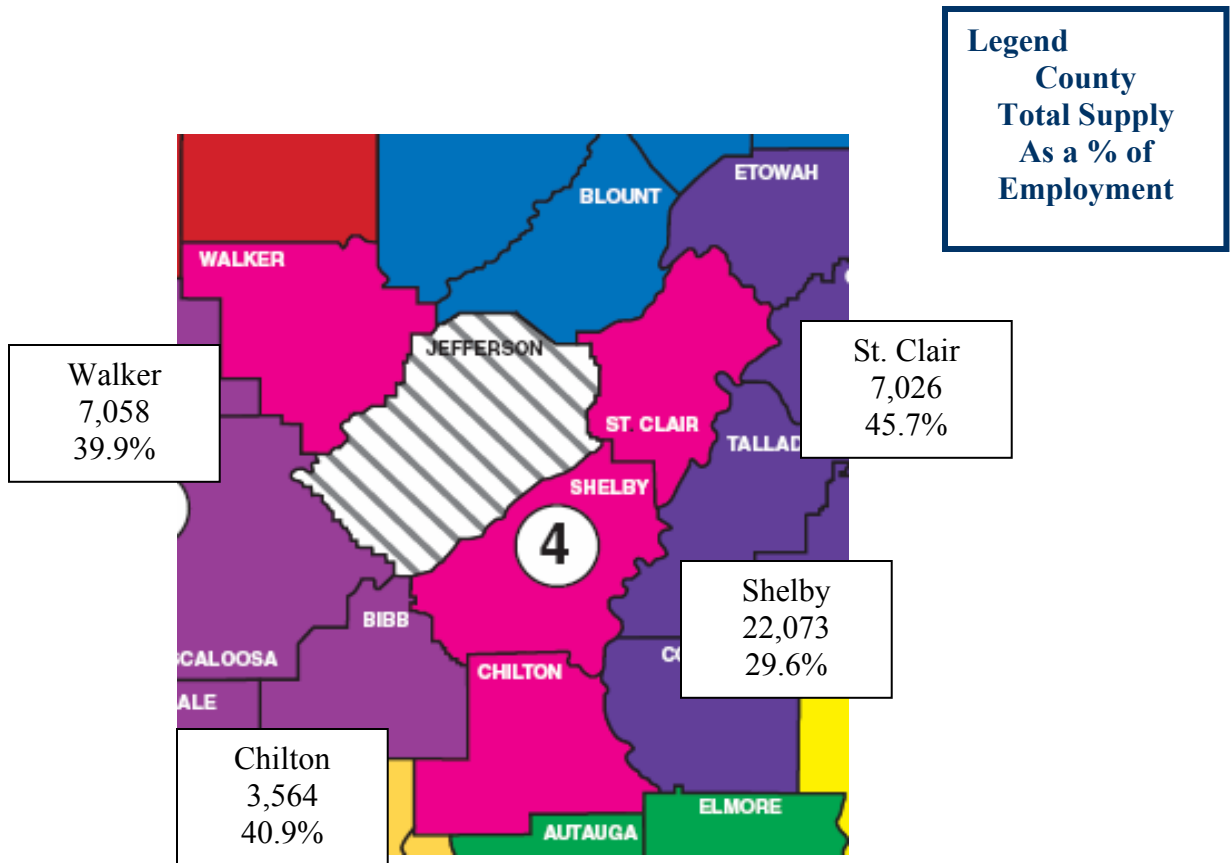
There is room to grow in Region 4.



## Regional Labor Supply – Region 4 County Distribution 1<sup>st</sup> Quarter 2006

COUNTY	Separations	Estimated New and Re-Entrants	Sideline Potential at 2000 Peak	Estimate Total Labor Supply	Labor Supply as % of Employment
Chilton County	1,856	251	1,456	3,564	40.9%
Shelby County	14,819	402	6,852	22,073	29.6%
St. Clair County	3,553	899	2,574	7,026	45.7%
Walker County	4,538	571	1,970	7,078	39.9%

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations, and US Census Bureau



## Summary Birmingham and Jefferson County

### The Regional Labor Supply Scorecard Jefferson County 1<sup>st</sup> Quarter 2006

(Estimated Number and as a Percentage of Total Employment)

Total Supply	Job Changers	Recently Employed Collecting Benefits	Recently Employed Not Collecting Benefits	New and Re-Entrants	Sideline Potential at 2000 Peak
97,143	66,909	4,101	2,481	4,574	19,078
26.0%	17.9%	1.1%	0.7%	1.2%	5.1%

Birmingham and surrounding Jefferson County is the major economic engine in central Alabama. Most of the county's workers stay in their home county to find work with under 10% commuting to another county for employment. (This rate is 4<sup>th</sup> highest in the State behind only Mobile, Montgomery and Madison-Huntsville.) Despite the ample opportunities, the rate of job change is slightly lower than in the rest of the State. That might be driven in part because the average earnings are higher (by more than \$500 per month) and because the hassles of a long commute are not as big a factor.

There is a substantial internal sideline supply with the county nearly 4 percentage points below its 2000 labor participation rate peak. That internal supply is supplemented by the availability of workers from surrounding counties, many who are already commuting outside their home area for employment. The Jefferson County economy is diverse with manufacturing, finance, health care, education and professional services all providing substantial employment opportunities.

### Separations as a Percentage of Employment State/Jefferson County Comparison Occupational Clusters 1<sup>st</sup> Quarter 2006

Occupational Cluster	State	Jefferson	Difference	Separations
Architecture and Engineering	14.4%	13.7%	-0.7%	1,446
Science and Math	10.0%	11.9%	2.0%	232

<b>Occupational Cluster</b>	<b>State</b>	<b>Jefferson</b>	<b>Difference</b>	<b>Separations</b>
Social and Government Services	8.0%	8.5%	0.4%	1,968
Professional and Technical Business Services	17.0%	15.7%	-1.2%	6,052
Management	17.2%	16.6%	-0.6%	2,886
Artistic	18.4%	17.7%	-0.8%	389
Medical Professional	13.0%	13.9%	1.0%	2,177
Medical -- Technical	14.9%	15.5%	0.6%	1,488
Medical -- Support	16.8%	17.6%	0.8%	2,315
Office	18.0%	17.0%	-0.9%	9,187
Personal Services	24.1%	25.3%	1.2%	2,555
Lodging, Food Service and Hospitality	39.2%	36.8%	-2.4%	14,333
Sales	24.5%	22.5%	-2.1%	11,511
Installation and Repair Technicians	18.0%	16.6%	-1.4%	1,899
Construction	25.5%	23.3%	-2.1%	4,008
Machine Operation and General Manufacturing	16.5%	16.4%	-0.1%	3,045
Skilled Manufacturing	16.9%	15.1%	-1.9%	493
Hourly Worker Supervision	18.2%	16.4%	-1.8%	981
Transportation -- Licensed	18.0%	15.9%	-2.1%	1,645
Transportation -- Helpers	22.6%	22.4%	-0.1%	3,129
Agriculture, Forestry and Fishing	25.5%	21.8%	-3.7%	317
<b>Total</b>	<b>20.6%</b>	<b>19.6%</b>	<b>-1.0%</b>	<b>72,055</b>

Jefferson has a below average separation rate when compared to the State as a whole (19.6% versus 20.6%). There is a slight echo of the higher than average health care volatility seen in the suburban region 4 but it is very slight.

### Separations as a Percentage of Employment State/Jefferson County Comparison SOC Job Families 1<sup>st</sup> Quarter 2006

<b>SOC Job Family</b>	<b>State</b>	<b>Jefferson</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	16.8%	-3.6%	2,862
Business Operations and Finance Occupations	17.7%	14.2%	-3.5%	2,370
Computer and Mathematics Occupations	16.3%	14.8%	-1.5%	1,276

<b>SOC Job Family</b>	<b>State</b>	<b>Jefferson</b>	<b>Difference</b>	<b>Separations</b>
Architecture and Engineering Occupations	13.9%	14.2%	0.3%	838
Physical, Social and Life Sciences Occupations	13.7%	12.9%	-0.9%	363
Community and Social Services Occupations	16.9%	14.0%	-2.9%	556
Legal and Related Occupations	15.5%	15.4%	-0.1%	401
Education and Library Occupations	11.4%	7.7%	-3.8%	1,289
Artistic and Creative Occupations	20.7%	16.0%	-4.7%	655
Health Care Professional and Technical Occupations	14.6%	14.6%	0.0%	3,490
Health Care Support Occupations	18.0%	18.4%	0.4%	1,986
Protective Services Occupations	25.3%	24.7%	-0.7%	1,548
Food Service Occupations	47.0%	38.4%	-8.6%	10,876
Building and Grounds Maintenance Occupations	38.0%	35.7%	-2.3%	4,038
Personal Service Occupations	27.7%	19.0%	-8.7%	1,303
Sales and Related Occupations	27.0%	22.5%	-4.5%	10,291
Administrative and Clerical Occupations	20.5%	16.8%	-3.6%	11,924
Agricultural, Fishing and Forestry Occupations	27.0%	19.1%	-7.9%	105
Construction and Mining Occupations	30.1%	24.7%	-5.4%	4,210
Installation and Repair Occupations	20.3%	15.4%	-4.9%	2,564
Production Occupations	16.9%	15.6%	-1.3%	3,906
Transportation and Material Moving Occupations	24.1%	19.6%	-4.5%	5,204
<b>Total</b>	<b>20.6%</b>	<b>19.6%</b>	<b>-1.0%</b>	<b>72,055</b>

The more rural counties in the surrounding region have abundant supplies of labor driven, particularly labor on the sidelines. There are ample supplies of labor to sustain growth in Jefferson itself and in the surrounding areas.

**Region 5 – Summary  
Talladega and Anniston Area**

**The Regional Labor Supply Scorecard  
Region 5  
1<sup>st</sup> Quarter 2006**

(Estimated Number and as a Percentage of Total Employment)

<b>Total Supply</b>	<b>Job Changers</b>	<b>Recently Employed Collecting Benefits</b>	<b>Recently Employed Not Collecting Benefits</b>	<b>New and Re-Entrants</b>	<b>Sideline Potential at 2000 Peak</b>
31,812	22,989	2,254	1,525	2,627	2,417
24.3%	17.6%	1.7%	1.2%	2.0%	1.8%

The economy of Region 5 has driven many workers off the sidelines (2 of the 8 counties, Cherokee and Talladega, have labor participation rates higher than their 2000 peak). Despite that shift, there is still room to move since the overall participation rate is still several points below the national average.

The auto industry, anchored by the Honda facility, is driving employment and bringing workers into the labor force. While the total supply is relatively low (second lowest in the State), it is still a healthy 24% of the employment base. Companies with attractive jobs should find a willing labor pool in the region itself and from neighboring regions.

The I-20 corridor that passes through the heart of the region makes it possible to draw workers from outside the region and for workers in the region to reach economic centers to the west and the east. According to the 2000 Census, over half of the residents in the region’s rural counties will commute outside their home area to work.

**Separations as a Percentage of Employment  
State/Region 5 Comparison  
Occupational Clusters  
1<sup>st</sup> Quarter 2006**

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 5</b>	<b>Difference</b>	<b>Separations</b>
Architecture and Engineering	14.4%	13.9%	-0.5%	440
Science and Math	10.0%	11.5%	1.6%	77
Social and Government Services	8.0%	10.5%	2.4%	1,135

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 5</b>	<b>Difference</b>	<b>Separations</b>
Professional and Technical Business Services	17.0%	19.3%	2.3%	1,461
Management	17.2%	17.5%	0.4%	898
Artistic	18.4%	18.9%	0.4%	114
Medical Professional	13.0%	13.3%	0.4%	574
Medical -- Technical	14.9%	15.8%	1.0%	438
Medical -- Support	16.8%	17.4%	0.6%	830
Office	18.0%	18.7%	0.7%	2,747
Personal Services	24.1%	25.8%	1.7%	854
Lodging, Food Service and Hospitality	39.2%	44.7%	5.5%	6,646
Sales	24.5%	23.7%	-0.8%	3,615
Installation and Repair Technicians	18.0%	15.7%	-2.4%	721
Construction	25.5%	22.3%	-3.2%	1,083
Machine Operation and General Manufacturing	16.5%	12.6%	-3.9%	1,836
Skilled Manufacturing	16.9%	12.1%	-4.8%	409
Hourly Worker Supervision	18.2%	14.8%	-3.4%	392
Transportation -- Licensed	18.0%	15.8%	-2.1%	555
Transportation -- Helpers	22.6%	21.0%	-1.6%	1,192
Agriculture, Forestry and Fishing	25.5%	28.2%	2.7%	289
<b>Total</b>	<b>20.6%</b>	<b>20.5%</b>	<b>-0.1%</b>	<b>26,305</b>

Region 5 has a separation rate that is in line with the State average (20.5% versus 20.6%). Workers in Construction and Manufacturing are, however, more stable than their peers in other parts of the State. The occupational clusters and the SOC job families exhibit a similar pattern.

**Separations as a Percentage of Employment  
State/Region 5 Comparison  
SOC Job Families  
1<sup>st</sup> Quarter 2006**

<b>SOC Job Family</b>	<b>State</b>	<b>Region 5</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	18.2%	-2.2%	946
Business Operations and Finance Occupations	17.7%	16.2%	-1.5%	604
Computer and Mathematics Occupations	16.3%	16.4%	0.1%	306

<b>SOC Job Family</b>	<b>State</b>	<b>Region 5</b>	<b>Difference</b>	<b>Separations</b>
Architecture and Engineering Occupations	13.9%	12.5%	-1.4%	278
Physical, Social and Life Sciences Occupations	13.7%	13.3%	-0.4%	109
Community and Social Services Occupations	16.9%	15.3%	-1.6%	239
Legal and Related Occupations	15.5%	16.9%	1.4%	87
Education and Library Occupations	11.4%	9.8%	-1.6%	823
Artistic and Creative Occupations	20.7%	18.2%	-2.6%	193
Health Care Professional and Technical Occupations	14.6%	14.2%	-0.4%	960
Health Care Support Occupations	18.0%	18.1%	0.2%	702
Protective Services Occupations	25.3%	24.0%	-1.4%	513
Food Service Occupations	47.0%	48.6%	1.6%	5,477
Building and Grounds Maintenance Occupations	38.0%	35.6%	-2.4%	1,252
Personal Service Occupations	27.7%	20.4%	-7.3%	472
Sales and Related Occupations	27.0%	24.1%	-2.9%	3,144
Administrative and Clerical Occupations	20.5%	18.8%	-1.7%	3,487
Agricultural, Fishing and Forestry Occupations	27.0%	32.7%	5.6%	212
Construction and Mining Occupations	30.1%	23.5%	-6.6%	1,140
Installation and Repair Occupations	20.3%	15.7%	-4.6%	898
Production Occupations	16.9%	12.5%	-4.5%	2,534
Transportation and Material Moving Occupations	24.1%	19.4%	-4.7%	1,932
<b>Total</b>	<b>20.6%</b>	<b>20.5%</b>	<b>-0.1%</b>	<b>26,305</b>

The location of the Honda facility in Lincoln has facilitated the smooth transition of the local economy from textiles and other manufacturing to advanced manufacturing related to the auto industry. That transition should provide comfort to new businesses seeking to locate in the area. They will find a workforce ready to work and willing to adapt. It is useful to note the parallels to Region 3 which has experienced its own economic transformation driven by the location of the Mercedes-Benz facility in Tuscaloosa County.

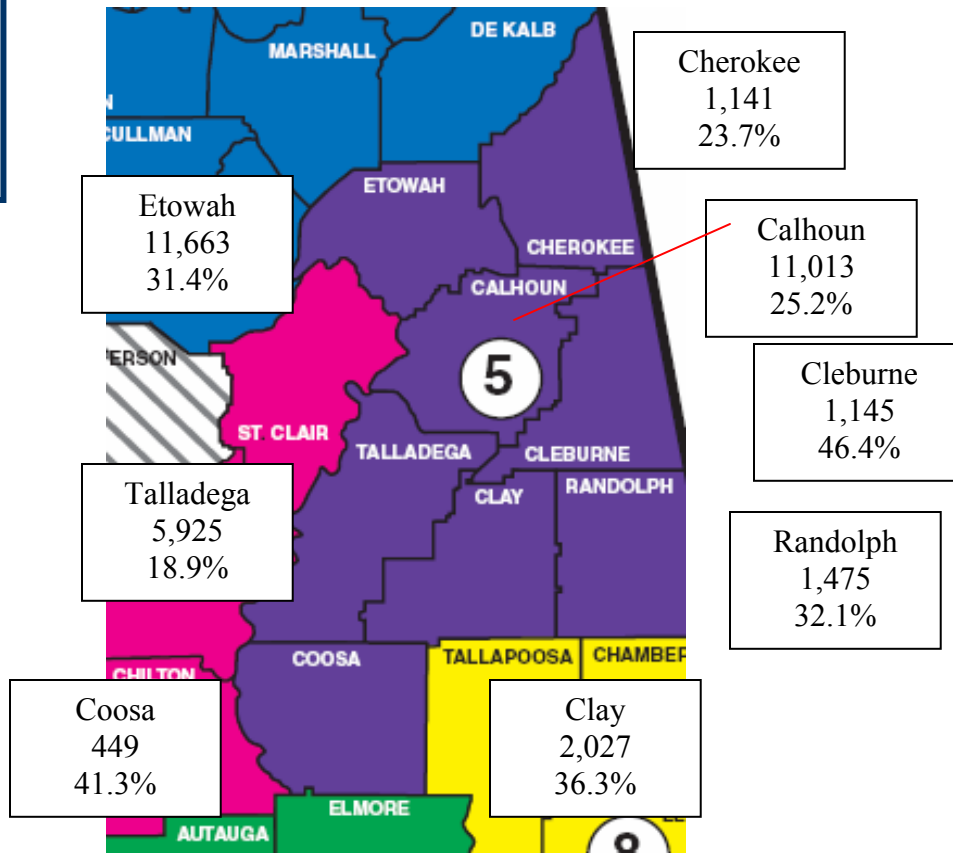
The more rural counties in the region have abundant supplies of labor, particularly labor on the sidelines.

## Regional Labor Supply – Region 5 County Distribution 1<sup>st</sup> Quarter 2006

COUNTY	Separations	Estimated New and Re-Entrants	Sideline Potential at 2000 Peak	Estimate Total Labor Supply	Labor Supply as % of Employment
Calhoun County	9,525	750	738	11,013	25.2%
Cherokee County	979	162	Above	1,141	23.7%
Clay County	1,421	100	505	2,027	36.3%
Cleburne County	438	75	632	1,145	46.4%
Coosa County	190	83	176	449	41.3%
Etowah County	8,036	689	2,938	11,663	31.4%
Randolph County	901	165	410	1,475	32.1%
Talladega County	5,322	603	Above	5,925	18.9%

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations, and US Census Bureau

**Legend**  
County  
Total Supply  
As a % of  
Employment





**Region 6 – Summary  
Selma and West Central Area**

**The Regional Labor Supply Scorecard  
Region 6  
1<sup>st</sup> Quarter 2006**

(Estimated Number and as a Percentage of Total Employment)

<b>Total Supply</b>	<b>Job Changers</b>	<b>Recently Employed Collecting Benefits</b>	<b>Recently Employed Not Collecting Benefits</b>	<b>New and Re-Entrants</b>	<b>Sideline Potential at 2000 Peak</b>
10,477	4,442	746	603	937	3,749
31.4%	13.3%	2.2%	1.8%	2.8%	11.2%

Region 6 has the most stable workforce in the State with the lowest rate churn. That stability is evident in all occupational clusters and in all SOC job families (except agriculture). The labor participation rate is the lowest in the State (under 50%) and the proportion of the potential workforce that is on the sidelines is relatively high.

Dallas County and Selma are home to nearly 40% of the employment in the region. Marengo County accounts for another 20%. Both counties have strong manufacturing sectors with manufacturing employment accounting for about one third of the total jobs.

**Separations as a Percentage of Employment  
State/Region 6 Comparison  
Occupational Clusters  
1<sup>st</sup> Quarter 2006**

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 6</b>	<b>Difference</b>	<b>Separations</b>
Architecture and Engineering	14.4%	13.1%	-1.3%	74
Science and Math	10.0%	7.8%	-2.2%	14
Social and Government Services	8.0%	5.9%	-2.2%	217
Professional and Technical Business Services	17.0%	15.1%	-1.8%	266
Management	17.2%	14.3%	-2.8%	186
Artistic	18.4%	14.3%	-4.1%	17
Medical Professional	13.0%	9.1%	-3.8%	101
Medical -- Technical	14.9%	10.5%	-4.4%	75

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 6</b>	<b>Difference</b>	<b>Separations</b>
Medical -- Support	16.8%	10.6%	-6.2%	147
Office	18.0%	15.0%	-3.0%	553
Personal Services	24.1%	16.5%	-7.6%	159
Lodging, Food Service and Hospitality	39.2%	30.6%	-8.6%	988
Sales	24.5%	23.2%	-1.4%	880
Installation and Repair Technicians	18.0%	17.0%	-1.0%	199
Construction	25.5%	24.9%	-0.6%	306
Machine Operation and General Manufacturing	16.5%	14.4%	-2.1%	435
Skilled Manufacturing	16.9%	22.8%	5.9%	150
Hourly Worker Supervision	18.2%	17.0%	-1.2%	110
Transportation -- Licensed	18.0%	16.2%	-1.8%	160
Transportation -- Helpers	22.6%	19.9%	-2.6%	322
Agriculture, Forestry and Fishing	25.5%	31.9%	6.4%	342
<b>Total</b>	<b>20.6%</b>	<b>17.3%</b>	<b>-3.2%</b>	<b>5,701</b>

Region 6 has a separation rate that is substantially below the statewide average (17.3% versus 20.6%). Manufacturing is the most volatile but even there the turnover is below the State average. The occupational clusters and the SOC job families exhibit a similar pattern.

### Separations as a Percentage of Employment State/Region 6 Comparison SOC Job Families 1<sup>st</sup> Quarter 2006

<b>SOC Job Family</b>	<b>State</b>	<b>Region 6</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	14.9%	-5.5%	197
Business Operations and Finance Occupations	17.7%	13.1%	-4.6%	124
Computer and Mathematics Occupations	16.3%	14.8%	-1.5%	54
Architecture and Engineering Occupations	13.9%	12.1%	-1.8%	48
Physical, Social and Life Sciences Occupations	13.7%	10.6%	-3.1%	23
Community and Social Services Occupations	16.9%	9.7%	-7.2%	48

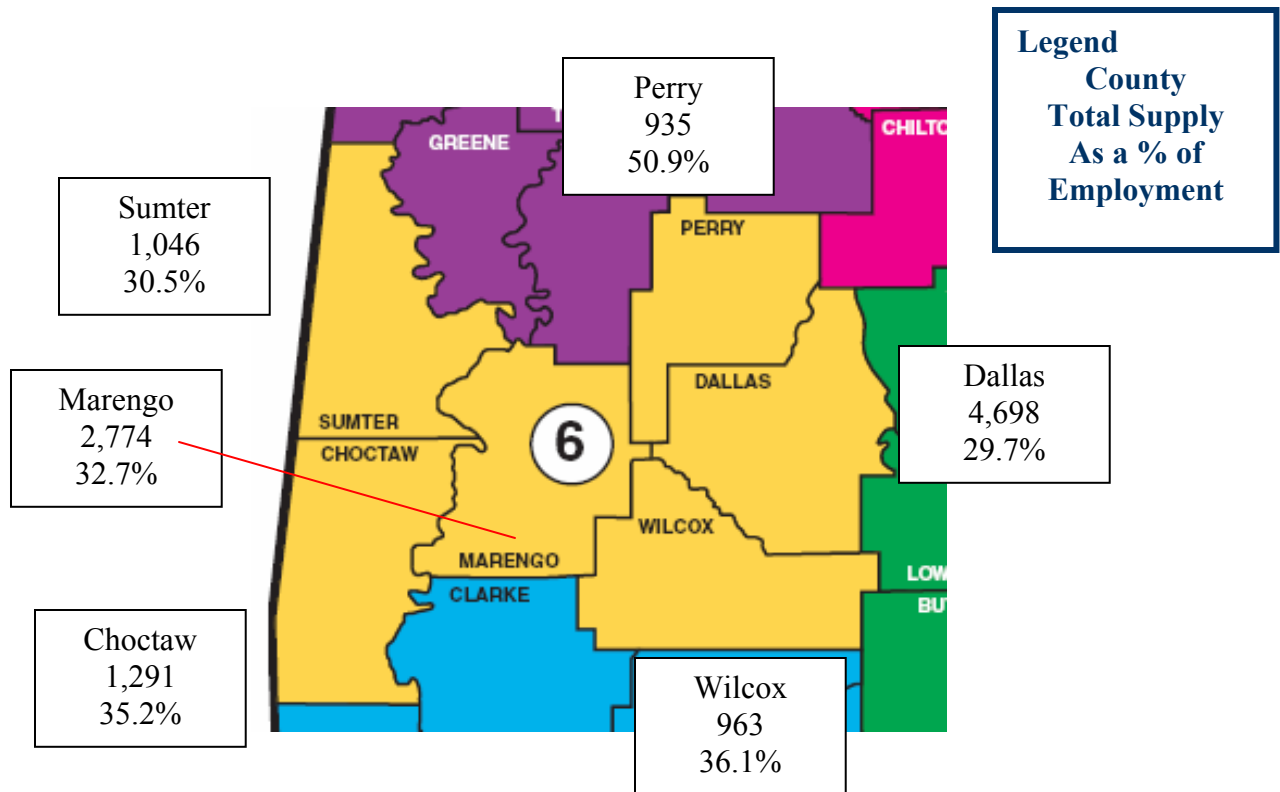
<b>SOC Job Family</b>	<b>State</b>	<b>Region 6</b>	<b>Difference</b>	<b>Separations</b>
Legal and Related Occupations	15.5%	12.5%	-3.0%	14
Education and Library Occupations	11.4%	5.1%	-6.3%	144
Artistic and Creative Occupations	20.7%	15.9%	-4.9%	36
Health Care Professional and Technical Occupations	14.6%	9.7%	-4.9%	170
Health Care Support Occupations	18.0%	10.7%	-7.3%	119
Protective Services Occupations	25.3%	12.2%	-13.1%	82
Food Service Occupations	47.0%	34.2%	-12.8%	763
Building and Grounds Maintenance Occupations	38.0%	21.0%	-17.0%	183
Personal Service Occupations	27.7%	15.0%	-12.7%	110
Sales and Related Occupations	27.0%	23.4%	-3.6%	765
Administrative and Clerical Occupations	20.5%	15.4%	-5.0%	719
Agricultural, Fishing and Forestry Occupations	27.0%	33.1%	6.1%	315
Construction and Mining Occupations	30.1%	26.3%	-3.8%	320
Installation and Repair Occupations	20.3%	15.9%	-4.4%	224
Production Occupations	16.9%	16.5%	-0.5%	719
Transportation and Material Moving Occupations	24.1%	18.7%	-5.4%	523
<b>Total</b>	<b>20.6%</b>	<b>17.3%</b>	<b>-3.2%</b>	<b>5,701</b>

The rural character of the region in part explains the relatively low job to job movement. But overall, there is a more than ample labor supply in Region 6. Companies seeking to locate here would find workers in all occupational categories with skills and experience and a supply of labor on the sidelines waiting for the opportunity to join a new company.

## Regional Labor Supply – Region 6 County Distribution 1<sup>st</sup> Quarter 2006

COUNTY	Separations	Estimated New and Re-Entrants	Sideline Potential at 2000 Peak	Estimate Total Labor Supply	Labor Supply as % of Employment
Choctaw County	586	103	603	1,291	35.2%
Dallas County	2,619	404	1,676	4,698	29.7%
Marengo County	2,472	138	164	2,774	32.7%
Perry County	330	88	517	935	50.9%
Sumter County	522	105	419	1,046	30.5%
Wilcox County	503	99	360	963	36.1%
Choctaw County	586	103	603	1,291	35.2%

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations, and US Census Bureau



## Region 7 – Summary Capitol Area

### The Regional Labor Supply Scorecard Region 7 1<sup>st</sup> Quarter 2006

(Estimated Number and as a Percentage of Total Employment)

Total Supply	Job Changers	Recently Employed Collecting Benefits	Recently Employed Not Collecting Benefits	New and Re-Entrants	Sideline Potential at 2000 Peak
42,428	31,480	1,946	1,733	2,557	4,712
24.6%	18.3%	1.1%	1.0%	1.5%	2.7%

The available labor supply in the Capitol area is relatively tighter than in most of the State. Overall labor participation is high (66%); above the national average and 3rd highest in the State. The regional economy is driven in part by the presence of State government in Montgomery and the new Hyundai facility just south of Montgomery. Part of the relative stability is driven by the large number of government workers in the employment mix (government, education and utilities are the three most stable industries).

According to the 2000 Census, over 90 % of Montgomery County residents work in Montgomery. Whereas the four counties that touch Montgomery have more than 50% of their residents commuting to other counties for work (as anyone on I-65, 80, 231 or 331 can testify).

In nearly all occupational clusters and nearly all SOC job families (except sales), the separation is lower than the Statewide average.

### Separations as a Percentage of Employment State/Region 7 Comparison Occupational Clusters 1<sup>st</sup> Quarter 2006

Occupational Cluster	State	Region 7	Difference	Separations
Architecture and Engineering	14.4%	12.3%	-2.1%	575
Science and Math	10.0%	9.1%	-0.9%	95

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 7</b>	<b>Difference</b>	<b>Separations</b>
Social and Government Services	8.0%	8.3%	0.3%	1,290
Professional and Technical Business Services	17.0%	15.9%	-1.1%	2,316
Management	17.2%	15.6%	-1.6%	1,292
Artistic	18.4%	17.7%	-0.8%	161
Medical Professional	13.0%	12.3%	-0.7%	587
Medical -- Technical	14.9%	14.8%	0.0%	490
Medical -- Support	16.8%	17.0%	0.1%	989
Office	18.0%	17.7%	-0.3%	3,964
Personal Services	24.1%	23.2%	-0.9%	1,361
Lodging, Food Service and Hospitality	39.2%	37.4%	-1.8%	7,493
Sales	24.5%	28.5%	4.0%	5,848
Installation and Repair Technicians	18.0%	17.4%	-0.6%	922
Construction	25.5%	23.8%	-1.7%	1,706
Machine Operation and General Manufacturing	16.5%	15.3%	-1.2%	1,743
Skilled Manufacturing	16.9%	14.5%	-2.4%	333
Hourly Worker Supervision	18.2%	16.8%	-1.4%	470
Transportation -- Licensed	18.0%	16.0%	-2.0%	743
Transportation -- Helpers	22.6%	23.8%	1.3%	1,606
Agriculture, Forestry and Fishing	25.5%	22.1%	-3.4%	308
<b>Total</b>	<b>20.6%</b>	<b>20.2%</b>	<b>-0.3%</b>	<b>34,292</b>

Region 7 has a separation rate that is slightly below the statewide average (20.2% versus 20.6%). The occupational clusters and the SOC job families exhibit a similar pattern.

### Separations as a Percentage of Employment State/Region 7 Comparison SOC Job Families 1<sup>st</sup> Quarter 2006

<b>SOC Job Family</b>	<b>State</b>	<b>Region 7</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	16.7%	-3.7%	1,254
Business Operations and Finance Occupations	17.7%	13.2%	-4.5%	955
Computer and Mathematics Occupations	16.3%	14.1%	-2.2%	466

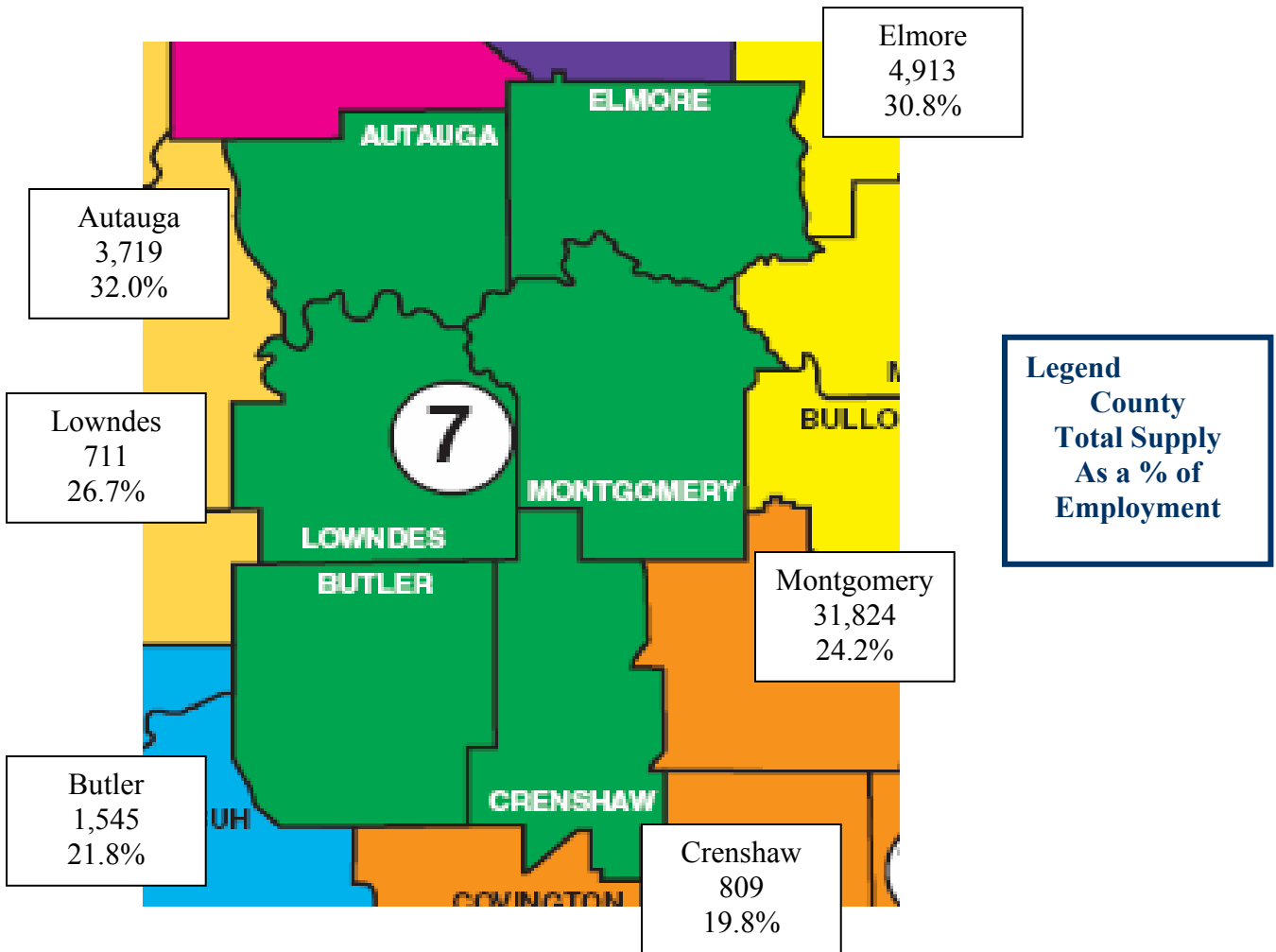
<b>SOC Job Family</b>	<b>State</b>	<b>Region 7</b>	<b>Difference</b>	<b>Separations</b>
Architecture and Engineering Occupations	13.9%	11.2%	-2.7%	362
Physical, Social and Life Sciences Occupations	13.7%	9.9%	-3.9%	151
Community and Social Services Occupations	16.9%	12.5%	-4.4%	325
Legal and Related Occupations	15.5%	10.8%	-4.8%	143
Education and Library Occupations	11.4%	8.7%	-2.8%	784
Artistic and Creative Occupations	20.7%	16.1%	-4.7%	294
Health Care Professional and Technical Occupations	14.6%	13.5%	-1.1%	1,034
Health Care Support Occupations	18.0%	18.2%	0.2%	812
Protective Services Occupations	25.3%	15.4%	-9.9%	858
Food Service Occupations	47.0%	39.1%	-7.9%	5,841
Building and Grounds Maintenance Occupations	38.0%	35.1%	-2.9%	1,869
Personal Service Occupations	27.7%	18.5%	-9.2%	758
Sales and Related Occupations	27.0%	28.4%	1.4%	5,068
Administrative and Clerical Occupations	20.5%	18.1%	-2.3%	5,251
Agricultural, Fishing and Forestry Occupations	27.0%	22.0%	-5.0%	192
Construction and Mining Occupations	30.1%	24.5%	-5.6%	1,787
Installation and Repair Occupations	20.3%	17.7%	-2.6%	1,164
Production Occupations	16.9%	14.9%	-2.1%	2,354
Transportation and Material Moving Occupations	24.1%	20.7%	-3.4%	2,570
<b>Total</b>	<b>20.6%</b>	<b>20.2%</b>	<b>-0.3%</b>	<b>34,292</b>

Employers locating in Region 7 will find what Hyundai found – build it and the workers will come. Already two of the counties, Butler and Crenshaw, have drawn more workers from the sidelines than they did in 2000. The others are not far behind.

## Regional Labor Supply – Region 7 County Distribution 1<sup>st</sup> Quarter 2006

COUNTY	Separations	Estimated New and Re-Entrants	Sideline Potential at 2000 Peak	Estimate Total Labor Supply	Labor Supply as % of Employment
Autauga County	2,494	267	959	3,719	32.0%
Butler County	1,352	193	Above	1,545	21.8%
Crenshaw County	727	82	Above	809	19.8%
Elmore County	2,669	413	1,831	4,913	30.8%
Lowndes County	474	130	108	711	26.7%
Montgomery County	27,525	1,473	2,826	31,824	24.2%

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations, and US Census Bureau





**Region 8 – Summary  
Auburn and East Central Area**

**The Regional Labor Supply Scorecard  
Region 8  
1<sup>st</sup> Quarter 2006**

(Estimated Number and as a Percentage of Total Employment)

<b>Total Supply</b>	<b>Job Changers</b>	<b>Recently Employed Collecting Benefits</b>	<b>Recently Employed Not Collecting Benefits</b>	<b>New and Re-Entrants</b>	<b>Sideline Potential at 2000 Peak</b>
23,406	15,161	1,460	1,385	1,977	3,422
25.3%	16.4%	1.6%	1.5%	2.1%	3.7%

The available labor supply in the Auburn/East Central area is relatively tighter than in most of the State. Overall labor participation is below the State average but within 1.5 percentage points of its 2000 peak. The regional economy is driven by a diverse manufacturing sector that includes textiles, metal working, machinery and transportation equipment and by Auburn University. Part of the relative stability is driven by the relatively large number of education workers in the employment mix (government, education and utilities are the three most stable industries).

While most of the residents find work in their home counties, according to the 2000 Census, over 60 % of Russell County residents work in another county (and perhaps in neighboring Georgia).

In most of the occupational clusters and SOC job families (except engineering and some other professional occupations), the separation is lower than the Statewide average. Education, already very stable in general, shows under a 6% turnover rate – less than half the statewide average.

**Separations as a Percentage of Employment  
State/Region 8 Comparison  
Occupational Clusters  
1<sup>st</sup> Quarter 2006**

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 8</b>	<b>Difference</b>	<b>Separations</b>
Architecture and Engineering	14.4%	17.0%	2.6%	267

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 8</b>	<b>Difference</b>	<b>Separations</b>
Science and Math	10.0%	10.3%	0.3%	52
Social and Government Services	8.0%	6.4%	-1.7%	590
Professional and Technical Business Services	17.0%	18.6%	1.6%	954
Management	17.2%	17.4%	0.2%	610
Artistic	18.4%	19.7%	1.3%	136
Medical Professional	13.0%	9.4%	-3.6%	244
Medical -- Technical	14.9%	12.3%	-2.5%	200
Medical -- Support	16.8%	14.5%	-2.3%	419
Office	18.0%	17.4%	-0.5%	1,809
Personal Services	24.1%	23.3%	-0.8%	624
Lodging, Food Service and Hospitality	39.2%	35.6%	-3.6%	4,105
Sales	24.5%	24.0%	-0.5%	2,521
Installation and Repair Technicians	18.0%	17.4%	-0.6%	475
Construction	25.5%	26.8%	1.3%	912
Machine Operation and General Manufacturing	16.5%	14.9%	-1.6%	1,607
Skilled Manufacturing	16.9%	18.5%	1.6%	345
Hourly Worker Supervision	18.2%	17.3%	-0.9%	312
Transportation -- Licensed	18.0%	16.0%	-2.0%	413
Transportation -- Helpers	22.6%	20.0%	-2.6%	827
Agriculture, Forestry and Fishing	25.5%	27.3%	1.8%	259
<b>Total</b>	<b>20.6%</b>	<b>19.4%</b>	<b>-1.2%</b>	<b>17,680</b>

Region 8 has a separation rate that is below the statewide average (19.4% versus 20.6%). The occupational clusters and the SOC job families exhibit a similar pattern.

**Separations as a Percentage of Employment  
State/Region 8 Comparison  
SOC Job Families  
1<sup>st</sup> Quarter 2006**

<b>SOC Job Family</b>	<b>State</b>	<b>Region 8</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	17.4%	-3.0%	640
Business Operations and Finance Occupations	17.7%	16.0%	-1.6%	402
Computer and Mathematics Occupations	16.3%	16.1%	-0.2%	178

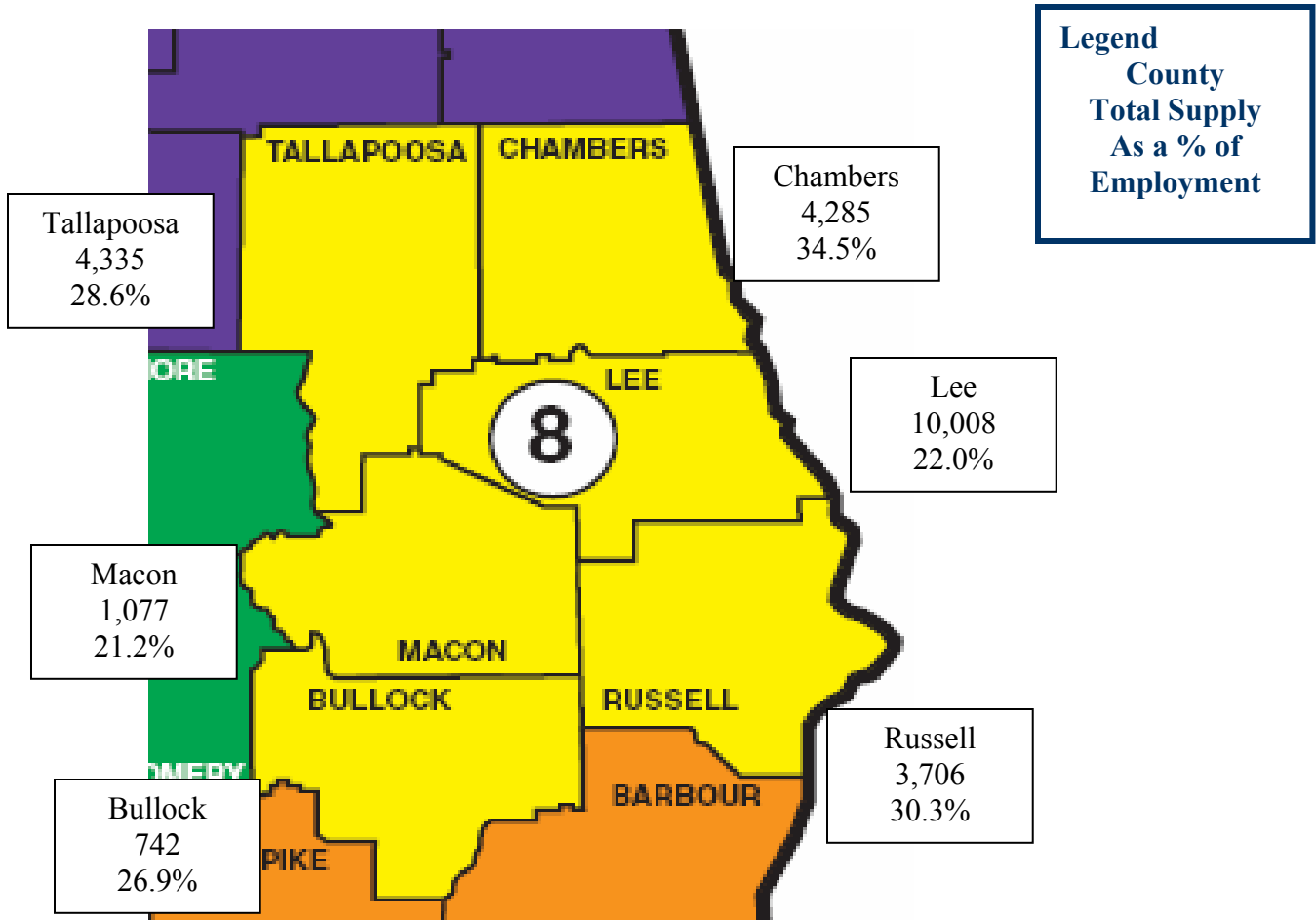
<b>SOC Job Family</b>	<b>State</b>	<b>Region 8</b>	<b>Difference</b>	<b>Separations</b>
Architecture and Engineering Occupations	13.9%	16.4%	2.5%	174
Physical, Social and Life Sciences Occupations	13.7%	11.3%	-2.5%	64
Community and Social Services Occupations	16.9%	11.7%	-5.2%	125
Legal and Related Occupations	15.5%	13.8%	-1.8%	44
Education and Library Occupations	11.4%	5.6%	-5.8%	416
Artistic and Creative Occupations	20.7%	19.6%	-1.2%	213
Health Care Professional and Technical Occupations	14.6%	10.6%	-4.0%	427
Health Care Support Occupations	18.0%	15.3%	-2.7%	351
Protective Services Occupations	25.3%	19.7%	-5.6%	337
Food Service Occupations	47.0%	38.7%	-8.3%	3,376
Building and Grounds Maintenance Occupations	38.0%	28.7%	-9.3%	815
Personal Service Occupations	27.7%	19.7%	-8.0%	358
Sales and Related Occupations	27.0%	24.7%	-2.3%	2,215
Administrative and Clerical Occupations	20.5%	17.4%	-3.0%	2,280
Agricultural, Fishing and Forestry Occupations	27.0%	29.7%	2.7%	212
Construction and Mining Occupations	30.1%	27.7%	-2.4%	965
Installation and Repair Occupations	20.3%	17.4%	-2.9%	595
Production Occupations	16.9%	15.2%	-1.7%	2,137
Transportation and Material Moving Occupations	24.1%	18.7%	-5.4%	1,358
<b>Total</b>	<b>20.6%</b>	<b>19.4%</b>	<b>-1.2%</b>	<b>17,680</b>

Employers locating in Region 8 report finding a readily available and skilled workforce. Auburn University constantly brings new talent to the area many of whom will choose to make East Central Alabama their home.

## Regional Labor Supply – Region 8 County Distribution 1<sup>st</sup> Quarter 2006

COUNTY	Separations	Estimated New and Re-Entrants	Sideline Potential at 2000 Peak	Estimate Total Labor Supply	Labor Supply as % of Employment
Bullock County	478	93	171	742	26.9%
Chambers County	2,414	305	1,566	4,285	34.5%
Lee County	9,320	688	Above	10,008	22.0%
Macon County	781	154	142	1,077	21.2%
Russell County	2,248	396	1,061	3,706	30.3%
Tallapoosa County	2,843	341	1,151	4,335	28.6%

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations, and US Census Bureau



## Region 9 – Summary Southwest Area

### The Regional Labor Supply Scorecard Region 9 1<sup>st</sup> Quarter 2006

(Estimated Number and as a Percentage of Total Employment)

Total Supply	Job Changers	Recently Employed Collecting Benefits	Recently Employed Not Collecting Benefits	New and Re-Entrants	Sideline Potential at 2000 Peak
32,512	18,292	1,148	1,358	1,741	9,973
35.7%	20.1%	1.3%	1.5%	1.9%	11.0%

The available labor supply in the Southwest area is the highest in the State driven by the third highest separation rate (behind its neighbor Mobile and Northwest Alabama) and labor participation rate that is almost 5 percentage points below its 2000 peak. Unemployment is relatively low, under 3.5%; and such a rate normally draws workers off the sidelines and into the game. But new employers will find a ready supply of job changers in the full range of occupations.

The regional economy is driven by a diverse manufacturing sector that includes textiles, metal working, chemical, wood and paper products machinery and furniture.

While most of the residents find work in their home counties, according to the 2000 Census, nearly 50 % of Washington and Conecuh County residents work in another county.

### Separations as a Percentage of Employment State/Region 9 Comparison Occupational Clusters 1<sup>st</sup> Quarter 2006

Occupational Cluster	State	Region 9	Difference	Separations
Architecture and Engineering	14.4%	21.5%	7.2%	370
Science and Math	10.0%	8.5%	-1.5%	55
Social and Government Services	8.0%	8.5%	0.4%	618
Professional and Technical Business Services	17.0%	18.0%	1.0%	975

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 9</b>	<b>Difference</b>	<b>Separations</b>
Management	17.2%	19.1%	1.9%	696
Artistic	18.4%	20.0%	1.5%	87
Medical Professional	13.0%	19.7%	6.7%	532
Medical -- Technical	14.9%	19.5%	4.7%	333
Medical -- Support	16.8%	19.1%	2.3%	549
Office	18.0%	19.7%	1.7%	2,091
Personal Services	24.1%	22.1%	-2.0%	547
Lodging, Food Service and Hospitality	39.2%	41.3%	2.1%	4,359
Sales	24.5%	27.3%	2.8%	3,371
Installation and Repair Technicians	18.0%	22.0%	3.9%	707
Construction	25.5%	29.5%	4.1%	1,383
Machine Operation and General Manufacturing	16.5%	16.1%	-0.4%	1,068
Skilled Manufacturing	16.9%	19.7%	2.8%	395
Hourly Worker Supervision	18.2%	22.0%	3.8%	394
Transportation -- Licensed	18.0%	21.6%	3.7%	723
Transportation -- Helpers	22.6%	22.2%	-0.4%	858
Agriculture, Forestry and Fishing	25.5%	23.8%	-1.7%	406
<b>Total</b>	<b>20.6%</b>	<b>22.9%</b>	<b>2.3%</b>	<b>20,518</b>

Region 9 has a separation rate that is above the statewide average (22.9% versus 20.6%). The occupational clusters and the SOC job families exhibit a similar pattern. Health care and other professionals have a significantly higher separation in Region 9 than in the rest of the State.

**Separations as a Percentage of Employment  
State/Region 9 Comparison  
SOC Job Families  
1<sup>st</sup> Quarter 2006**

<b>SOC Job Family</b>	<b>State</b>	<b>Region 9</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	20.4%	0.0%	770
Business Operations and Finance Occupations	17.7%	16.9%	-0.8%	473
Computer and Mathematics Occupations	16.3%	18.8%	2.5%	226
Architecture and Engineering Occupations	13.9%	17.3%	3.4%	194

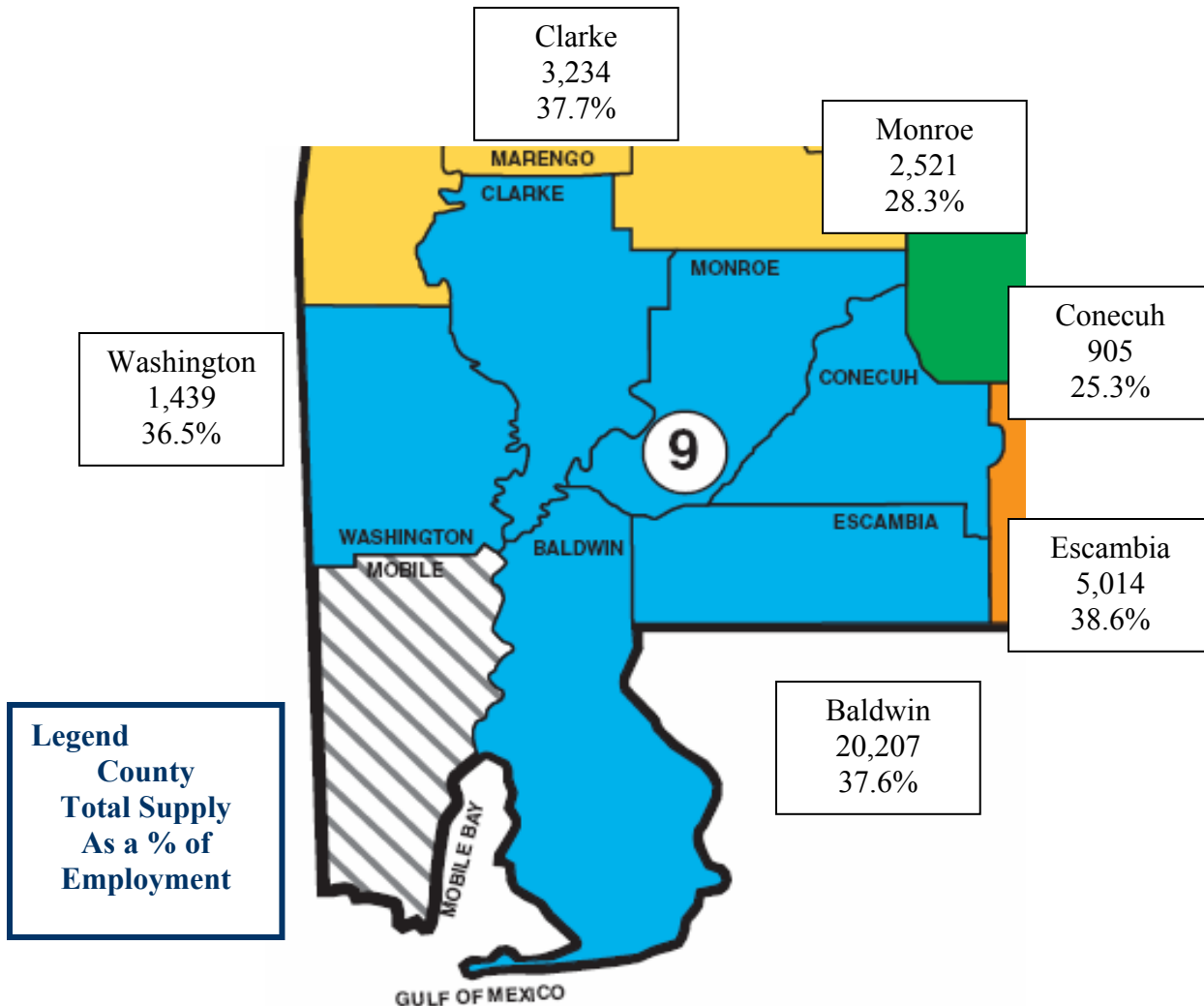
<b>SOC Job Family</b>	<b>State</b>	<b>Region 9</b>	<b>Difference</b>	<b>Separations</b>
Physical, Social and Life Sciences Occupations	13.7%	11.8%	-2.0%	81
Community and Social Services Occupations	16.9%	14.6%	-2.3%	144
Legal and Related Occupations	15.5%	15.9%	0.3%	64
Education and Library Occupations	11.4%	7.9%	-3.6%	420
Artistic and Creative Occupations	20.7%	18.7%	-2.0%	139
Health Care Professional and Technical Occupations	14.6%	19.8%	5.2%	834
Health Care Support Occupations	18.0%	19.8%	1.9%	456
Protective Services Occupations	25.3%	14.6%	-10.7%	241
Food Service Occupations	47.0%	45.3%	-1.7%	3,694
Building and Grounds Maintenance Occupations	38.0%	26.4%	-11.6%	644
Personal Service Occupations	27.7%	21.3%	-6.4%	374
Sales and Related Occupations	27.0%	27.6%	0.6%	2,995
Administrative and Clerical Occupations	20.5%	19.6%	-0.8%	2,624
Agricultural, Fishing and Forestry Occupations	27.0%	24.0%	-3.0%	374
Construction and Mining Occupations	30.1%	30.9%	0.8%	1,488
Installation and Repair Occupations	20.3%	22.8%	2.5%	938
Production Occupations	16.9%	16.7%	-0.2%	1,624
Transportation and Material Moving Occupations	24.1%	22.3%	-1.8%	1,723
<b>Total</b>	<b>20.6%</b>	<b>22.9%</b>	<b>2.3%</b>	<b>20,518</b>

Despite low unemployment, new employers will find a plentiful supply of labor willing to move to a new opportunity.

## Regional Labor Supply – Region 9 County Distribution 1<sup>st</sup> Quarter 2006

COUNTY	Separations	Estimated New and Re-Entrants	Sideline Potential at 2000 Peak	Estimate Total Labor Supply	Labor Supply as % of Employment
Baldwin County	14,284	868	5,055	20,207	37.6%
Clarke County	1,494	208	1,532	3,234	37.7%
Conecuh County	627	101	177	905	25.3%
Escambia County	2,635	253	2,125	5,014	38.6%
Monroe County	1,478	187	857	2,521	28.3%
Washington County	413	124	932	1,469	36.5%

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations, and US Census Bureau





**Summary  
Mobile and Mobile County**

**The Regional Labor Supply Scorecard  
Mobile County  
1<sup>st</sup> Quarter 2006**

(Estimated Number and as a Percentage of Total Employment)

<b>Total Supply</b>	<b>Job Changers</b>	<b>Recently Employed Collecting Benefits</b>	<b>Recently Employed Not Collecting Benefits</b>	<b>New and Re-Entrants</b>	<b>Sideline Potential at 2000 Peak</b>
52,982	37,212	1,713	2,057	2,619	9,381
31.6%	22.2%	1.0%	1.2%	1.6%	5.6%

Mobile is still showing some effects from Hurricane Katrina. Employment, which dipped slightly in the immediate aftermath of the storm, is now actually 5,000 higher (comparing Q1 of 2005 to Q1 of 2006). Mobile has become a staging area for some of the recovery efforts on the much more heavily damaged Mississippi coast.

In 2000, most Mobile County workers stayed in Mobile to find work with under 10% commuting to another county for employment. This commuting pattern may have changed post Katrina but there is no very recent data on which to make an assessment. (The 2000 rate is 3<sup>rd</sup> highest in the State behind only Montgomery and Madison-Huntsville.) Mobile does draw workers in from neighboring Washington and Baldwin counties. The rate of job changing is the highest in the State driven in part by the post Katrina dislocations and opportunities.

There is a substantial internal sideline supply with the county over 3 percentage points below its 2000 labor participation rate peak. The Mobile County economy is diverse with manufacturing, finance, transportation, health care, education and professional services all providing substantial employment opportunities.

**Separations as a Percentage of Employment  
State/Mobile County Comparison  
Occupational Clusters  
1<sup>st</sup> Quarter 2006**

<b>Occupational Cluster</b>	<b>State</b>	<b>Mobile</b>	<b>Difference</b>	<b>Separations</b>
Architecture and Engineering	14.4%	18.2%	3.9%	749

<b>Occupational Cluster</b>	<b>State</b>	<b>Mobile</b>	<b>Difference</b>	<b>Separations</b>
Science and Math	10.0%	8.8%	-1.1%	116
Social and Government Services	8.0%	8.0%	0.0%	1,074
Professional and Technical Business Services	17.0%	22.1%	5.2%	2,970
Management	17.2%	21.3%	4.2%	1,554
Artistic	18.4%	21.7%	3.3%	221
Medical Professional	13.0%	11.6%	-1.3%	590
Medical -- Technical	14.9%	14.5%	-0.4%	490
Medical -- Support	16.8%	16.1%	-0.7%	837
Office	18.0%	21.9%	3.9%	4,900
Personal Services	24.1%	27.0%	2.9%	1,331
Lodging, Food Service and Hospitality	39.2%	44.0%	4.8%	8,448
Sales	24.5%	26.8%	2.3%	6,239
Installation and Repair Technicians	18.0%	21.4%	3.4%	1,251
Construction	25.5%	35.7%	10.2%	3,217
Machine Operation and General Manufacturing	16.5%	22.9%	6.4%	1,743
Skilled Manufacturing	16.9%	21.4%	4.4%	352
Hourly Worker Supervision	18.2%	24.8%	6.6%	705
Transportation -- Licensed	18.0%	20.1%	2.1%	1,133
Transportation -- Helpers	22.6%	27.4%	4.9%	2,010
Agriculture, Forestry and Fishing	25.5%	25.6%	0.1%	280
<b>Total</b>	<b>20.6%</b>	<b>24.4%</b>	<b>3.8%</b>	<b>40,211</b>

Mobile has a substantially above average separation rate when compared to the State as a whole (24.4% versus 20.6%). Health care is more stable than statewide average and construction (perhaps because of the reconstruction efforts) is substantially more volatile.

**Separations as a Percentage of Employment  
State/Mobile County Comparison  
SOC Job Families  
1<sup>st</sup> Quarter 2006**

<b>SOC Job Family</b>	<b>State</b>	<b>Mobile</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	21.5%	1.1%	1,558
Business Operations and Finance Occupations	17.7%	20.1%	2.4%	1,204

<b>SOC Job Family</b>	<b>State</b>	<b>Mobile</b>	<b>Difference</b>	<b>Separations</b>
Computer and Mathematics Occupations	16.3%	18.2%	1.9%	581
Architecture and Engineering Occupations	13.9%	17.4%	3.5%	442
Physical, Social and Life Sciences Occupations	13.7%	12.3%	-1.5%	172
Community and Social Services Occupations	16.9%	13.1%	-3.8%	236
Legal and Related Occupations	15.5%	17.1%	1.5%	177
Education and Library Occupations	11.4%	7.1%	-4.4%	746
Artistic and Creative Occupations	20.7%	19.5%	-1.2%	385
Health Care Professional and Technical Occupations	14.6%	12.9%	-1.7%	1,028
Health Care Support Occupations	18.0%	16.8%	-1.2%	702
Protective Services Occupations	25.3%	28.6%	3.3%	813
Food Service Occupations	47.0%	46.4%	-0.6%	6,552
Building and Grounds Maintenance Occupations	38.0%	38.8%	0.8%	2,117
Personal Service Occupations	27.7%	20.5%	-7.2%	680
Sales and Related Occupations	27.0%	27.4%	0.4%	5,655
Administrative and Clerical Occupations	20.5%	21.8%	1.4%	6,165
Agricultural, Fishing and Forestry Occupations	27.0%	21.4%	-5.6%	145
Construction and Mining Occupations	30.1%	37.4%	7.3%	3,484
Installation and Repair Occupations	20.3%	21.2%	0.9%	1,593
Production Occupations	16.9%	21.7%	4.8%	2,335
Transportation and Material Moving Occupations	24.1%	24.3%	0.3%	3,439
<b>Total</b>	<b>20.6%</b>	<b>24.4%</b>	<b>3.8%</b>	<b>40,211</b>

Mobile has bounced back from its Katrina disruption and actually benefited as a staging area for reconstruction efforts. Employers will find a skilled and “mobile” workforce ready to take their jobs and provide solid value.

## Region 10 – Summary Southeast Area

### The Regional Labor Supply Scorecard Region 10 1<sup>st</sup> Quarter 2006

(Estimated Number and as a Percentage of Total Employment)

Total Supply	Job Changers	Recently Employed Collecting Benefits	Recently Employed Not Collecting Benefits	New and Re-Entrants	Sideline Potential at 2000 Peak
33,607	22,198	1,291	1,495	1,936	6,686
27.1%	17.9%	1.0%	1.2%	1.6%	5.4%

The available labor supply in the Southeast area is over 33,000 workers even with an unemployment rate of 3.15%, third lowest in the State. The labor participation rate at 62.3% is still 3 percentage points below its 2000 peak and below the national average. In the economic center of the region, Dale and Houston counties, the participation rate is at the national average and rising.

The regional economy is driven by a diverse manufacturing sector that includes aviation, fabricated metals, textiles, wood products, electronics, machinery, and injection molding. It has developed also a strong distribution and customer service sector. The area has a rich history in the development of aviation jobs in Alabama through Enterprise-Ozark Community College (avionics and aviation mechanic training) and Fort Rucker - the Army Aviation Center of the United States. A highly specialized Dothan Airport Industrial Park offers infrastructure and land to accommodate aviation related projects with runway access to facilities.

While most of the residents find work in their home counties, according to the 2000 Census, nearly 50 % of Henry and Geneva County residents work in another county.

### Separations as a Percentage of Employment State/Region 10 Comparison Occupational Clusters 1<sup>st</sup> Quarter 2006

Occupational Cluster	State	Region 9	Difference	Separations
Architecture and Engineering	14.4%	15.9%	1.5%	472

<b>Occupational Cluster</b>	<b>State</b>	<b>Region 9</b>	<b>Difference</b>	<b>Separations</b>
Science and Math	10.0%	12.8%	2.9%	76
Social and Government Services	8.0%	8.5%	0.5%	806
Professional and Technical Business Services	17.0%	17.8%	0.8%	1,320
Management	17.2%	17.4%	0.2%	873
Artistic	18.4%	19.7%	1.2%	113
Medical Professional	13.0%	12.0%	-0.9%	531
Medical -- Technical	14.9%	13.6%	-1.3%	372
Medical -- Support	16.8%	15.8%	-1.0%	692
Office	18.0%	17.5%	-0.5%	2,540
Personal Services	24.1%	22.8%	-1.3%	691
Lodging, Food Service and Hospitality	39.2%	38.3%	-0.9%	5,258
Sales	24.5%	23.9%	-0.7%	3,691
Installation and Repair Technicians	18.0%	17.7%	-0.3%	784
Construction	25.5%	22.6%	-2.8%	1,090
Machine Operation and General Manufacturing	16.5%	16.7%	0.2%	1,906
Skilled Manufacturing	16.9%	16.2%	-0.8%	331
Hourly Worker Supervision	18.2%	18.2%	0.0%	452
Transportation -- Licensed	18.0%	18.7%	0.8%	929
Transportation -- Helpers	22.6%	21.1%	-1.4%	1,225
Agriculture, Forestry and Fishing	25.5%	25.1%	-0.4%	460
<b>Total</b>	<b>20.6%</b>	<b>20.2%</b>	<b>-0.4%</b>	<b>24,614</b>

Region 10 has a separation rate that is slightly below the statewide average (20.2% versus 20.6%). There is ample supply of workers in all occupational groups with very recent experience. Business and technical professionals tend to be a bit more mobile than in the rest of the State.

**Separations as a Percentage of Employment  
State/Region 10 Comparison  
SOC Job Families  
1<sup>st</sup> Quarter 2006**

<b>SOC Job Family</b>	<b>State</b>	<b>Region 10</b>	<b>Difference</b>	<b>Separations</b>
Management Occupations	20.4%	18.0%	-2.3%	919
Business Operations and Finance Occupations	17.7%	15.8%	-1.8%	588

<b>SOC Job Family</b>	<b>State</b>	<b>Region 10</b>	<b>Difference</b>	<b>Separations</b>
Computer and Mathematics Occupations	16.3%	16.9%	0.6%	318
Architecture and Engineering Occupations	13.9%	15.4%	1.5%	311
Physical, Social and Life Sciences Occupations	13.7%	14.4%	0.7%	116
Community and Social Services Occupations	16.9%	14.8%	-2.1%	209
Legal and Related Occupations	15.5%	20.6%	5.1%	108
Education and Library Occupations	11.4%	7.6%	-3.9%	535
Artistic and Creative Occupations	20.7%	18.5%	-2.3%	194
Health Care Professional and Technical Occupations	14.6%	12.7%	-1.9%	863
Health Care Support Occupations	18.0%	16.2%	-1.8%	579
Protective Services Occupations	25.3%	16.8%	-8.6%	329
Food Service Occupations	47.0%	43.1%	-3.9%	4,304
Building and Grounds Maintenance Occupations	38.0%	27.1%	-10.9%	829
Personal Service Occupations	27.7%	20.9%	-6.8%	465
Sales and Related Occupations	27.0%	24.3%	-2.7%	3,243
Administrative and Clerical Occupations	20.5%	17.5%	-2.9%	3,191
Agricultural, Fishing and Forestry Occupations	27.0%	27.2%	0.2%	350
Construction and Mining Occupations	30.1%	24.0%	-6.1%	1,143
Installation and Repair Occupations	20.3%	17.3%	-3.0%	961
Production Occupations	16.9%	16.7%	-0.2%	2,698
Transportation and Material Moving Occupations	24.1%	20.3%	-3.8%	2,359
<b>Total</b>	<b>20.6%</b>	<b>20.2%</b>	<b>-0.4%</b>	<b>24,614</b>

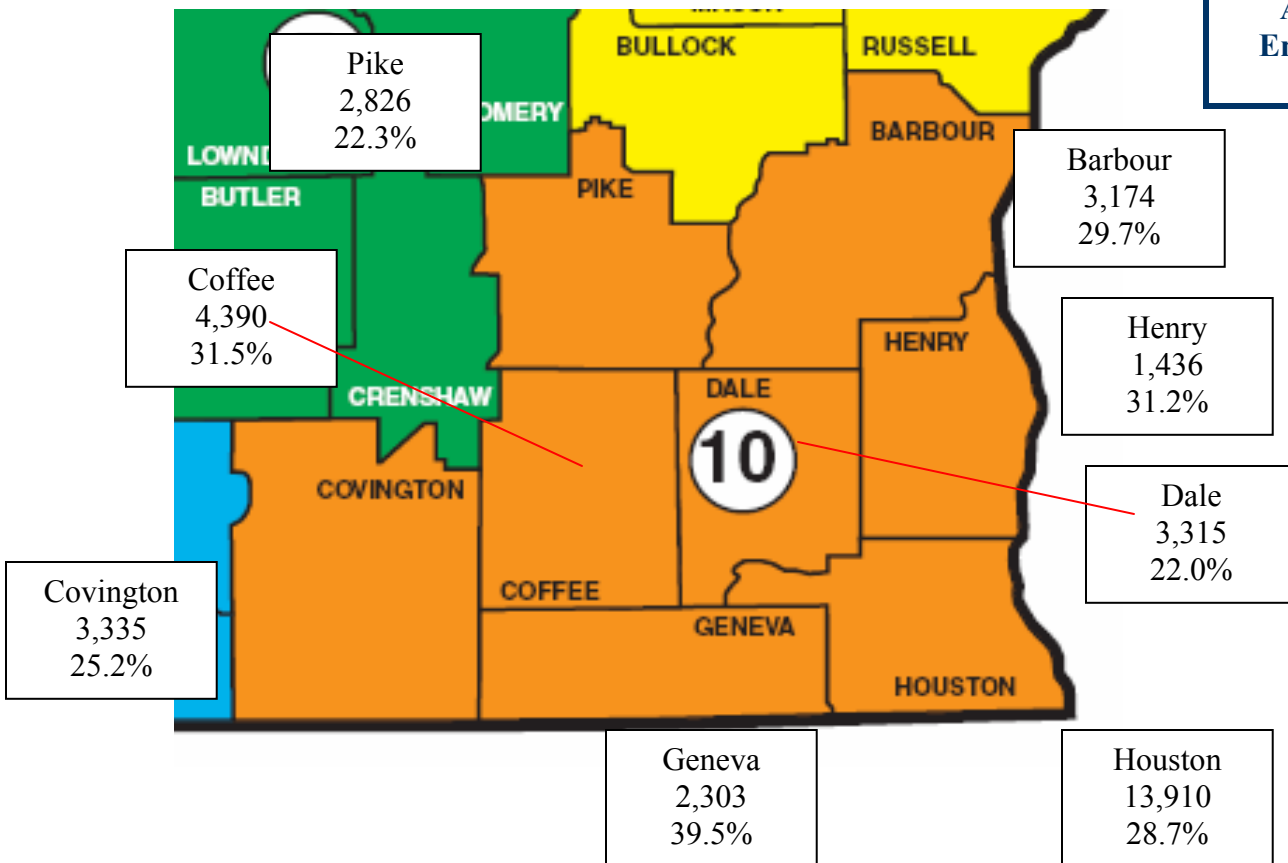
Despite low unemployment, new employers will find a plentiful supply of labor willing to move to a new opportunity and a diverse economic base that provides the infrastructure for future growth.

## Regional Labor Supply – Region 10 County Distribution 1<sup>st</sup> Quarter 2006

COUNTY	Separations	Estimated New and Re-Entrants	Sideline Potential at 2000 Peak	Estimate Total Labor Supply	Labor Supply as % of Employment
Barbour County	2,276	186	712	3,174	29.7%
Coffee County	3,198	253	940	4,390	31.5%
Covington County	2,711	225	399	3,335	25.2%
Dale County	2,238	278	799	3,315	22.0%
Geneva County	1,267	134	902	2,303	39.5%
Henry County	812	111	513	1,436	31.2%
Houston County	10,077	551	3,282	13,910	28.7%
Pike County	2,626	200	Above	2,826	22.3%

Sources: Census Local Employment Dynamics, Alabama Department of Industrial Relations, and US Census Bureau

**Legend**  
County  
Total Supply  
As a % of  
Employment



# Appendix A

## Some Notes on Data Sources and Methodology

Building a picture of the Alabama labor supply requires pulling data from multiple sources.

- Separation data is derived from the Census Local Employment Dynamics (LED) program. The core data within LED is provided by the unemployment insurance (UI) wage records and the Quarterly Census of Employment and Wages (QCEW). LED will generate the separation data by comparing workers employed by a firm in one quarter and the workers in the next quarter.
- Employment data is derived from LED. LED estimates of employment are consistently lower than those derived from the Bureau of Labor Statistics' Current Employment Statistics (CES) program. On average statewide, the LED employment estimates are 7.5% lower than those reported in CES. The main reason for the difference is the source of the data in CES, a monthly survey of businesses rather than a census of the UI wage records. The LED employment figures are most directly comparable to the employment figures reported as "covered employment and wages" on the Alabama LMI website (see [www2.dir.state.al.us/CEW/2005%5FAnnual/](http://www2.dir.state.al.us/CEW/2005%5FAnnual/) for example) because they have the same underlying source – the UI wage records. However, LED has a slightly tighter definition of employment (wages from the same firm in two consecutive quarters) rather than the single quarter required in the QCEW. The LED figure is about 3% lower on average than QCEW. As a result, both employment and separations are likely to be understated in this report from what occurs in the Alabama economy by 3-14%.
- Overall unemployment data is derived from the Current Population Survey (CPS) conducted monthly by the Bureau of Labor Statistics (BLS) and the Census Bureau. The survey data is used to calculate the civilian labor force size, the number employed and the number unemployed for the nation as a whole. Those estimates are then used as the basis for calculating State, metropolitan area and county unemployment rates through a cooperative agreement between BLS and the states. The employment estimate from the CPS is the highest of all the various estimates of employment. There are several reasons for the differences. First, the CPS is a household survey and will pick up individuals who are self-employed and those working as independent contractors. Those workers are missed by both the CES, which surveys businesses and asks about payroll employment only, and QCEW, which is derived from UI wage records and again only counts those people working for employers covered by unemployment insurance. The gap between the lowest employment figure generated by LED and the highest figure generated by CPS is about 14% (1,841,000 versus 2,104,000) when comparing the 1<sup>st</sup> quarter of 2006 LED data with the LAUS employment number for March 2006.



- There is a specific subset of unemployment data which is collected directly by the unemployment insurance system. There are two pieces of information that are used in the labor supply calculation. The first is the number of individuals collecting a UI benefit check and the second is the number of individuals who initially apply for a UI check. Both numbers are useful because they add clarity to the supply picture but, more importantly, they represent the only part of the supply picture where the actual individuals have made themselves known to a government agency.
- The CPS also collects information on the reasons why individuals are unemployed. That information is displayed only on a national level but helps us understand who is within the 73,000 or so Alabamans who are counted as unemployed in the 1st quarter of 2006. About 60% of the total is composed of people who were recently employed and either left their job voluntarily, were fired, or were laid off. The remaining 40% are a combination of new entrants to the labor force (usually individuals who are 16-19) and re-entrants (those who are coming back looking for work after a significant absence).
- The counts of those completing post secondary education programs are produced by the U. S. Department of Education through a survey of all higher education providers in the country. The data is accessible through the Integrated Postsecondary Education Data System or IPEDS. The data is organized using a coding system known as the Classification of Instructional Programs. There is not a one-to-one relationship between an instructional program and an occupation. The relationship is most often many instructional programs to many occupations.
- The conversion of the industry employment and separation counts into occupational estimates requires the use of a staffing matrix for each of the industries. The matrix used in this report was derived from the May 2005 national staffing pattern data produced by BLS. (See [www.bls.gov/oes/current/oesrci.htm](http://www.bls.gov/oes/current/oesrci.htm) for details.) The matrix results from a survey conducted by BLS and the states known as the Occupational Employment Survey (OES). Nationally, 200,000 businesses are surveyed every six months and asked the number of employees on the payroll, their occupations and their wages. Wage data is collected using a standard set of pay ranges. The occupational information is collected using the Standard Occupational Code (SOC) taxonomy of just over 800 occupations. While the distribution within individual Alabama industries may differ from the national pattern, it is reasonable to assume that in regions with hundreds of firms in each industry that the national pattern will be good proxy for the local pattern.

In distributing the total employment to the individual occupations some small fraction of the total employment is not distributed. This residual is created because in a particular industry one firm or a small group of firms may be so

dominant that to display any information about a particular occupation would risk revealing confidential information. In those instances, the occupational detail is suppressed. These residuals are generally very small (averaging well under 1%) when the industry data was at the 2 digit level. The residuals rose to 3 % on average when staffing patterns at the 3 digit industry level were used. The reason for the rise is simple – the finer the detail the greater the chance that any one cell will contain confidential information. The residual issue will explain the differences in totals you will see when 2 digit and 3 digit industry data is used. While we will display the “numbers” in order to provide the readers with a complete picture, it is often better to look at the percentage those numbers represent of overall employment in the occupation or within the economy.

- Finally, the estimates of those workers who are on the sidelines but who have the potential of joining the active labor force were produced by first creating labor participation rates for each of the counties in Alabama. Those rates compared the number of individuals counted in the civilian labor force (a number based on the CPS) with the number of individuals over the age of 18 within the county. The labor force number is published by the Alabama Department of Industrial Relations and also by the Bureau of Labor Statistics. (See [www2.dir.state.al.us/LAUS/CLF\\_Historicals/clf2005/pg\\_02\\_Counties.asp](http://www2.dir.state.al.us/LAUS/CLF_Historicals/clf2005/pg_02_Counties.asp) for the Alabama publication.) The over 18 population was derived from the county level population estimates produced by the Census Bureau using the estimate for July 1, 2005 adjusted for the statewide growth of 1.1% for July 2006. No county level estimate of the over 18 population is published; it was calculated by applying the percentage of the population in the State of Alabama as a whole that is 18 years of age or older to the county level estimate. For comparison purposes, same calculations were done for the year 2000 which represented the highest level of labor participation in the recent past (the employment peak of the last economic expansion) and for the year 2006.

Several adjustments were made to the over 18 year old population to remove the institutionalized and military individuals who are in the population number but not available for civilian work. The prison population was derived from the annual report of the Alabama Corrections Department (see [www.doc.state.al.us/docs/MonthlyRpts/2005-06.pdf](http://www.doc.state.al.us/docs/MonthlyRpts/2005-06.pdf) for details). The average prison population was removed from the over 18 population at the county level. The military population was derived from the Department of Defense Base Structure Report for FY 2004 (see [www.defenselink.mil/pubs/20040910\\_2004BaseStructureReport.pdf](http://www.defenselink.mil/pubs/20040910_2004BaseStructureReport.pdf) for the details). Again, bases with specific listings of military staff were excluded from the county level population counts. The final group of individuals to be removed from the population counts were those institutionalized for mental health issues. We used the bed counts for the mental health facilities maintained by the Alabama Department of Mental Health and Mental Retardation. We also estimated the group home population by using the report from the federal Center

for Mental Health Services Uniform Reporting System. Outcomes Table 1 indicated that some 50,000 individuals who received mental health services in 2005 did not have any known attachment to the labor market. While not all of these individuals are residents of group homes, we estimated that half that number were and that they were proportionately distributed in each county based on the county's share for the statewide population.

Many of the sources are not completely comparable for a number of reasons but in order to create a consistent picture we have made certain assumptions. The three large groups that make up available labor supply – job changers, the unemployed, and those on the sidelines but willing to join – are calculated from two of the three primary sources of employment data. The job changers, those who separate from one job and get hired in a new one, are estimated from the QCEW using wage record data. The unemployed and the sideline dwellers are estimated from the CPS and State and County level calculations done using that data source.

# Appendix B

## Individual Occupational Detail

The model produces estimates for each of the occupations at the SOC code level based on the national staffing patterns for 3 digit NAICS (North American Industrial Classification System). The staffing patterns permit the distribution of an overall employment figure for an industry into its occupational components. As with any model, there are assumptions and limitations. The primary assumption is that the occupational pattern of separations will mirror (over a sufficiently large base) the overall occupational pattern of the industry. As aggregate levels, the model appears to present reasonable results with occupational grouping that should be expected to have high turnover in fact showing high turnover. At the individual occupation level, the model appears to produce reasonable results statewide. Regional occupation data will only be presented in aggregate form. The following sets of charts will display the occupational detail for each of the 23 SOC job families statewide. These charts provide a sense of the numbers within occupation that are separating from their current jobs in a typical quarter. It will also give a sense of individuals with those skill sets that are available for hiring by new employers.

The data is generated by the Census LED system which has, as noted earlier, the most restrictive definition of employment. As a result, the employment listed for each occupation will be smaller than that reported with the occupational projections developed by the Alabama Department of Industrial Relations.

### Occupational Detail Employment, Separation and Separation Rate Statewide 1st Quarter 2006

#### Management Occupations

SOC Code	Job Title	Employment	Separators	Separation Rate
111000	Executives and Top Managers	28,066	5,531	19.7%
112011	Advertising and Promotions Manager	481	89	18.4%
112021	Marketing Manager	2,040	346	17.0%
112022	Sales Manager	4,459	825	18.5%
112031	Public Relations Manager	487	70	14.4%
113011	Office Manager Computer and Information Systems	3,048	497	16.3%
113021	Manager	3,159	473	15.0%
113031	Financial Manager	6,158	887	14.4%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
113041	Compensation and Benefits Manager	700	115	16.4%
113042	Training and Development Manager	345	60	17.5%
113049	Human Resources Manager	733	108	14.7%
113051	Industrial Production Manager	3,011	406	13.5%
113061	Purchasing Manager	1,001	145	14.5%
113071	Transportation Manager	1,102	172	15.6%
119011	Agriculture and Fishery Manager	70	19	27.4%
119012	Farmer and Rancher	6	2	27.7%
119021	Construction Manager Pre-School and Day Care	2,710	756	27.9%
119031	Administrator	556	93	16.7%
119032	Principal and Assistant Principal	2,760	176	6.4%
119033	College Administrator	1,361	86	6.3%
119039	Education Administrator	302	23	7.7%
119041	Engineering Manager	2,840	380	13.4%
119051	Food Service Manager	2,638	1,128	42.8%
119061	Funeral Director	260	56	21.5%
119071	Gaming Manager	28	6	23.2%
119081	Lodging Manager	253	93	36.6%
119111	Medical and Health Services Manager	3,171	446	14.1%
119121	Scientific Manager	448	48	10.7%
119131	Postmaster and Mail Superintendent Property and Real Estate Association	1	0	16.7%
119141	Manager Social and Community Services	1,771	316	17.8%
119151	Manager	1,254	214	17.1%
119199	Manager, Unclassified	3,824	492	12.9%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Business Operations and Finance Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
131011	Agent for Entertainers and Athletes	99	23	23.1%
131021	Farm Products Purchasing Agent and Buyer	173	28	16.4%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
131022	Wholesale and Retail Buyer	1,768	322	18.2%
131023	Purchasing Agent	4,004	565	14.1%
131031	Claims Adjuster, Examiner, and Investigator	2,668	348	13.0%
131032	Auto Damage Adjuster	148	20	13.2%
131041	Compliance Officer	1,761	183	10.4%
131051	Cost Estimator	2,897	713	24.6%
131061	Emergency Management Specialist	130	12	9.6%
131071	Employment, Recruitment, and Placement Specialists	2,296	689	30.0%
131072	Compensation, Benefits, and Job Analysis Specialist	1,161	173	14.9%
131073	Training and Development Specialist	2,642	442	16.7%
131079	Human Resource Specialist	1,991	334	16.8%
131081	Logistician	734	96	13.1%
131111	Management Analyst	5,531	795	14.4%
131121	Meeting and Convention Planner	330	69	21.0%
131199	Business Operations Specialist	10,271	1,495	14.6%
132011	Accountant and Auditor	13,581	2,199	16.2%
132021	Assessor and Appraiser	697	83	11.9%
132031	Budget Analyst	561	57	10.1%
132041	Credit Analyst	879	111	12.6%
132051	Financial Analyst	1,941	257	13.3%
132052	Personal Financial Advisor	895	92	10.3%
132053	Insurance Underwriter	1,154	143	12.4%
132061	Financial Examiner	220	20	9.0%
132071	Loan Counselor	398	40	10.0%
132072	Loan Officer	5,108	513	10.1%
132081	Tax Examiner, Collector and Revenue Agent	693	39	5.6%
132082	Tax Preparer	777	122	15.7%
132099	Financial Specialist	1,398	156	11.1%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Computer and Mathematical Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
151011	Computer and Information Scientist	287	40	14.0%
151021	Computer Programmer	4,780	804	16.8%
151031	Applications Software Engineer	5,582	832	14.9%
151032	Systems Software Engineer	3,991	634	15.9%
151041	Computer Support Specialist	6,089	975	16.0%
151051	Computer Systems Analyst	5,973	794	13.3%
151061	Database Administrator Network and Computer Systems	1,137	178	15.6%
151071	Administrator Network Systems and Data	3,337	483	14.5%
151081	Communications Analyst	2,251	354	15.7%
151099	Computer Specialist	1,230	151	12.3%
152011	Actuary	182	25	13.9%
152021	Mathematician	32	3	10.5%
152031	Operations Research Analyst	598	71	11.9%
152041	Statistician	195	22	11.1%
152091	Mathematical Technician	14	2	11.2%
152099	Mathematical Science Specialist	59	9	14.5%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Architectural and Engineering Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
171011	Architect	1,291	213	16.5%
171012	Landscape Architect	262	59	22.4%
171021	Cartographer and Photogrammetrist	130	16	12.6%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
171022	Surveyor	733	118	16.1%
172011	Aerospace Engineer	1,672	187	11.2%
172021	Agricultural Engineer	39	5	13.7%
172031	Biomedical Engineer	143	19	13.0%
172041	Chemical Engineer	364	42	11.5%
172051	Civil Engineer	2,936	447	15.2%
172061	Computer Hardware Engineer	975	145	14.9%
172071	Electrical Engineer	2,161	267	12.3%
172072	Electronics Engineer	1,652	230	13.9%
172081	Environmental Engineer	649	87	13.5%
172111	Health, Safety and Fire Prevention Engineer	338	52	15.5%
172112	Industrial Engineer	3,493	457	13.1%
172121	Marine Engineer and Navel Architect	79	11	13.5%
172131	Materials Engineer	385	42	11.0%
172141	Mechanical Engineer	3,484	435	12.5%
172151	Mining and Mine Safety Engineer	87	10	11.5%
172161	Nuclear Engineer	267	25	9.3%
172171	Petroleum Engineer	125	17	13.7%
172199	Engineer	1,728	267	15.5%
173011	Architectural and Civil Drafter	1,399	241	17.2%
173012	Electrical and Electronics Drafter	432	67	15.6%
173013	Mechanical Drafter	1,189	178	15.0%
173019	Drafter	208	35	17.0%
173021	Aerospace Engineering and Operations Technician	201	22	10.7%
173022	Civil Engineering Technician	1,066	129	12.1%
173023	Electrical and Electronic Engineering Technician	2,133	266	12.5%
173024	Electro-Mechanical Technician	198	27	13.5%
173025	Environmental Engineering Technician	268	44	16.6%
173026	Industrial Engineering Technician	1,212	155	12.8%
173027	Mechanical Engineering Technician	675	94	13.9%
173029	Engineering Technician (assigned)	803	109	13.5%
173031	Surveying and Mapping Technician	871	126	14.4%



**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Physical, Social and Life Science Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
191011	Animal Scientist	39	4	10.6%
191012	Food Scientist and Technologist	130	21	16.2%
191013	Soil and Plant Scientist	120	15	12.2%
191021	Biochemist and Biophysicist	215	28	12.8%
191022	Microbiologist	177	19	10.6%
191023	Zoologist and Wildlife Biologist	176	17	9.7%
191029	Biological Scientist	275	22	8.0%
191031	Conservation Scientist	149	10	6.9%
191032	Forester	156	21	13.2%
191041	Epidemiologist	39	3	8.4%
191042	Medical Scientist	941	107	11.4%
191099	Biological Scientist	122	14	11.7%
192011	Astronomer	8	0	5.9%
192012	Physicist	192	23	11.8%
192021	Atmospheric and Space Scientist	81	9	11.2%
192031	Chemist	940	112	11.9%
192032	Materials Scientist	87	11	12.3%
192041	Environmental Scientist	835	95	11.3%
192042	Geologist	280	36	13.0%
192043	Hydrologist	97	11	11.4%
192099	Physical Scientist	250	26	10.5%
193011	Economist	128	13	10.3%
193021	Market Research Analyst	2,415	380	15.7%
193022	Survey Researcher	264	41	15.5%
193031	Clinical, Counseling, and School Psychologist	1,297	134	10.3%
193032	Industrial-Organizational Psychologist	12	2	14.1%
193039	Psychologist	76	7	8.7%
193041	Sociologist	42	5	12.2%
193051	Urban and Regional Planner	324	26	8.0%
193091	Anthropologist and Archeologist	57	7	12.7%
193092	Geographer	7	1	7.7%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
193093	Historian	29	3	10.1%
193094	Political Scientist	50	5	9.7%
193099	Social Scientist	311	30	9.6%
194011	Agricultural and Food Science Technician	284	39	13.7%
194021	Biological Technician	813	88	10.8%
194031	Chemical Technician	823	97	11.8%
194041	Geological and Petroleum Technician	89	13	14.9%
194051	Nuclear Technician	121	11	8.7%
194061	Social Science Research Assistant	197	24	12.0%
194091	Environmental Science and Protection Technician	398	50	12.5%
194092	Forensic Science Technician	106	7	7.1%
194093	Forest and Conservation Technician	292	19	6.5%
194099	Life, Physical and Social Science Technician	708	66	9.3%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Community and Social Service Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
211011	Substance Abuse and Behavioral Disorder Counselor	949	155	16.3%
211012	Educational, Vocational, and School Counselor	2,714	225	8.3%
211013	Marriage and Family Therapist	220	32	14.7%
211014	Mental Health Counselor	1,154	183	15.9%
211015	Rehabilitation Counselor	1,437	260	18.1%
211019	Counselor	243	32	13.1%
211021	Child, Family, and School Social Worker	2,851	340	11.9%
211022	Medical and Public Health Social Worker	1,478	213	14.4%
211023	Mental Health and Substance Abuse Social Worker	1,545	244	15.8%
211029	Social Worker	674	85	12.6%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
211091	Health Educator	623	80	12.8%
211092	Probation Officer and Correctional Treatment Specialist	878	57	6.5%
211093	Social and Human Service Assistant	3,682	584	15.9%
211099	Community and Social Service Specialists	1,071	146	13.6%
212011	Clergy	364	55	15.1%
212021	Religious Education, Youth and Special Minister	107	18	16.5%
212099	Religious Worker	48	8	15.9%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Legal Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
231011	Lawyer	6,533	937	14.3%
231021	Judge and Hearing Officer	147	8	5.6%
231022	Arbitrator, Mediator, and Conciliator	55	6	11.8%
231023	Judge and Hearing Officer	243	14	5.6%
232011	Paralegal	2,698	395	14.6%
232091	Court Reporter	188	55	29.4%
232092	Law Clerk	456	52	11.4%
232093	Title Examiner, Abstractor, and Searcher	490	75	15.3%
232099	Paralegal and Legal Support Worker	699	55	7.9%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Education and Library Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
251000	College Teacher	17,420	1,121	6.4%
252011	Pre-School Teacher	4,075	688	16.9%
252012	Kindergarten Teacher	2,207	153	6.9%
252021	Elementary School Teacher	19,267	1,277	6.6%
252022	Middle School Teacher	8,271	547	6.6%
252023	Middle School Vocational Education Teacher	199	13	6.3%
252031	Secondary School Teacher	13,179	857	6.5%
252032	Secondary School Vocational Education Teacher	1,248	79	6.4%
252041	Elementary School Special Education Teacher	2,768	189	6.8%
252042	Middle School Special Education Teacher	1,338	85	6.4%
252043	High School Special Education Teacher	1,763	114	6.4%
253011	Adult Literacy, Remedial Education, and GED Teacher and Instructors	828	71	8.6%
253021	Self-Enrichment Education Teacher	1,667	179	10.7%
253099	Teacher	6,758	497	7.4%
254011	Archivist	56	7	12.9%
254012	Curator	95	11	11.4%
254013	Museum Technician and Conservator	98	10	9.9%
254021	Librarian	1,774	125	7.0%
254031	Library Technician	1,324	92	6.9%
259011	Audio-Visual Collections Specialist	88	6	6.5%
259021	Farm and Home Management Advisor	157	12	7.4%
259031	Instructional Coordinator	1,398	109	7.8%
259041	Teacher Assistant	15,639	1,214	7.8%
259099	Education, Training, and Library Worker	915	64	7.0%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Design, Artistic and Creative Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
271011	Art Director	324	52	16.2%
271012	Craft Artist	51	8	16.7%
271013	Fine Artist	97	16	16.4%
271014	Multi-Media Artist and Animator	243	43	17.8%
271019	Artist and Illustrator	51	10	19.5%
271021	Commercial and Industrial Designer	478	76	15.9%
271022	Fashion Designer	299	61	20.4%
271023	Floral Designer	776	210	27.0%
271024	Graphic Designer	2,142	316	14.8%
271025	Interior Designer	652	128	19.6%
271026	Merchandise Displayer and Window Trimmer	997	232	23.3%
271027	Set and Exhibit Designer	87	21	24.4%
271029	Designer	149	27	18.3%
272011	Actors	478	124	25.9%
272012	Producer and Director	641	108	16.9%
272021	Athlete	115	27	23.4%
272022	Coach and Scout	1,700	169	9.9%
272023	Sports Official	113	17	14.9%
272031	Dancer	101	21	20.9%
272032	Choreographer	202	14	6.8%
272041	Music Director	75	15	19.3%
272042	Musician and Singer	457	107	23.4%
272099	Entertainer, Performer and Sports Worker	428	143	33.4%
273011	Radio and Television Announcer	600	70	11.7%
273012	Announcer	93	31	33.6%
273021	Broadcast News Analysts	93	11	11.5%
273022	Reporters and Correspondents	494	62	12.6%
273031	Public Relations Specialist	2,209	347	15.7%
273041	Editor	854	127	14.9%
273042	Technical Writer	556	95	17.1%
273043	Writer and Author	447	72	16.0%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
273091	Interpreter and Translator	344	36	10.6%
273099	Media and Communication Worker	273	42	15.6%
274011	Audio and Video Equipment Technician	418	90	21.6%
274012	Broadcast Technician	419	50	11.9%
274013	Radio Operator	12	1	8.6%
274014	Sound Engineering Technician	108	25	23.5%
274021	Photographer	729	113	15.5%
274031	Camera Operator	227	42	18.4%
274032	Film and Video Editor	122	27	21.8%
274099	Media and Communication Equipment Worker	139	23	16.3%

**Occupational Detail**  
**Employment, Separation and Separation Rate**  
**Statewide 1st Quarter 2006**

**Health Care Professional and Technical Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
291011	Chiropractors	368	51	13.8%
291020	Dentists	1,451	190	13.1%
291031	Dietitian and Nutritionist	658	99	15.1%
291041	Optometrist	347	47	13.6%
291051	Pharmacist	3,410	580	17.0%
291060	Physicians and Surgeons	7,036	891	12.7%
291071	Physician Assistant	910	120	13.2%
291081	Podiatrist	119	15	12.8%
291111	Registered Nurses	32,393	4,047	12.5%
291121	Audiologist	146	18	12.6%
291122	Occupational Therapist	1,231	172	14.0%
291123	Physical Therapist	2,194	309	14.1%
291124	Radiation Therapist	205	25	12.2%
291125	Recreational Therapist	314	52	16.5%
291126	Respiratory Therapist	1,392	185	13.3%
291127	Speech Language Pathologist	1,276	132	10.3%
291129	Therapist	123	16	13.0%
291131	Veterinarian	635	99	15.5%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
291199	Health Diagnosing and Treating Practitioner	801	98	12.3%
292011	Medical and Clinical Laboratory Technologist	2,232	272	12.2%
292012	Medical and Clinical Laboratory Technician	2,032	256	12.6%
292021	Dental Hygienist	2,380	322	13.5%
292031	Cardiovascular Technologist and Technician	628	76	12.1%
292032	Diagnostic Medical Sonographer	642	81	12.6%
292033	Nuclear Medicine Technologist	266	36	13.3%
292034	Radiologic Technologist and Technician	2,690	349	13.0%
292041	Emergency Medical Technician and Paramedic	2,542	290	11.4%
292051	Dietetic Technician	332	53	15.8%
292052	Pharmacy Technician	4,055	713	17.6%
292053	Psychiatric Technician	833	105	12.6%
292054	Respiratory Therapy Technician	320	40	12.4%
292055	Surgical Technologist	907	113	12.5%
292056	Veterinary Technologist and Technician	848	131	15.5%
292061	Licensed Practical and Licensed Vocational Nurse	10,090	1,914	19.0%
292071	Medical Records Technician	2,287	319	14.0%
292081	Dispensing Optician	855	130	15.2%
292091	Orthotist and Prosthetist	60	9	15.1%
292099	Health Technologist and Technician	994	122	12.3%
299011	Occupational Health and Safety Specialist	468	53	11.4%
299012	Occupational Health and Safety Technician	122	16	13.3%
299091	Athletic Trainer	182	24	13.4%
299099	Healthcare Practitioners and Technical Worker	690	87	12.7%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Health Care Support Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
311011	Home Health Aide	9,261	1,774	19.2%
311012	Nursing Aide, Orderly, and Attendant	19,860	3,967	20.0%
311013	Psychiatric Aide	745	99	13.3%
312011	Occupational Therapist Assistant	314	50	15.9%
312012	Occupational Therapist Aide	88	13	14.9%
312021	Physical Therapist Assistant	851	126	14.8%
312022	Physical Therapist Aide	611	87	14.2%
319011	Massage Therapist	444	88	19.9%
319091	Dental Assistant	3,975	528	13.3%
319092	Medical Assistant	5,613	762	13.6%
319093	Medical Equipment Preparer	600	73	12.2%
319094	Medical Transcriptionist	1,299	211	16.2%
319095	Pharmacy Aide	643	114	17.7%
319096	Veterinary Assistant	936	146	15.6%
319099	Healthcare Support Worker	2,552	335	13.1%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Protective Service Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
331011	Correction Officer Supervisor	364	28	7.6%
331012	Police Supervisor	880	50	5.7%
331021	Firefighter Supervisor	506	29	5.7%
331099	Protective Services Workers Supervisor	605	180	29.8%
332011	Fire Fighter	2,650	152	5.7%
332021	Fire Inspector and Investigator	122	9	7.7%
332022	Forest Fire Inspector and Prevention	15	1	5.6%



<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
	Specialist			
333011	Bailiff	165	9	5.6%
333012	Corrections Officer and Jailer	4,001	326	8.1%
333021	Detective and Criminal Investigator	816	46	5.6%
333031	Fish and Game Warden	60	3	5.6%
333041	Parking Enforcement Worker	100	6	6.4%
333051	Police and Sheriff's Patrol Officer	6,000	339	5.7%
333052	Transit and Railroad Police Officer	37	2	5.9%
339011	Animal Control Worker	129	8	6.5%
339021	Private Detective and Investigator	346	132	38.2%
339031	Gaming Surveillance Officer and Gaming Investigator	67	8	12.6%
339032	Security Guard	13,150	5,177	39.4%
339091	Crossing Guard	738	98	13.3%
339092	Lifeguard, Ski Patrol, and Other Recreational Protective Service Worker	790	118	14.9%
339099	Protective Service Worker	1,341	121	9.0%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Food Service Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
351011	Chef	1,601	681	42.5%
351012	Food Service Supervisor	10,446	4,370	41.8%
352011	Fast Food Cook	9,176	4,309	47.0%
352012	Institution and Cafeteria Cook	5,172	962	18.6%
352013	Personal Chef and Cook	3	1	28.0%
352014	Restaurant Cook	10,991	5,090	46.3%
352015	Short Order Cook	2,842	1,265	44.5%
352019	Cook	144	54	37.7%
352021	Food Preparation Worker	12,087	4,245	35.1%
353011	Bartender	6,175	2,716	44.0%
353021	Combined Food Preparation and Serving Worker	32,841	14,076	42.9%
353022	Food Service Counter Clerk	6,692	2,650	39.6%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
353031	Wait staff	31,636	14,594	46.1%
353041	Food Server	2,401	723	30.1%
359011	Dining Room and Cafeteria Attendant and Bartender Helper	5,207	2,227	42.8%
359021	Dishwasher	6,882	3,051	44.3%
359031	Host and Maitre 'De	4,610	2,145	46.5%
359099	Food Service Worker	682	245	36.0%

**Occupational Detail**  
**Employment, Separation and Separation Rate**  
**Statewide 1st Quarter 2006**

**Building and Grounds Service Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
371011	Housekeeping and Janitorial Supervisor	2,289	694	30.3%
371012	Supervisor of Cleaning and Grounds Services Workers	1,277	503	39.4%
372011	Janitor and Cleaner	26,985	8,089	30.0%
372012	Maid and Housekeeper	9,727	2,986	30.7%
372019	Building Cleaning Worker	168	72	42.9%
372021	Pest Control Worker	829	436	52.5%
373011	Landscaping and Grounds-keeping Worker	10,962	4,256	38.8%
373012	Pesticide Handler, Sprayer, and Applicator	368	159	43.2%
373013	Tree Trimmer and Pruner	63	6	10.1%
373019	Grounds Maintenance Worker	77	15	19.5%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Personal Service Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
391011	Gaming Supervisor	205	51	25.1%
391012	Slot Key Person	127	25	19.5%
391021	Personal Service Worker Supervisor	1,350	279	20.6%
392011	Animal Trainer	124	33	26.8%
392021	Animal Caretaker	1,229	251	20.5%
393011	Gaming Dealer	696	175	25.1%
393012	Gaming Support Worker	170	36	21.1%
393019	Gaming Service Worker	114	23	19.7%
393021	Motion Picture Projectionist	50	19	36.8%
393031	Usher, Lobby Attendant, and Ticket Taker	819	252	30.7%
393091	Amusement and Recreation Attendant	2,014	419	20.8%
393092	Costume Attendant	33	8	25.0%
393093	Locker Room, Coatroom, and Dressing Room Attendant	126	31	24.9%
393099	Entertainment Attendant	101	21	20.8%
394011	Embalmer	116	25	21.5%
394021	Funeral Attendant	358	77	21.5%
395011	Barbers	161	34	21.2%
395012	Hairdresser, Hairstylist, and Cosmetologist	3,763	812	21.6%
395091	Theatrical Makeup Artist	11	2	21.3%
395092	Manicurist and Pedicurist	495	107	21.5%
395093	Shampooer	191	41	21.5%
395094	Skin Care Specialist	286	62	21.6%
396011	Baggage Porter and Bellhop	410	137	33.5%
396012	Concierge	90	29	32.4%
396021	Tour Guide and Escort	289	73	25.1%
396022	Travel Guide	34	17	49.8%
396031	Flight Attendant	199	24	12.1%
396032	Transportation Attendant	223	30	13.3%
399011	Child Care Worker	6,554	1,090	16.6%
399021	Personal and Home Care Aide	7,504	1,366	18.2%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
399031	Fitness Trainer	1,702	357	21.0%
399032	Recreation Worker	2,787	434	15.6%
399041	Residential Advisor	653	109	16.7%
399099	Personal Care and Service Worker	707	147	20.8%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Sales Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
411011	Retail Sales Supervisor	16,648	4,404	26.5%
411012	Non-Retail Sales Supervisor	3,743	667	17.8%
412011	Cashier	53,722	16,139	30.0%
412012	Gaming Change Person and Booth Cashier	248	56	22.6%
412021	Counter and Rental Clerk	6,112	1,383	22.6%
412022	Parts Salesperson	3,687	626	17.0%
412031	Retail Salesperson	68,639	17,416	25.4%
413011	Advertising Sales Agent	1,753	254	14.5%
413021	Insurance Sales Agent	3,514	446	12.7%
413031	Securities, Commodities, and Financial Services Sales Agent	2,071	207	10.0%
413041	Travel Agent	1,169	617	52.8%
413099	Sales Representative	5,003	1,148	23.0%
414011	Technical and Scientific Products Sales Representative	5,018	674	13.4%
414012	Manufacturers Representative	21,239	3,302	15.5%
419011	Demonstrator and Product Promoter	1,259	319	25.3%
419012	Model	12	1	6.5%
419021	Real Estate Broker	478	84	17.5%
419022	Real Estate Sales Agent	1,807	354	19.6%
419031	Sales Engineer	930	127	13.7%
419041	Telemarketer	5,056	1,773	35.1%
419091	Door-to-Door and Street Sales Worker	98	22	22.4%
419099	Sales Worker	2,108	446	21.2%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Clerical and Administrative Support Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
431011	Supervisor of Office and Administrative Support Workers	18,452	3,187	17.3%
432011	Switchboard Operator	2,553	591	23.2%
432021	Telephone Operator	387	61	15.7%
432099	Telephone Operator	34	3	8.9%
433011	Bill and Account Collector	6,055	1,433	23.7%
433021	Billing and Posting Clerk and Machine Operator	7,383	1,215	16.5%
433031	Bookkeeper	24,458	4,672	19.1%
433041	Gaming Cage Worker	162	37	22.7%
433051	Payroll and Timekeeping Clerk	2,875	591	20.5%
433061	Procurement Clerk	938	136	14.5%
433071	Teller	9,407	926	9.8%
434011	Brokerage Clerk	455	48	10.6%
434021	Correspondence Clerk	208	29	13.8%
434031	Court and Municipal Clerk	986	69	7.0%
434041	Credit Clerk	948	153	16.2%
434051	Customer Service Representative	28,293	5,521	19.5%
434061	Eligibility Interviewer	833	55	6.6%
434071	File Clerk	3,012	585	19.4%
434081	Front Desk and Guest Services Clerk	1,642	622	37.9%
434111	Interviewer	2,740	380	13.9%
434121	Library Assistant	1,195	81	6.8%
434131	Loan Processor	3,477	376	10.8%
434141	New Accounts Clerk	1,252	122	9.7%
434151	Order Clerk	3,372	577	17.1%
434161	Human Resources Assistant	2,182	367	16.8%
434171	Receptionist	14,604	2,710	18.6%
434181	Reservation and Transportation Ticket Agent and Travel Clerk	904	305	33.7%
434199	Information and Record Clerk	2,881	434	15.1%
435011	Cargo and Freight Agent	788	136	17.3%
435021	Courier and Messenger	1,244	190	15.3%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
435031	Police, Fire and Ambulance Dispatcher	940	67	7.1%
435032	Dispatcher	2,513	497	19.8%
435041	Meter Reader	951	91	9.6%
435051	Postal Service Clerk	2	0	16.7%
435052	Mail Carrier	8	1	16.7%
435053	Postal Service Mail Sorter, Processor, and Processing Machine Operator	5	1	16.7%
435061	Expediter	4,626	694	15.0%
435071	Shipping, Receiving, and Traffic Clerk	12,065	2,231	18.5%
435081	Stock Clerk and Order Filler	25,504	5,817	22.8%
435111	Weigher, Measurer, Checker, and Sampler	1,231	296	24.1%
436011	Executive Secretary and Administrative Assistant	18,357	3,139	17.1%
436012	Legal Secretary	3,463	542	15.7%
436013	Medical Secretary	5,606	745	13.3%
436014	Secretary	22,587	3,712	16.4%
439011	Computer Operator	1,561	286	18.3%
439021	Data Entry Clerk	3,581	856	23.9%
439022	Word Processor	1,729	301	17.4%
439031	Desktop Publisher	274	41	15.1%
439041	Insurance Claims and Policy Processing Clerk	2,789	360	12.9%
439051	Mail Clerks and Mail Machine Operators, Except Postal Service	1,665	404	24.2%
439061	Office Clerk	39,433	7,274	18.4%
439071	Office Machine Operator	1,011	277	27.4%
439081	Proofreader and Copy Marker	196	36	18.2%
439111	Statistical Assistant	169	17	10.2%
439199	Office and Administrative Support Worker	2,754	304	11.0%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Agricultural, Forestry and Fishing Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
451011	Supervisors of Farm, Fishery and Forestry Workers	468	120	25.7%
451012	Farm Labor Contractor	64	19	29.3%
452011	Agricultural Inspector	140	17	11.9%
452021	Animal Breeder	54	15	27.6%
452041	Agricultural Products Grader and Sorter	971	253	26.1%
452091	Agricultural Equipment Operator	562	155	27.6%
452092	Farm worker and Laborer	6,596	1,896	28.7%
452093	Livestock and Ranch Hand	804	186	23.2%
452099	Agricultural Worker	128	23	18.1%
453011	Fishers and Related Fishing Worker	4	1	17.1%
454011	Forest and Conservation Worker	98	11	11.7%
454021	Faller	310	90	29.0%
454022	Logging Equipment Operator	910	252	27.7%
454023	Log Grader and Scaler	149	31	20.8%
454029	Logging Worker	176	49	28.0%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Construction, Mining and Extraction Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
471011	Supervisor of Construction and Extraction Workers	7,599	2,024	26.6%
472011	Boilermaker	236	60	25.6%
472021	Brick mason and Block mason	1,299	388	29.9%
472022	Stonemason	190	57	30.2%
472031	Carpenter	14,033	4,063	29.0%
472041	Carpet Installer	444	123	27.8%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
472042	Floor Layer	165	47	28.2%
472043	Floor Sander and Finisher	58	17	29.5%
472044	Tile and Marble Setter	485	138	28.5%
472051	Cement Mason and Concrete Finisher	2,470	724	29.3%
472053	Terrazzo Worker and Finisher	32	7	21.3%
472061	Construction Laborer	13,183	3,961	30.0%
472071	Paving, Surfacing, and Tamping Equipment Operator	840	195	23.3%
472072	Pile-Driver Operator	67	19	27.8%
472073	Operating Engineer	5,569	1,227	22.0%
472081	Drywall and Ceiling Tile Installer	1,360	417	30.6%
472082	Taper	401	122	30.5%
472111	Electrician	7,765	1,807	23.3%
472121	Glazier	431	120	27.8%
472131	Floor, Ceiling and Wall Insulation Worker	342	100	29.3%
472132	Mechanical Insulation Worker	254	70	27.7%
472141	Painter	2,805	772	27.5%
472142	Paperhanger	80	22	27.1%
472151	Pipe layer	833	196	23.5%
472152	Plumber, Pipefitter & Steamfitter	5,091	1,272	25.0%
472161	Plasterer and Stucco Mason	494	149	30.2%
472171	Reinforcing Iron and Rebar Worker	371	105	28.2%
472181	Roofer	1,237	377	30.5%
472211	Metal Worker	2,179	504	23.1%
472221	Structural Iron and Steel Worker	887	254	28.6%
473011	Helper for Brick and Block masons, Stonemasons, and Tile and Marble Setters	608	185	30.4%
473012	Helper for Carpenters	1,531	460	30.1%
473013	Helper for Electricians	931	280	30.1%
473014	Helper for Painters, Paperhangers, Plasterers, and Stucco Masons	230	70	30.3%
473015	Helper for Pipe layers, Plumbers, Pipe fitters, and Steamfitters	859	252	29.4%
473016	Helper for Roofers	206	63	30.8%
473019	General Construction Helper	463	152	32.8%
474011	Construction and Building Inspector	1,009	122	12.1%
474021	Elevator Installer and Repairer	205	60	29.2%
474031	Fence Erector	226	64	28.4%
474041	Hazardous Material Removal Worker	423	107	25.2%



<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
474051	Highway Maintenance Worker	1,380	103	7.5%
474061	Rail-Track Laying and Maintenance Equipment Operator	32	7	21.7%
474071	Septic Tank Servicer and Sewer Pipe Cleaner	183	40	21.6%
474091	Segmental Paver	4	1	28.5%
474099	Construction Helper	796	265	33.3%
475011	Oil and Gas Derrick Operator	60	19	31.9%
475012	Oil and Gas Rotary Drill Operator	72	22	30.8%
475013	Oil, Gas and Mining Service Unit Operator	91	29	31.9%
475021	Earth Driller	306	68	22.2%
475031	Explosive Worker, Ordnance Handling Expert and Blaster	70	9	12.1%
475041	Continuous Mining Machine Operator	261	27	10.5%
475042	Mine Cutting and Channeling Machine Operator	172	18	10.7%
475049	Mining Machine Operator	67	7	10.5%
475051	Rock Splitter	82	9	10.6%
475061	Mining Roof Bolter	129	13	10.4%
475071	Roustabout	178	51	28.9%
475081	Mining Worker	347	64	18.5%
475099	Mining Worker	98	17	17.1%

**Occupational Detail  
Employment, Separation and Separation Rate  
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**Installation and Repair Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
491011	Supervisor of Installation, Maintenance and Repair Workers	6,852	1,151	16.8%
492011	Computer, Automated Teller, and Office Machine Repairer	1,809	322	17.8%
492021	Radio Mechanic	72	12	16.4%
492022	Telecommunications Equipment Installer and Repairer	2,750	423	15.4%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
492091	Avionics Technician	308	37	12.0%
492092	Electric Home Appliance and Power Tool Repairer	286	55	19.3%
492093	Electrical Mechanic	215	28	13.0%
492094	Industrial Machinery Mechanic	1,006	144	14.4%
492095	Power Systems Maintenance Mechanic	591	34	5.7%
492096	Electrical Mechanic	256	48	18.7%
492097	Electronic Home Entertainment Equipment Installer and Repairer	323	68	21.0%
492098	Security and Fire Alarm Systems Installer	415	193	46.5%
493011	Aircraft Mechanic and Service Technician	1,270	157	12.3%
493021	Automotive Body Repairer	2,495	550	22.0%
493022	Automotive Glass Installer and Repairer	269	63	23.4%
493023	Automotive Service Technician	10,068	2,159	21.4%
493031	Bus and Truck Mechanic and Diesel Engine Specialist	3,801	662	17.4%
493041	Farm Equipment Mechanic	464	68	14.7%
493042	Mobile Heavy Equipment Mechanic	1,776	292	16.4%
493043	Rail Car Repairer	94	14	14.4%
493051	Motorboat Mechanic	269	53	19.6%
493052	Motorcycle Mechanic	264	48	18.2%
493053	Outdoor Power Equipment and Other Small Engine Mechanic	172	41	23.6%
493091	Bicycle Repairer	98	29	29.3%
493092	Recreational Vehicle Service Technician	222	40	18.2%
493093	Tire Repairer and Changer	1,520	292	19.2%
499011	Mechanical Door Repairer	161	39	24.1%
499012	Control and Valve Installer and Repairer	837	64	7.7%
499021	Heating, Air Conditioning, and Refrigeration Mechanic and Installer	2,600	640	24.6%
499031	Home Appliance Repairer	514	106	20.6%
499041	Industrial Machinery Mechanic	4,993	662	13.3%
499042	Maintenance and Repair Worker	18,583	3,187	17.1%
499043	Machinery Maintenance Worker	1,647	228	13.8%
499044	Millwright	1,143	175	15.3%
499045	Refractory Materials Repairer	85	9	10.5%
499051	Electrical Power-Line Installer and Repairer	2,674	251	9.4%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
499052	Telecommunications Line Installer and Repairer	2,024	349	17.2%
499060	Precision Instrument and Equipment Repairer	620	100	16.1%
499091	Coin, Vending, and Amusement Machine Servicer and Repairer	405	80	19.8%
499092	Commercial Diver	19	7	35.4%
499093	Fabric Mender	57	7	11.5%
499094	Locksmith and Safe Repairer	206	91	44.1%
499095	Manufactured Building and Mobile Home Installer	152	39	25.4%
499096	Rigger	149	26	17.7%
499097	Signal and Track Switch Repairer	3	1	16.7%
499098	Helpers for Installation, Maintenance, and Repair Workers	2,299	466	20.3%
499099	Installation, Maintenance, and Repair Worker	1,922	367	19.1%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Production Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
511011	Production Supervisor	13,467	1,936	14.4%
512011	Aircraft Structure, Surfaces, Rigging, and Systems Assembler	612	59	9.7%
512020-512030	Electrical and Electronic Equipment Assemblers	5,093	707	13.9%
512041	Structural Metal Fabricator and Fitter	1,691	236	14.0%
512091	Fiberglass Laminator and Fabricator	691	81	11.7%
512092	Team Assembler	24,311	4,246	17.5%
512093	Timing Device Assembler, Adjuster, and Calibrator	28	4	15.0%
512099	Mechanical Assembler	5,032	847	16.8%
513011	Baker	2,330	605	26.0%
513021	Butcher and Meat Cutter	1,724	431	25.0%
513022	Meat, Poultry, and Fish Cutter and Trimmer	2,576	477	18.5%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
513023	Slaughterer and Meat Packer	2,802	489	17.5%
513091	Food and Tobacco Roasting, Baking, and Drying Machine Operator	357	62	17.5%
513092	Food Batchmaker	1,706	311	18.2%
513093	Food Cooking Machine Operator	696	147	21.1%
514011	Metal and Plastic Computer-Controlled Machine Tool Operator	2,535	303	12.0%
514012	Numerical Tool and Process Control Programmer	306	40	13.1%
514020	Metal and Plastic Processing Machine Setter and Operator	14,050	1,628	11.6%
514041	Machinist	6,682	932	13.9%
514051	Metal-Refining Furnace Operator	676	55	8.1%
514052	Metal Pourer and Caster	545	43	8.0%
514061	Metal and Plastic Model Maker	85	11	12.8%
514062	Metal and Plastic Patternmaker	161	16	10.1%
514071	Foundry Mold and Coremaker	552	46	8.3%
514072	Metal and Plastic Molding, Coremaking, and Casting Machine Setter and Operator	3,134	395	12.6%
514081	Metal and Plastic Multiple Machine Tool Setter and Operator	2,065	258	12.5%
514111	Tool and Die Maker	2,003	224	11.2%
514121	Welder, Cutter, Solderer, and Brazier	6,654	975	14.6%
514122	Welding, Soldering, and Brazing Machine Setter and Operator	930	114	12.3%
514190	Metal and Plastic Worker	2,650	344	13.0%
515010-				
515020	Printing and Bindery Worker	4,352	568	13.1%
516011	Laundry and Dry-Cleaning Machine Operators and Tenders	2,553	573	22.4%
516021	Presser	1,293	296	22.9%
516031	Sewing Machine Operator	9,876	1,891	19.1%
516041	Shoe and Leather Worker and Repairer	67	19	27.8%
516042	Shoe Machine Operator	18	4	22.4%
516051	Hand Sewer	290	53	18.4%
516052	Custom Tailor	589	150	25.4%
516060	Textile Machine Operator	6,577	1,127	17.1%
516091	Synthetic and Glass Fibers Extruding and Forming Machine Setter and Operator	547	77	14.0%
516092	Fabric and Apparel Patternmaker	387	80	20.5%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
516093	Upholsterer	977	220	22.5%
516099	Textile, Apparel, and Furnishings Worker	736	156	21.2%
517011	Cabinetmaker and Bench Carpenter	3,296	748	22.7%
517021	Furniture Finisher	592	140	23.6%
517031	Wood Model Makers	49	11	22.5%
517032	Wood Patternmaker	52	10	18.3%
517041	Wood Sawing Machine Setter, Operator, and Tender	1,999	416	20.8%
517042	Woodworking Machine Setters and Operators	2,977	617	20.7%
517099	Woodworker	281	59	21.1%
518011	Nuclear Power Reactor Operator	113	6	5.4%
518012	Power Distributors and Dispatcher	190	11	5.6%
518013	Power Plant Operator	932	53	5.7%
518021	Stationary Engineer and Boiler Operator Water and Liquid Waste Treatment and	703	72	10.3%
518031	System Operator	1,309	87	6.6%
518090	Plant and System Operator	1,699	119	7.0%
519011	Chemical Equipment Operator Separating, Filtering, Clarifying, Precipitating, and Still Machine Setter and Operator	623	55	8.8%
519012	Crushing, Grinding, and Polishing Machine Setter and Operator	661	93	14.0%
519021	Hand Grinding and Polishing Worker	840	114	13.5%
519022	Mixing and Blending Machine Setter and Operator	1,076	148	13.7%
519023	Hand Cutter and Trimmer	1,994	242	12.1%
519031	Cutting and Slicing Machine Setter and Operator	698	125	17.9%
519032	Extruding, Forming, Pressing, and Compacting Machine Setter and Operator	1,518	187	12.3%
519041	Furnace, Kiln, Oven, Drier, and Kettle Operator	1,497	201	13.4%
519051	Operator	674	88	13.1%
519061	Quality Control Inspector	9,992	1,600	16.0%
519071	Jeweler	350	90	25.6%
519081	Dental Laboratory Technician	555	81	14.7%
519082	Medical Appliance Technician	119	20	16.8%
519083	Ophthalmic Laboratory Technician	312	48	15.3%
519111	Packaging and Filling Machine	6,760	1,383	20.5%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
	Operator Coating, Painting, and Spraying			
519121	Machine Setter and Operator	2,123	304	14.3%
519122	Transportation Equipment Painter Painting, Coating and Decorating	1,031	167	16.2%
519123	Worker	397	70	17.7%
519131	Photographic Process Worker Photographic Processing Machine	296	56	18.8%
519132	Operator	409	82	20.1%
519141	Semiconductor Processor Cementing and Gluing Machine	541	84	15.6%
519191	Operator Cleaning, Washing, and Metal Pickling	572	93	16.3%
519192	Equipment Operator Cooling and Freezing Equipment	297	47	15.9%
519193	Operator	178	30	16.6%
519194	Precision Etcher and Engraver	117	20	17.2%
519195	Molder, Shaper, and Caster Paper Goods Machine Setter and	649	83	12.8%
519196	Operator	2,617	178	6.8%
519197	Tire Builder	349	50	14.2%
519198	Helper for Production Workers	10,705	2,132	19.9%
519199	Production Worker	5,216	1,285	24.6%

**Occupational Detail  
Employment, Separation and Separation Rate  
Statewide 1st Quarter 2006**

**Transportation Occupations**

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
531011	Aircraft Cargo Handling Supervisor	41	7	18.3%
531021	Supervisor of Hand Material Moving Workers	2,717	483	17.8%
531031	Supervisor of Transport and Material Moving Machine Workers	3,058	535	17.5%
532011	Airline Pilot, Copilot, and Flight Engineer	212	24	11.5%
532012	Commercial Pilot	243	38	15.7%
532021	Air Traffic Controller	204	13	6.4%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
532022	Airfield Operations Specialist	40	4	10.5%
533011	Ambulance Driver and Attendant	249	32	12.7%
533021	Transit Bus Driver	2,008	190	9.5%
533022	School Bus Driver	5,994	509	8.5%
533031	Delivery Driver	5,554	1,604	28.9%
533032	Heavy and Tractor-Trailer Truck Driver	28,940	5,757	19.9%
533033	Light and Delivery Service Truck Driver	12,962	2,577	19.9%
533041	Taxi Driver and Chauffeur	1,858	320	17.2%
533099	Motor Vehicle Operator	999	214	21.4%
534011	Locomotive Engineer	18	1	7.7%
534013	Rail Yard Engineer, Dinkey Operator, and Hostler	47	5	11.6%
534021	Railroad Brake, Signal, and Switch Operator	18	3	15.0%
534031	Railroad Conductor, Yardmaster and Yard Worker	3	0	16.7%
534099	Rail Transportation Worker	13	2	13.8%
535011	Sailor and Marine Oiler	286	55	19.2%
535021	Captain, Mate, and Pilot of Water Vessels	263	50	18.9%
535022	Motorboat Operator	17	3	17.2%
535031	Ship Engineer	122	24	19.5%
536011	Bridge and Lock Tender	31	2	6.8%
536021	Parking Lot Attendant	1,480	331	22.4%
536031	Service Station Attendant	1,605	512	31.9%
536041	Traffic Technician	63	4	6.2%
536051	Transportation Inspector	267	33	12.2%
536099	Transportation Worker	314	49	15.7%
537011	Conveyor Operator	813	118	14.6%
537021	Crane and Tower Operator	791	125	15.8%
537031	Dredge Operator	44	6	13.6%
537032	Excavating and Loading Machine and Dragline Operator	1,061	227	21.4%
537033	Underground Mining Loading Machine Operator	67	7	10.5%
537041	Hoist and Winch Operator	49	8	16.6%
537051	Industrial Truck and Tractor Operator	11,313	1,895	16.8%
537061	Cleaner of Vehicles and Equipment	5,249	1,145	21.8%
537062	Freight and Stock Laborer	33,434	8,278	24.8%
537063	Machine Feeder and Offbearer	3,168	496	15.7%

<b>SOC Code</b>	<b>Job Title</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
537064	Hand Packer and Packager	13,573	3,323	24.5%
537071	Gas Compressor and Gas Pumping Station Operator	46	4	9.4%
537072	Pump Operators	78	11	13.7%
537073	Wellhead Pumper	45	7	15.1%
537081	Sanitation Worker	1,452	348	24.0%
537121	Tank Car, Truck, and Ship Loader	246	41	16.6%
537199	Material Moving Worker	634	117	18.4%



## Appendix C

### Distribution of SOC Occupations to Units of Analysis and Occupational Clusters

#### Overview

Georgia State University, with a grant from the U.S. Department of Labor, created the Occupational Supply and Demand System and developed a clustering approach which they entitled units of analysis ([www.occsupplydemand.org/OSD\\_Main.aspx](http://www.occsupplydemand.org/OSD_Main.aspx)). The units of analysis are the bridge between two classification systems. The first is the Classification of Instructional Programs (CIP) system used by the Department of Education to categorize the post-secondary education data they collect in IPEDS (Integrated Post-secondary Education Data System). The second is the Standard Occupational Code system maintained by the Bureau of Labor Statistics. The units of analysis create a many-to-many relationship between instructional programs and occupations. There are 242 Units of Analysis; all but a few of them link with two or more occupations.

The number of units of analysis makes sense in terms of linking occupations to courses of study; however, it is too many for a comfortable display of data in a report. For this report, the units of analysis were grouped into 21 occupational clusters. The distribution of the units of analysis into the clusters is shown below. The cluster titles are shown in bold. Total employment, separations and separation rate are based on LED data from the first quarter of 2006.

<b>Clusters and Units of Analysis Codes</b>	<b>Units of Analysis Titles</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
<b>Artistic</b>				
001B-03	Arts and Crafts	1,064	149	14.0%
002B-03	Dance	303	35	11.5%
003B-03	Photography	852	140	16.4%
004B-03	Dramatic Arts (Theater/Film)	1,846	394	21.4%
005B-03	Music	831	141	16.9%
006C-03	General Artistic and Craft Work	0	0	NA
007B-03	Design	4,928	944	19.2%
008B-14	Interior Design	652	128	19.6%
<b>Architecture and Engineering</b>				
009A-02	Architecture	1,291	213	16.5%
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<b>Clusters and Units of Analysis Codes</b>	<b>Units of Analysis Titles</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
<b>Architecture and Engineering (continued)</b>				
010A-01	Landscape Architecture	262	59	22.4%
011A-15	Agricultural Engineering	39	5	13.7%
012A-11	Computer Engineering	10,548	1,611	15.3%
013A-15	Naval Architecture and Marine Engineering	79	11	13.5%
014A-15	Aeronautical and Astronautical Engineering	1,672	187	11.2%
015A-15	Materials Engineering	385	42	11.0%
016A-15	Chemical Engineering	364	42	11.5%
017A-15	Civil Engineering	2,936	447	15.2%
018A-15	Electrical and Electronic Engineering	3,813	496	13.0%
019A-15	Industrial Engineering	3,493	457	13.1%
020A-15	Mechanical Engineering	3,484	435	12.5%
021A-01	Mining Engineering	87	10	11.5%
022A-15	Nuclear Engineering	267	25	9.3%
023A-15	Petroleum Engineering	125	17	13.7%
024A-05	General Engineering	2,173	295	13.6%
025A-15	Materials Science	87	11	12.3%
026A-15	Bioengineering and Biomedical Engineering	143	19	13.0%
027A-01	Environmental and Environmental Health Engineering	987	140	14.2%
029A-02	General Engineering Technology	803	109	13.5%
030A-02	Environmental Technology	666	94	14.1%
031A-01	Industrial and Manufacturing Technology	1,212	155	12.8%
032A-13	Mechanical Engineering Technology	675	94	13.9%
033A-01	Petroleum Technology	89	13	14.9%
034A-13	Electrical and Electronic Technology	2,331	292	12.5%
035A-02	Surveying and Cartography	1,734	260	15.0%
036A-16	Communications Electronics	5,173	852	16.5%
037A-02	Drafting	3,227	522	16.2%
038B-03	Communications Technologies	1,373	249	18.2%
039B-13	Civil Engineering Technology	1,066	129	12.1%
128A-16	Aerospace Technology	201	22	10.7%
040A-08	Occupational Health and Safety	590	70	11.8%

### **Installation and Repair Technicians**

041B-13	Electromechanical Equipment and Instrument Production and Repair	1,046	138	13.2%
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<b>Clusters and Units of Analysis Codes</b>	<b>Units of Analysis Titles</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
<b>Installation and Repair Technicians</b>				
042A-02	Air Conditioning and Heating Installation and Repair	2,600	640	24.6%
043B-13	Appliance and Equipment Repair	1,160	282	24.3%
044A-13	Computer/Business Machine Production and Repair	3,748	600	16.0%
045A-03	Musical Instrument Repair	58	16	27.1%
046A-14	Jewelry and Watch Repair	383	100	26.2%
047B-13	Medical Equipment Repair	312	44	14.1%
048B-02	Building Maintenance	19,710	3,366	17.1%
049C-13	General Mechanics and Repairers	0	0	NA
050A-16	Automobile Mechanics	11,588	2,451	21.2%
051A-16	Aircraft Mechanics	2,189	253	11.5%
052B-16	Agricultural Mechanics and Machinery Operators	1,027	223	21.8%
053B-16	Heavy Equipment Repair	1,776	292	16.4%
054B-13	Industrial Machinery Repair	8,167	1,177	14.4%
055B-16	Automobile Body Repair	2,764	613	22.2%
056B-16	Diesel Engine Repair	3,801	662	17.4%
057B-16	Small Engine Repair	706	141	20.0%
058B-16	Bicycle Repair	98	29	29.3%
059B-16	Marine Maintenance and Repair	122	24	19.5%
<b>Construction</b>				
060B-02	General Construction and Mining Mechanics	20,425	5,193	25.4%
062A-02	Masonry and Tile Setting	2,585	770	29.8%
063A-02	Carpentry	15,564	4,524	29.1%
064A-02	Electrical	12,717	2,502	19.7%
065B-02	General Construction	11,648	3,299	28.3%
066A-02	Painting and Wallpapering	3,115	863	27.7%
067A-02	Plumbing	6,783	1,720	25.4%
068B-02	Construction Equipment Operation	8,360	1,800	21.5%
<b>Machine Operation and General Manufacturing</b>				
069B-13	Metal and Plastic Machine Work	30,188	3,959	13.1%
070C-02	Home Furnishings	0	0	NA
071B-03	Printing	2,009	272	13.5%
072B-03	Printing Press Operators	2,471	325	13.2%
079B-13	Clothing Production	14,140	2,800	19.8%

<b>Clusters and Units of Analysis Codes</b>	<b>Units of Analysis Titles</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
<b>Machine Operation and General Manufacturing (cont)</b>				
080B-13	Upholstering	977	220	22.5%
081B-13	Leather Work, Shoemaking and Repair	85	23	26.7%
076B-13	Metal Fabrication	5,589	930	16.6%
084C-13	General Machine Operators	27,999	4,265	15.2%
085C-13	General Production Work	59,027	10,512	17.8%
231B-06	Baking	2,330	605	26.0%
<b>Skilled Manufacturing</b>				
074A-13	Welding and Soldering	7,584	1,089	14.4%
075B-13	Tool and Die Making	2,003	224	11.2%
077A-13	Optical Technology	312	48	15.3%
078B-13	Quality Control and Inspection	10,259	1,632	15.9%
082B-13	Woodworking	9,246	2,001	21.6%
086C-13	General Precision Production Work	0	0	NA
087A-08	Orthotics and Prosthetics	60	9	15.1%
143B-13	Dental Laboratory	555	81	14.7%
<b>Hourly Worker Supervision</b>				
083B-13	Line Supervision	33,734	6,136	18.2%
<b>Transportation -- Licensed</b>				
088B-16	Truck and Bus Driving	51,763	9,351	18.1%
092A-16	Airplane Piloting	455	63	13.7%
093A-16	Air Traffic Control	244	17	7.1%
094B-16	Water Transportation	598	110	18.4%
<b>Transportation -- Helpers</b>				
089C-16	General Transportation Work	4,497	1,119	24.9%
090C-16	General Transportation Programs	0	0	NA
091B-02	Diving	19	7	35.4%
242C-99	General Helpers, Laborers and Material Movers	72,859	16,335	22.4%

<b>Clusters and Units of Analysis Codes</b>	<b>Units of Analysis Titles</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
<b>Science and Math</b>				
095A-15	Biological Science	2,028	189	9.3%
096A-15	Medical Science	980	110	11.2%
097A-15	Physics and Astronomy	621	60	9.7%
098A-15	Atmospheric and Space Science	81	9	11.2%
099A-15	Chemistry	1,193	128	10.8%
100A-15	Earth Science	488	54	11.1%
101A-15	Chemical Technology	2,107	195	9.3%
102A-15	Science Technologies	708	66	9.3%
103A-15	Biological Technology	813	88	10.8%
104A-15	Nuclear and Radiologic Technology	121	11	8.7%
105A-15	Environmental Science	890	98	11.0%
106C-15	Physical Sciences	0	0	NA
107A-15	Mathematics	878	72	8.2%
108B-06	Actuarial Science	182	25	13.9%
<b>Agriculture, Forestry and Fishing</b>				
115B-01	Farming	8,135	2,265	27.8%
116B-09	Food Processing and Production	2,758	520	18.8%
117B-01	Agricultural Services and Supplies	3,169	957	30.2%
118B-01	Animal Breeding and Training	177	48	27.0%
120B-01	Agricultural and Food Sciences	433	48	11.1%
121B-01	Fishing	4	0	11.6%
122B-01	Forestry and Conservation	733	64	8.7%
123B-01	Timber	1,545	422	27.3%
<b>Medical Professional</b>				
124A-08	General Health Diagnosis and Treatment	2,485	308	12.4%
125A-08	Speech Pathology and Audiology	1,422	150	10.6%
126A-08	Dentistry	1,451	190	13.1%
128A-08	Medicine	7,036	891	12.7%
129A-08	Nursing	32,876	4,080	12.4%
130A-08	Optometry	347	47	13.6%
131A-08	Podiatry	119	15	12.8%
132A-08	Veterinary Medicine	635	99	15.5%
134A-08	Chiropractic	368	51	13.8%
147A-08	Respiratory Therapy	1,713	224	13.1%
149A-08	Occupational Therapy	1,231	172	14.0%
150A-08	Physical Therapy	2,194	309	14.1%

<b>Clusters and Units of Analysis Codes</b>	<b>Units of Analysis Titles</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
151A-08	Recreational Therapy	314	52	16.5%
162A-08	Pharmacy	3,410	580	17.0%
191B-08	Medical Services Management	3,171	446	14.1%
<b>Medical -- Technical</b>				
135A-08	Dental Hygiene	2,380	322	13.5%
136A-08	Cardiology Technology	628	76	12.1%
137A-08	Medical Laboratory Technology	4,264	529	12.4%
138A-08	Veterinary Assisting and Technology	1,784	278	15.6%
139A-08	Emergency Medical Technology	2,791	322	11.5%
140A-08	Nuclear Medical Technology	266	36	13.3%
141A-08	Medical Radiologic Technology	2,896	374	12.9%
142A-08	Surgical Technology	907	113	12.5%
144A-08	Diagnostic Medical Sonography	642	81	12.6%
158A-08	Licensed Practical Nursing	10,090	1,914	19.0%
159A-09	Athletic Training	182	24	13.4%
163B-08	Optical Dispensing	855	130	15.2%
203A-04	Medical Office and Secretarial	5,606	745	13.3%
204A-08	Medical Records	2,287	319	14.0%
200A-08	Medical Transcription	1,299	211	16.2%
230A-08	Dietetics/Nutrition	990	152	15.3%
<b>Medical -- Support</b>				
127A-08	Physician Assisting	910	120	13.2%
133C-99	General Medical and Health Work	4,561	502	11.0%
145A-08	Occupational Therapy Assisting	402	63	15.7%
146A-08	Physical Therapy Assisting	1,461	212	14.5%
148A-08	General Therapy Work	123	16	13.0%
152B-08	Psychiatric Assisting	1,578	204	13.0%
153B-08	Nurse Assisting	19,860	3,967	20.0%
154B-08	Home Health Assisting	9,261	1,774	19.2%
155B-05	Community Health Work	623	80	12.8%
156B-08	Dental Assisting	3,975	528	13.3%
157B-08	Medical Assisting	5,613	762	13.6%
160A-08	General Health Services	0	0	NA
161A-08	Pharmacy Support	4,699	827	17.6%
164A-08	Massage	444	88	19.9%
165B-10	Social Service Assisting	5,587	785	14.1%

<b>Clusters and Units of Analysis Codes</b>	<b>Units of Analysis Titles</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
<b>Social and Government Services</b>				
111A-16	Urban and Regional Planning	387	30	7.7%
113B-05	Social Science	1,456	122	8.4%
114C-05	Area Studies	102	6	6.3%
166A-10	Counseling	7,369	996	13.5%
167A-10	Psychology	1,777	167	9.4%
168A-10	Social Work	7,522	944	12.6%
170B-10	Religious Education	107	18	16.5%
171B-10	Religion	412	63	15.2%
172C-05	Philosophy and Religion	237	15	6.4%
175A-05	Education Administration	4,979	378	7.6%
176A-05	Special Education	5,869	387	6.6%
177A-05	Elementary Education	19,267	1,277	6.6%
178A-05	Preschool Education	6,281	841	13.4%
179B-05	Instructional Design	1,398	109	7.8%
180B-05	Teaching Assisting	16,642	1,284	7.7%
181B-05	Adult and Continuing Education	2,496	250	10.0%
182B-05	Secondary and Vocational Education	35,955	2,400	6.7%
184C-05	Education	662	42	6.3%
185A-05	Library Science	1,825	128	7.0%
186A-02	Archival Science	249	28	11.1%
190B-07	Public Administration	586	33	5.7%
188B-05	Library Assistance	2,520	173	6.9%
234B-12	Law Enforcement	14,468	1,086	7.5%
236B-12	Fire Safety	3,293	191	5.8%
237C-05	Multi and Inter-disciplinary Studies and Related Work	0	0	NA
239C-05	Foreign Languages and Literatures	309	19	6.3%
240C-05	Liberal Arts and Humanities	760	48	6.3%
061B-01	Water and Waste Treatment	1,309	87	6.6%

**Professional and Technical Business Services**

109B-04	Quantitative Business Analysis	598	71	11.9%
110B-11	Computer Systems	27,450	4,135	15.1%
112A-06	Economic and Market Research	2,972	444	14.9%
173A-12	Legal Services	7,609	1,028	13.5%
174A-12	Legal Assisting	3,887	525	13.5%
183C-99	General Professional Work	2,897	713	24.6%
197A-04	Accounting and Financial Management	30,917	4,312	13.9%
199A-12	Court Reporting	188	55	29.4%

<b>Clusters and Units of Analysis Codes</b>	<b>Units of Analysis Titles</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
<b>Professional and Technical Business Services (cont)</b>				
202A-04	Legal Secretary	3,463	542	15.7%
211B-04	Marketing, Advertising and Public Relations	9,675	1,676	17.3%
215B-04	Purchasing	5,946	915	15.4%
216B-06	Insurance	10,273	1,316	12.8%
238A-04	Interpreter and Translator	344	36	10.6%
187B-03	Communications, Journalism and Broadcasting	3,699	529	14.3%
209B-06	Banking Support Services	21,139	3,010	14.2%
235B-12	Security Services	13,217	5,186	39.2%
<b>Management</b>				
192B-04	Business Management and Administration	42,150	7,596	18.0%
193B-04	Human Resources Management	9,867	1,920	19.5%
194C-04	General Management and Management Support Work	26,943	3,878	14.4%
195B-04	Construction Management	1,355	378	27.9%
196B-04	Entertainment Management	99	23	23.1%
<b>Office</b>				
201A-04	Secretarial	40,944	6,850	16.7%
205B-04	Clerical and Administrative Supervision	18,452	3,187	17.3%
206B-04	Bookkeeping	36,118	6,664	18.5%
207B-04	Office and Clerical Work	119,900	22,031	18.4%
208B-04	Data Entry	3,581	856	23.9%
210C-04	General Clerical and Administrative Work	13,256	2,196	16.6%
073B-03	Desktop Publishing Equipment Operation	274	41	15.1%
<b>Personal Services</b>				
217A-14	Barbering and Cosmetology	4,908	1,058	21.6%
218B-14	Funeral Services	377	81	21.5%
219B-99	General Consumer and Personal Services	4,459	830	18.6%
220B-05	Family and Consumer Sciences	209	15	7.1%



<b>Clusters and Units of Analysis Codes</b>	<b>Units of Analysis Titles</b>	<b>Employment</b>	<b>Separators</b>	<b>Separation Rate</b>
<b>Personal Services (cont)</b>				
221B-10	Child Care	6,554	1,090	16.6%
222B-10	Home Assisting	3,752	683	18.2%
119B-01	Garden and Landscaping Services	12,747	4,939	38.7%
169B-09	Recreation and Fitness	7,413	1,135	15.3%
241C-99	General Service Work	8,751	2,015	23.0%
<b>Lodging, Food Service and Hospitality</b>				
189B-09	Food Service and Lodging Management	2,891	1,221	42.2%
223B-09	Hospitality Services	1,642	622	37.9%
224B-09	Travel Services	2,073	922	44.5%
225B-16	Flight Attending	199	24	12.1%
226C-09	Housekeeping and Building Service Workers	39,169	11,840	30.2%
227B-09	Food Preparation and Service	94,576	38,178	40.4%
228B-09	Bartending	6,175	2,716	44.0%
229B-09	Wait Staff and Food Service	36,245	16,739	46.2%
232B-09	Chef	12,592	5,771	45.8%
233B-14	Meat cutting and Butchering	7,101	1,397	19.7%
<b>Sales</b>				
198B-06	Securities and Financial Instrument Sales	2,071	207	10.0%
212B-14	Modeling	12	1	6.5%
213A-14	Real Estate	4,752	836	17.6%
214B-14	Sales	226,235	56,159	24.8%

## Appendix D

### Regional Distribution of Employment, Separators and New Hires

This is the data derived from the Census Local Employment Dynamics program (<http://lehd.dsd.census.gov/led/index.html>) that was used throughout this labor supply analysis. Below is the regional distribution on three measures – employment, separations, and new hires. All the below data is from the 1<sup>st</sup> quarter of 2006.

### Employment

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
119	Agriculture (all 3 digits combined)	13,077	553	1,852	1,670	627	714	1,304
211	Oil and Gas Extraction	579	0	0	125	0	0	0
212	Mining (not Oil and Gas)	6,624	277	529	2,272	806	567	32
213	Mining Support Activities	928	0	0	558	42	14	0
221	Utilities	19,032	845	2,405	399	2,431	1,082	393
236	Construction of Building Heavy and Civil Engineering	28,360	891	4,417	1,796	2,274	1,390	401
237	Construction	17,620	579	2,144	1,304	1,117	1,248	211
238	Specialty Trade Contractors	45,668	1,686	6,972	3,522	4,654	2,139	604
311	Food Manufacturing Beverage and Tobacco Product	31,776	1,280	12,162	1,242	1,021	2,547	1,123
312	Manufacturing	3,024	0	540	0	43	76	0
313	Textile Mills	11,675	0	3,029	0	436	3,141	0
314	Textile Product Mills	10,865	356	3,893	32	119	615	0
315	Apparel Manufacturing Leather and Allied Product	13,905	477	4,617	339	12	752	0
316	Manufacturing	121	0	89	0	0	0	0

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
321	Wood Product Manufacturing	21,055	5,652	1,752	2,512	1,262	1,341	1,256
322	Paper Manufacturing Printing and Related Support Activities	13,230	939	2,776	598	37	729	2,623
323	Petroleum and Coal Products	5,932	118	720	152	733	371	29
324	Manufacturing	2,028	99	30	906	0	11	0
325	Chemical Manufacturing Plastics and Rubber Products	9,312	411	2,589	277	395	394	0
326	Manufacturing Nonmetallic Mineral Product	14,318	1,265	2,281	1,636	464	1,867	0
327	Manufacturing	9,064	335	1,340	675	1,471	527	252
331	Primary Metal Manufacturing Fabricated Metal Product	19,090	1,221	2,505	610	854	2,507	251
332	Manufacturing	28,934	1,560	7,218	2,440	2,528	3,134	294
333	Machinery Manufacturing Computer and Electronic Product Manufacturing	13,812	1,689	3,559	1,112	988	474	896
334	Manufacturing	16,153	46	12,058	481	196	311	0
335	Electrical Equipment, Appliance, and Component Manufacturing Transportation Equipment	6,702	304	2,532	0	97	502	0
336	Manufacturing Furniture and Related Product	52,339	1,556	14,505	7,363	793	8,475	298
337	Manufacturing	15,972	1,822	2,030	550	579	3,645	121
339	Miscellaneous Manufacturing Merchant Wholesalers, Durable Goods	7,587	208	1,894	396	399	498	0
423	Merchant Wholesalers, Nondurable Goods	41,692	1,619	6,432	1,184	3,817	2,598	246
424	Wholesale Electronic Markets and Agents and Brokers	26,095	1,521	3,919	737	2,148	1,758	344
425	Motor Vehicle and Parts Dealers Furniture and Home Furnishings Stores	11,558	392	2,075	654	1,318	592	237
441	Stores	32,055	1,131	5,807	1,728	1,846	2,264	471
442	Electronics and Appliance Stores	9,571	224	1,471	445	558	408	69
443		5,763	317	1,104	206	525	285	68

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
444	Building and Garden Supply Stores	19,354	925	4,081	846	1,883	1,130	247
445	Food and Beverage Stores	33,541	1,468	4,890	1,575	2,378	2,246	778
446	Home and Personal Care Stores	14,558	638	2,498	807	1,009	1,040	330
447	Gasoline Stations	17,660	982	2,664	1,262	1,139	1,309	723
448	Clothing and Clothing Accessories Stores	19,746	845	3,575	789	538	1,013	251
451	Sporting Goods, Hobby, Book and Music Stores	8,738	423	1,821	453	379	354	44
452	General Merchandise Stores	64,214	3,170	13,116	2,999	5,535	5,370	1,157
453	Miscellaneous Store Retailers	11,758	366	2,069	958	932	556	90
454	Non-store Retailers	3,962	199	502	161	163	422	77
481	Air Transportation	1,019	0	221	98	4	0	0
482	Rail Transportation	0	0	0	0	0	0	0
483	Water Transportation	477	0	0	0	0	0	0
484	Truck Transportation	29,248	774	5,169	1,683	1,239	1,965	521
485	Transit and Ground Passenger Transportation	5,473	171	666	299	325	327	103
486	Pipeline Transportation	626	0	0	33	98	38	34
487	Scenic and Sightseeing Transportation	38	0	0	0	0	0	0
488	Transportation Support Activities	7,107	189	946	169	133	137	169
491	Postal Service	18	0	0	0	0	0	0
492	Couriers and Messengers	5,086	104	694	202	10	335	0
493	Warehousing and Storage	7,455	22	1,970	458	106	393	47
511	Publishing Industries (except Internet)	6,975	268	885	530	373	471	120
512	Motion Picture and Sound Recording Industries	1,961	64	519	82	196	135	0
515	Broadcasting (except Internet)	4,857	219	816	179	163	188	47
516	Internet Publishing and Broadcasting	152	0	76	8	0	0	0
517	Telecommunications	14,878	220	2,135	200	1,635	928	129
518	Internet Service Providers, Web	1,665	28	170	93	296	37	0

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
519	Search Portals, and Data Processing Service	862	31	179	81	43	37	10
521	Other Information Services Monetary Authorities -- Central Banks	0	0	0	0	0	0	0
522	Credit Intermediation and Related Activities	45,341	1,771	5,842	1,880	1,913	1,948	592
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	3,845	58	430	75	400	91	5
524	Insurance Carriers and Related Activities	25,174	592	1,728	597	5,414	722	146
525	Funds, Trusts, and Other Financial Vehicles	191	0	6	4	0	0	0
531	Real Estate	16,514	418	2,419	1,180	768	762	200
532	Rental and Leasing Services	9,972	343	1,630	324	686	536	107
533	Lessors of Non-financial Intangible Assets (except Copyrighted Works)	136	0	0	0	61	0	0
541	Professional, Scientific, and Technical Services	93,632	1,778	32,262	3,032	6,079	3,565	384
551	Management of Companies and Enterprises	14,205	192	1,224	361	2,612	388	218
561	Administrative and Support Services	104,966	5,609	21,009	4,652	6,315	6,602	989
562	Waste Management and Remediation Services	3,623	90	512	156	317	299	68
611	Educational Services	157,526	6,527	26,643	11,400	9,865	12,962	4,406
621	Ambulatory Health Care Services	75,206	3,197	12,336	3,665	4,407	5,413	1,470
622	Hospitals	77,278	3,082	11,849	5,747	2,035	5,600	1,201
623	Nursing and Residential Care Facilities	41,564	2,368	6,540	2,324	2,524	4,259	1,418
624	Social Assistance	24,415	923	3,671	1,487	1,351	2,116	589
711	Performing Arts, Spectator Sports, and Related Industries	3,760	14	558	406	67	128	0

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
712	Museums, Historical Sites, and Similar Institutions	1,335	22	419	57	0	93	15
713	Amusement, Gambling, and Recreation Industries	11,507	357	1,699	802	834	677	131
721	Accommodations	13,927	552	2,262	605	600	598	234
722	Food Services and Drinking Places	132,376	5,782	24,722	7,198	8,898	10,089	1,686
811	Repair and Maintenance Services	18,867	788	3,829	792	1,776	1,344	269
812	Personal and Laundry Services	15,227	681	2,393	998	808	768	343
	Religious, Grant making, Civic, Professional, and Similar Organizations	9,537	274	911	439	665	436	142
999	Public Administration	90,528	3,473	11,834	4,476	4,632	5,845	2,388
	<b>Total</b>	1,837,596	79,370	347,636	104,543	116,194	130,648	33,401

## Employment Continued

NAICS 3 Code	Description	Region 7	Region 8	Region 9	Region 10	Jefferson	Mobile
119	Agriculture (all 3 digits combined)	933	893	2,107	1,589	149	695
211	Oil and Gas Extraction	0	0	62	0	0	363
212	Mining (not Oil and Gas)	185	147	94	111	1,585	18
213	Mining Support Activities	0	0	98	15	38	153
221	Utilities	1,161	618	1,224	1,512	5,534	1,427
236	Construction of Building Heavy and Civil Engineering	2,017	1,430	1,981	1,646	7,080	3,038
237	Construction	1,695	1,003	1,243	1,769	3,064	2,241
238	Specialty Trade Contractors	3,951	1,429	2,397	2,082	9,947	6,286
311	Food Manufacturing	1,852	1,031	553	5,233	2,441	1,290
312	Beverage and Tobacco Product	378	0	12	0	1,003	383

<b>NAICS 3 Code</b>	<b>Description</b>	<b>Region 7</b>	<b>Region 8</b>	<b>Region 9</b>	<b>Region 10</b>	<b>Jefferson</b>	<b>Mobile</b>
	Manufacturing						
<b>313</b>	Textile Mills	847	1,068	221	2,930	0	0
<b>314</b>	Textile Product Mills	175	3,141	631	1,085	116	69
<b>315</b>	Apparel Manufacturing Leather and Allied Product Manufacturing	231	3,847	1,218	881	185	82
<b>316</b>	Wood Product Manufacturing	0	0	0	0	0	0
<b>321</b>	Paper Manufacturing	1,084	704	2,697	1,266	208	1,319
<b>322</b>	Printing and Related Support Activities	850	1,353	2,030	86	345	863
<b>323</b>	Petroleum and Coal Products Manufacturing	677	246	195	131	2,245	315
<b>324</b>	Chemical Manufacturing	0	0	0	0	590	234
<b>325</b>	Plastics and Rubber Products Manufacturing	462	389	1,229	171	567	2,394
<b>326</b>	Nonmetallic Mineral Product Manufacturing	1,334	1,810	236	1,809	1,299	295
<b>327</b>	Primary Metal Manufacturing	384	1,278	668	387	1,139	610
<b>331</b>	Fabricated Metal Product Manufacturing	565	299	0	518	8,699	597
<b>332</b>	Machinery Manufacturing	2,163	733	889	2,183	4,537	1,254
<b>333</b>	Computer and Electronic Product Manufacturing	516	1,763	482	270	1,364	698
<b>334</b>	Electrical Equipment, Appliance, and Component Manufacturing	982	0	43	1,076	248	630
<b>335</b>	Transportation Equipment Manufacturing	1,610	0	0	768	621	135
<b>336</b>	Furniture and Related Product Manufacturing	7,503	1,196	790	5,255	2,072	2,534
<b>337</b>	Miscellaneous Manufacturing	694	2,223	2,327	414	1,219	348
<b>339</b>	Merchant Wholesalers, Durable Goods	802	236	651	962	1,335	203
<b>423</b>	Merchant Wholesalers, Nondurable Goods	3,186	791	1,883	2,384	12,475	5,076
<b>424</b>		2,456	955	863	2,122	6,896	2,374

<b>NAICS 3 Code</b>	<b>Description</b>	<b>Region 7</b>	<b>Region 8</b>	<b>Region 9</b>	<b>Region 10</b>	<b>Jefferson</b>	<b>Mobile</b>
<b>425</b>	Wholesale Electronic Markets and Agents and Brokers	652	359	384	991	2,670	1,233
<b>441</b>	Motor Vehicle and Parts Dealers Furniture and Home Furnishings Stores	2,439	1,190	1,818	2,535	7,316	3,509
<b>442</b>	Electronics and Appliance Stores	717	301	787	607	1,650	2,336
<b>443</b>	Building and Garden Supply Stores	545	145	255	261	1,311	741
<b>444</b>	Food and Beverage Stores	1,574	813	1,277	1,654	2,842	2,071
<b>445</b>	Home and Personal Care Stores	3,801	1,774	1,480	1,860	9,162	2,129
<b>446</b>	Gasoline Stations	1,247	579	763	884	3,320	1,444
<b>447</b>	Clothing and Clothing Accessories Stores	1,690	1,320	1,432	1,719	1,756	1,665
<b>448</b>	Sporting Goods, Hobby, Book and Music Stores	1,714	658	1,716	983	5,785	1,879
<b>451</b>	General Merchandise Stores	635	381	359	337	2,700	851
<b>452</b>	Miscellaneous Store Retailers	5,404	3,233	2,795	4,258	11,356	5,820
<b>453</b>	Non-store Retailers	1,107	520	782	813	2,691	1,272
<b>454</b>	Air Transportation	196	142	132	454	897	617
<b>481</b>	Rail Transportation	253	0	0	55	256	102
<b>482</b>	Water Transportation	0	0	0	0	0	0
<b>483</b>	Truck Transportation	0	0	0	0	0	284
<b>484</b>	Transit and Ground Passenger Transportation	1,868	1,112	2,573	4,248	5,406	2,690
<b>485</b>	Pipeline Transportation	759	512	232	357	1,129	592
<b>486</b>	Scenic and Sightseeing Transportation	0	0	0	0	0	163
<b>487</b>	Transportation Support Activities	0	0	25	0	0	7
<b>488</b>	Postal Service	449	97	239	520	850	3,209
<b>491</b>	Couriers and Messengers	0	0	0	0	0	0
<b>492</b>	Warehousing and Storage	917	108	150	192	1,840	532
<b>493</b>	Publishing Industries (except Internet)	1,173	987	88	670	859	682
<b>511</b>	Motion Picture and Sound	846	216	255	357	2,013	631
<b>512</b>		149	58	111	134	322	187



<b>NAICS 3 Code</b>	<b>Description</b>	<b>Region 7</b>	<b>Region 8</b>	<b>Region 9</b>	<b>Region 10</b>	<b>Jefferson</b>	<b>Mobile</b>
	Recording Industries						
<b>515</b>	Broadcasting (except Internet)	622	89	99	364	1,153	920
<b>516</b>	Internet Publishing and Broadcasting	0	0	0	0	14	0
<b>517</b>	Telecommunications Internet Service Providers, Web Search Portals, and Data Processing Service	619	357	574	692	6,634	755
<b>518</b>	Other Information Services	135	124	27	91	381	291
<b>519</b>	Monetary Authorities -- Central Banks	83	38	48	49	88	175
<b>521</b>	Credit Intermediation and Related Activities	0	0	0	0	0	0
<b>522</b>	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	5,335	1,429	1,749	2,039	16,857	3,966
<b>523</b>	Insurance Carriers and Related Activities	384	46	132	109	1,777	338
<b>524</b>	Funds, Trusts, and Other Financial Vehicles	2,677	488	652	622	9,254	2,282
<b>525</b>	Real Estate	78	0	7	0	76	3
<b>531</b>	Rental and Leasing Services	1,615	864	1,787	835	3,705	1,961
<b>532</b>	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	757	341	405	1,041	2,078	1,724
<b>533</b>	Professional, Scientific, and Technical Services	0	0	4	0	38	6
<b>541</b>	Management of Companies and Enterprises	7,599	1,815	2,447	3,585	22,101	8,986
<b>551</b>	Administrative and Support Services	791	408	321	1,205	6,126	359
<b>561</b>	Waste Management and Remediation Services	10,445	4,728	2,468	4,261	25,478	12,417
<b>562</b>	Educational Services	227	198	376	125	694	561
<b>611</b>	Ambulatory Health Care Services	13,137	11,816	8,378	10,931	25,176	16,274
<b>621</b>		7,037	2,791	3,312	5,171	18,695	7,711

<b>NAICS 3 Code</b>	<b>Description</b>	<b>Region 7</b>	<b>Region 8</b>	<b>Region 9</b>	<b>Region 10</b>	<b>Jefferson</b>	<b>Mobile</b>
<b>622</b>	Hospitals Nursing and Residential Care Facilities	4,524	3,403	3,460	6,351	24,195	5,883
<b>623</b>	Social Assistance	4,196	2,594	2,386	3,463	6,336	3,156
<b>624</b>	Performing Arts, Spectator Sports, and Related Industries	2,960	1,257	853	1,719	4,972	2,517
<b>711</b>	Museums, Historical Sites, and Similar Institutions	247	1,106	19	15	900	298
<b>712</b>	Amusement, Gambling, and Recreation Industries	143	0	19	41	340	178
<b>713</b>	Accommodations	1,502	675	1,119	719	2,175	817
<b>721</b>	Food Services and Drinking Places	1,496	1,006	1,195	865	2,896	1,527
<b>722</b>	Repair and Maintenance Services	13,119	7,611	7,114	8,733	24,716	12,658
<b>811</b>	Personal and Laundry Services	1,277	694	922	1,105	3,976	2,095
<b>812</b>	Religious, Grant making, Civic, Professional, and Similar Organizations	1,790	629	684	999	3,454	1,680
<b>813</b>	Public Administration	1,857	181	456	313	2,357	1,507
<b>999</b>		20,971	4,772	5,511	6,037	14,498	6,091
	<b>Total</b>	<b>172,451</b>	<b>92,548</b>	<b>91,001</b>	<b>124,024</b>	<b>374,272</b>	<b>167,706</b>

## Separations

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
119	Agriculture (all 3 digits combined)	3,860	109	410	794	181	265	444
211	Oil and Gas Extraction	39	0	0	3	0	0	0
212	Mining (not Oil and Gas)	692	52	80	117	146	29	3
213	Mining Support Activities	328	0	0	165	6	0	0
221	Utilities	1,025	42	147	27	136	43	16
236	Construction of Building Heavy and Civil Engineering	8,787	292	1,227	759	474	436	81
237	Construction	4,728	185	514	347	310	262	47
238	Specialty Trade Contractors	13,883	470	1,823	1,398	1,163	624	259
311	Food Manufacturing	5,506	238	1,963	246	195	331	309
312	Beverage and Tobacco Product Manufacturing	282	0	66	0	6	9	0
313	Textile Mills	2,076	0	1,129	0	52	313	0
314	Textile Product Mills	1,192	49	339	10	24	72	0
315	Apparel Manufacturing Leather and Allied Product	3,143	119	1,076	91	4	91	0
316	Manufacturing	36	0	24	0	0	0	0
321	Wood Product Manufacturing	4,166	1,484	304	376	218	162	297
322	Paper Manufacturing Printing and Related Support	807	26	262	58	8	63	111
323	Activities	644	17	93	19	62	31	0
324	Petroleum and Coal Products	107	4	0	42	0	0	0
325	Chemical Manufacturing Plastics and Rubber Products	617	25	154	19	13	32	0
326	Manufacturing	2,002	164	314	93	88	134	0
327	Nonmetallic Mineral Product	1,051	45	123	55	280	63	19

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
331	Manufacturing Primary Metal Manufacturing	1,507	84	170	61	96	201	78
332	Fabricated Metal Product Manufacturing	4,212	177	803	368	447	470	34
333	Machinery Manufacturing Computer and Electronic Product Manufacturing	1,380	185	345	56	105	60	43
334	Electrical Equipment, Appliance, and Component Manufacturing	2,522	15	2,168	10	10	56	0
335	Transportation Equipment Manufacturing	837	273	148	0	9	74	0
336	Furniture and Related Product Manufacturing	5,020	266	1,555	397	81	429	63
337	Miscellaneous Manufacturing	3,782	836	258	314	134	435	135
339	Merchant Wholesalers, Durable Goods	1,149	23	250	39	61	244	0
423	Merchant Wholesalers, Nondurable Goods	4,621	185	717	171	435	306	56
424	Wholesale Electronic Markets and Agents and Brokers	3,709	275	704	135	289	280	40
425	Motor Vehicle and Parts Dealers Furniture and Home Furnishings Stores	1,646	44	264	83	296	76	41
441	Electronics and Appliance Stores Building and Garden Supply Stores Food and Beverage Stores	5,805	199	981	347	479	371	68
442	Home and Personal Care Stores Gasoline Stations	2,466	49	311	78	125	98	5
443	Clothing and Clothing Accessories Stores	1,244	61	244	41	115	61	12
444	Sporting Goods, Hobby, Book and Music Stores	3,231	146	636	122	331	202	29
445	General Merchandise Stores	9,094	631	1,347	418	635	738	241
446	Miscellaneous Store Retailers	2,501	84	427	143	180	164	42
447		7,590	432	1,058	622	562	641	250
448		7,304	196	1,292	305	198	327	84
451		2,559	114	413	159	119	108	11
452		15,564	1,902	2,453	627	1,007	931	222
453		3,217	81	471	163	287	108	15

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
454	Non-store Retailers	597	22	61	26	24	37	12
481	Air Transportation	123	0	25	6	0	0	0
482	Rail Transportation	0	0	0	0	0	0	0
483	Water Transportation	109	0	0	0	0	0	0
484	Truck Transportation	5,964	253	999	421	377	277	96
485	Transit and Ground Passenger Transportation	580	8	54	23	91	25	7
486	Pipeline Transportation	47	0	0	0	4	15	0
487	Scenic and Sightseeing Transportation	3	0	0	0	0	0	0
488	Transportation Support Activities	1,186	27	131	31	34	33	18
491	Postal Service	3	0	0	0	0	0	0
492	Couriers and Messengers	679	5	121	43	0	34	0
493	Warehousing and Storage	1,208	14	285	49	24	66	4
511	Publishing Industries (except Internet)	907	29	80	107	78	44	54
512	Motion Picture and Sound Recording Industries	738	33	207	34	60	69	0
515	Broadcasting (except Internet)	558	26	70	18	5	33	7
516	Internet Publishing and Broadcasting	29	0	7	0	0	0	0
517	Telecommunications	1,913	41	283	23	153	153	9
518	Internet Service Providers, Web Search Portals, and Data Processing Service	250	0	27	12	30	3	0
519	Other Information Services	95	4	14	8	0	3	5
521	Monetary Authorities -- Central Banks	0	0	0	0	0	0	0
522	Credit Intermediation and Related Activities	4,336	126	662	187	297	181	61
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	343	4	48	6	51	6	0
524	Insurance Carriers and Related	3,087	71	201	60	531	91	17

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
	Activities							
525	Funds, Trusts, and Other Financial Vehicles	17	0	0	0	0	0	0
531	Real Estate	2,775	41	361	139	118	132	40
532	Rental and Leasing Services	2,290	82	385	77	161	137	39
533	Lessors of Non-financial Intangible Assets (except Copyrighted Works)	10	0	0	0	0	0	0
541	Professional, Scientific, and Technical Services	14,783	467	3,487	581	900	727	92
551	Management of Companies and Enterprises	2,125	39	206	55	313	102	20
561	Administrative and Support Services	56,639	2,431	10,433	2,551	2,525	4,117	425
562	Waste Management and Remediation Services	916	21	89	48	78	128	0
611	Educational Services	9,915	697	1,335	619	479	1,163	194
621	Ambulatory Health Care Services	9,925	377	1,555	526	680	864	189
622	Hospitals	9,027	162	1,020	258	959	575	72
623	Nursing and Residential Care Facilities	9,758	527	1,646	391	720	905	139
624	Social Assistance	4,893	131	734	363	296	447	94
711	Performing Arts, Spectator Sports, and Related Industries	918	0	135	47	43	20	0
712	Museums, Historical Sites, and Similar Institutions	194	0	74	12	0	6	0
713	Amusement, Gambling, and Recreation Industries	2,825	90	429	157	272	191	43
721	Accommodations	5,345	154	934	228	273	348	82
722	Food Services and Drinking Places	62,863	2,999	11,360	3,448	4,764	5,510	708
811	Repair and Maintenance Services	4,662	177	915	279	437	284	65
812	Personal and Laundry Services	3,267	112	454	225	186	147	60
813	Religious, Grant making, Civic, Professional, and Similar Organizations	1,676	52	157	127	84	80	31

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
999	Public Administration	5,107	224	606	191	282	476	153
	<b>Total</b>	378,616	19,025	66,653	20,654	24,696	26,769	5,791

## Separations Continued

NAICS 3 Code	Description	Region 7	Region 8	Region 9	Region 10	Jefferson	Mobile
119	Agriculture (all 3 digits combined)	219	282	516	460	36	142
211	Oil and Gas Extraction	0	0	3	0	0	33
212	Mining (not Oil and Gas)	12	12	34	16	190	0
213	Mining Support Activities	0	0	17	7	18	110
221	Utilities	49	33	90	84	290	56
236	Construction of Building Heavy and Civil Engineering	547	450	715	535	1,853	1,414
237	Construction	518	373	376	336	716	743
238	Specialty Trade Contractors	1,136	404	881	584	2,723	2,418
311	Food Manufacturing Beverage and Tobacco Product	349	97	121	1,004	228	424
312	Manufacturing	49	0	9	0	71	27
313	Textile Mills	91	90	49	352	0	0
314	Textile Product Mills	44	282	29	109	19	5
315	Apparel Manufacturing Leather and Allied Product	10	517	120	129	15	7
316	Manufacturing	0	0	0	0	0	0
321	Wood Product Manufacturing	221	78	444	249	46	277
322	Paper Manufacturing Printing and Related Support	71	37	73	7	48	42
323	Activities	73	39	35	20	207	43
324	Petroleum and Coal Products	0	0	0	0	30	9

<b>NAICS 3 Code</b>	<b>Description</b>	<b>Region 7</b>	<b>Region 8</b>	<b>Region 9</b>	<b>Region 10</b>	<b>Jefferson</b>	<b>Mobile</b>
<b>325</b>	Manufacturing Chemical Manufacturing	36	89	45	25	92	77
<b>326</b>	Plastics and Rubber Products Manufacturing	178	120	75	502	249	73
<b>327</b>	Nonmetallic Mineral Product Manufacturing	24	72	73	94	144	60
<b>331</b>	Primary Metal Manufacturing Fabricated Metal Product	56	60	0	95	513	18
<b>332</b>	Manufacturing	254	247	224	346	536	307
<b>333</b>	Machinery Manufacturing Computer and Electronic Product	37	138	63	91	107	150
<b>334</b>	Manufacturing	125	0	9	37	26	62
<b>335</b>	Electrical Equipment, Appliance, and Component Manufacturing	57	0	0	154	68	32
<b>336</b>	Transportation Equipment Manufacturing	571	439	100	478	186	454
<b>337</b>	Furniture and Related Product Manufacturing	168	524	599	72	244	64
<b>339</b>	Miscellaneous Manufacturing Merchant Wholesalers, Durable	65	39	65	149	181	34
<b>423</b>	Goods Merchant Wholesalers, Nondurable	422	104	274	302	1,015	632
<b>424</b>	Goods Wholesale Electronic Markets and	293	105	136	261	756	336
<b>425</b>	Agents and Brokers	83	77	42	121	325	195
<b>441</b>	Motor Vehicle and Parts Dealers Furniture and Home Furnishings	383	228	362	472	1,246	650
<b>442</b>	Stores	181	73	192	150	346	857
<b>443</b>	Electronics and Appliance Stores	125	46	69	54	266	149
<b>444</b>	Building and Garden Supply Stores	235	214	239	273	462	342
<b>445</b>	Food and Beverage Stores	845	462	538	585	1,937	717
<b>446</b>	Home and Personal Care Stores	200	92	168	162	576	264
<b>447</b>	Gasoline Stations	695	454	613	823	667	772
<b>448</b>	Clothing and Clothing Accessories	631	246	615	355	2,286	768



NAICS 3 Code	Description	Region 7	Region 8	Region 9	Region 10	Jefferson	Mobile
	Stores						
451	Sporting Goods, Hobby, Book and Music Stores	212	129	150	104	759	281
452	General Merchandise Stores	2,654	565	555	741	2,745	1,163
453	Miscellaneous Store Retailers	244	143	244	191	713	557
454	Non-store Retailers	28	18	19	118	113	119
481	Air Transportation	32	0	0	8	35	12
482	Rail Transportation	0	0	0	0	0	0
483	Water Transportation	0	0	0	0	0	86
484	Truck Transportation	357	237	642	866	902	543
	Transit and Ground Passenger Transportation						
485	Transit and Ground Passenger Transportation	46	38	37	27	138	96
486	Pipeline Transportation	0	0	0	0	0	22
	Scenic and Sightseeing Transportation						
487	Scenic and Sightseeing Transportation	0	0	3	0	0	0
488	Transportation Support Activities	121	25	67	123	139	437
491	Postal Service	0	0	0	0	0	0
492	Couriers and Messengers	102	8	15	28	251	70
493	Warehousing and Storage	191	89	8	107	104	266
	Publishing Industries (except Internet)						
511	Publishing Industries (except Internet)	155	42	31	58	184	46
	Motion Picture and Sound Recording Industries						
512	Motion Picture and Sound Recording Industries	43	21	40	53	114	46
515	Broadcasting (except Internet)	49	18	14	54	98	164
	Internet Publishing and Broadcasting						
516	Internet Publishing and Broadcasting	0	0	0	0	11	0
517	Telecommunications	80	48	346	101	515	158
	Internet Service Providers, Web Search Portals, and Data Processing Service						
518	Internet Service Providers, Web Search Portals, and Data Processing Service	27	20	4	8	69	50
519	Other Information Services	0	3	6	17	17	14
	Monetary Authorities -- Central Banks						
521	Monetary Authorities -- Central Banks	0	0	0	0	0	0

<b>NAICS 3 Code</b>	<b>Description</b>	<b>Region 7</b>	<b>Region 8</b>	<b>Region 9</b>	<b>Region 10</b>	<b>Jefferson</b>	<b>Mobile</b>
<b>522</b>	Credit Intermediation and Related Activities	433	129	139	182	1,500	441
<b>523</b>	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	21	5	24	13	130	31
<b>524</b>	Insurance Carriers and Related Activities	236	87	101	74	855	748
<b>525</b>	Funds, Trusts, and Other Financial Vehicles	4	0	0	0	9	0
<b>531</b>	Real Estate	273	139	350	127	662	402
<b>532</b>	Rental and Leasing Services	145	98	107	284	415	360
<b>533</b>	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	0	0	0	0	8	0
<b>541</b>	Professional, Scientific, and Technical Services	1,112	335	545	1,041	3,874	1,622
<b>551</b>	Management of Companies and Enterprises	115	36	69	138	961	73
<b>561</b>	Administrative and Support Services	6,506	2,619	1,184	2,120	14,376	7,366
<b>562</b>	Waste Management and Remediation Services	61	44	109	19	107	210
<b>611</b>	Educational Services	977	568	587	681	1,637	978
<b>621</b>	Ambulatory Health Care Services	974	350	532	623	2,248	1,008
<b>622</b>	Hospitals	399	196	832	675	3,371	480
<b>623</b>	Nursing and Residential Care Facilities	1,042	496	490	736	1,974	693
<b>624</b>	Social Assistance	590	250	207	465	861	455
<b>711</b>	Performing Arts, Spectator Sports, and Related Industries	63	301	4	0	181	120
<b>712</b>	Museums, Historical Sites, and Similar Institutions	10	0	4	6	29	52
<b>713</b>	Amusement, Gambling, and Recreation Industries	326	184	263	204	487	178
<b>721</b>	Accommodations	515	237	401	329	1,074	770

<b>NAICS 3 Code</b>	<b>Description</b>	<b>Region 7</b>	<b>Region 8</b>	<b>Region 9</b>	<b>Region 10</b>	<b>Jefferson</b>	<b>Mobile</b>
<b>722</b>	Food Services and Drinking Places	5,700	3,368	3,645	4,260	10,578	6,522
<b>811</b>	Repair and Maintenance Services	438	147	386	215	823	516
<b>812</b>	Personal and Laundry Services	374	162	189	228	696	432
	Religious, Grant making, Civic, Professional, and Similar Organizations	427	40	85	57	350	186
<b>999</b>	Public Administration	1,024	289	351	410	660	445
	<b>Total</b>	<b>35,159</b>	<b>18,007</b>	<b>20,798</b>	<b>24,984</b>	<b>73,491</b>	<b>40,981</b>

# New Hires

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
119	Agriculture (all 3 digits combined)	3,407	87	395	619	135	294	308
211	Oil and Gas Extraction	23			8			
212	Mining (not Oil and Gas)	624	76	68	97	99	20	3
213	Mining Support Activities	344			164	5	6	
221	Utilities	647	28	90	20	84	38	13
236	Construction of Building Heavy and Civil Engineering	8,019	189	1,257	622	480	371	103
237	Construction	4,440	181	558	410	241	229	26
238	Specialty Trade Contractors	12,142	433	1,912	1,331	1,098	521	199
311	Food Manufacturing Beverage and Tobacco Product	6,108	282	3,037	154	168	283	238
312	Manufacturing	188		27		4		
313	Textile Mills	933		478		45	138	
314	Textile Product Mills	848	40	300	9	24	62	
315	Apparel Manufacturing Leather and Allied Product	1,608	112	913	120		70	
316	Manufacturing	25		21				
321	Wood Product Manufacturing	3,919	1,432	320	376	237	139	281
322	Paper Manufacturing Printing and Related Support	705	28	213	55	36	54	107
323	Activities	502	18	61	14	42	33	5
324	Petroleum and Coal Products	104		4	43		10	
325	Chemical Manufacturing Plastics and Rubber Products	559	10	144	10	15	33	
326	Manufacturing	1,910	142	291	82	81	177	24
327	Nonmetallic Mineral Product	1,128	50	139	82	229	68	

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
331	Manufacturing Primary Metal Manufacturing	1,390	53	171	43	106	256	5
332	Fabricated Metal Product Manufacturing	4,371	277	1,051	434	426	426	18
333	Machinery Manufacturing Computer and Electronic Product Manufacturing	1,421	270	269	23	103	80	17
334	Electrical Equipment, Appliance, and Component Manufacturing	1,304	10	1,013	8	10	51	
335	Transportation Equipment Manufacturing	543	227	91		8	55	
336	Furniture and Related Product Manufacturing	4,500	329	914	367	79	382	126
337	Miscellaneous Manufacturing	3,488	847	254	106	141	438	116
339	Merchant Wholesalers, Durable Goods	914	33	159	38	49	143	
423	Merchant Wholesalers, Nondurable Goods	4,944	171	805	158	448	256	40
424	Wholesale Electronic Markets and Agents and Brokers	3,384	199	542	137	257	227	41
425	Motor Vehicle and Parts Dealers Furniture and Home Furnishings Stores	1,747	91	317	97	159	105	52
441	Electronics and Appliance Stores Building and Garden Supply Stores Food and Beverage Stores	5,845	231	1,084	345	445	403	76
442	Home and Personal Care Stores Gasoline Stations	2,024	60	253	74	118	83	9
443	Clothing and Clothing Accessories Stores	754	28	158	41	63	37	13
444	Sporting Goods, Hobby, Book and Music Stores	4,015	175	810	148	464	248	31
445	General Merchandise Stores Miscellaneous Store Retailers	7,703	385	1,182	355	635	626	227
446		2,223	66	434	113	152	149	45
447		7,507	440	1,057	588	556	631	241
448		4,863	112	871	223	173	210	69
451		1,769	66	302	106	81	70	40
452		9,553	1,432	1,382	368	543	551	135
453		2,668	84	406	159	278	90	4

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
454	Non-store Retailers	421	20	47	21	22	32	7
481	Air Transportation	126		27	4	2		
482	Rail Transportation	0						
483	Water Transportation	106						
484	Truck Transportation	5,498	212	948	316	360	321	86
485	Transit and Ground Passenger Transportation	540	7	59	35	78	19	
486	Pipeline Transportation	33			5	3	12	
487	Scenic and Sightseeing Transportation	5						
488	Transportation Support Activities	1,204	37	113	40	35	53	8
491	Postal Service	10						
492	Couriers and Messengers	548	4	94	32		26	
493	Warehousing and Storage	1,237	15	223	54	15	56	6
511	Publishing Industries (except Internet)	778	22	61	111	59	33	59
512	Motion Picture and Sound Recording Industries	713	26	253	27	42	60	
515	Broadcasting (except Internet)	428	14	81	19	7	27	5
516	Internet Publishing and Broadcasting	54		22				
517	Telecommunications	1,739	45	210	16	123	165	4
518	Internet Service Providers, Web Search Portals, and Data Processing Service	291		19	18	25	11	
519	Other Information Services	79		15	8			8
521	Monetary Authorities -- Central Banks	0						
522	Credit Intermediation and Related Activities	4,119	142	635	173	288	168	43
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	388	5	76	6	57	13	
524	Insurance Carriers and Related	2,335	65	194	88	279	67	18

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
	Activities							
525	Funds, Trusts, and Other Financial Vehicles	24		4				
531	Real Estate	2,518	36	350	175	116	97	31
532	Rental and Leasing Services	2,430	82	404	95	206	135	59
533	Lessors of Non-financial Intangible Assets (except Copyrighted Works)	11				4		
541	Professional, Scientific, and Technical Services	15,424	450	3,754	678	1,051	689	69
551	Management of Companies and Enterprises	1,949	33	165	50	280	51	19
561	Administrative and Support Services	48,782	1,923	8,378	1,912	2,376	3,958	428
562	Waste Management and Remediation Services	853	15	101	41	104	114	3
611	Educational Services	9,793	333	1,376	691	924	874	192
621	Ambulatory Health Care Services	9,484	320	1,477	541	757	809	206
622	Hospitals	5,619	135	656	283	159	483	71
623	Nursing and Residential Care Facilities	7,720	401	1,442	377	576	715	158
624	Social Assistance	4,654	141	854	312	313	340	64
711	Performing Arts, Spectator Sports, and Related Industries	870	4	127	51	49	22	
712	Museums, Historical Sites, and Similar Institutions	404		250	10		6	
713	Amusement, Gambling, and Recreation Industries	2,997	109	411	173	183	152	36
721	Accommodations	5,127	141	956	236	277	320	76
722	Food Services and Drinking Places	57,674	2,497	10,239	3,224	3,901	4,630	727
811	Repair and Maintenance Services	4,504	151	779	227	450	309	56
812	Personal and Laundry Services	3,354	73	485	217	264	145	65
813	Religious, Grant making, Civic, Professional, and Similar Organizations	1,698	38	147	94	85	91	15

NAICS 3 Code	Description	State	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
999	Public Administration	4,398	157	554	192	280	393	153
	<b>Total</b>	336,052	16,347	59,739	18,699	22,067	23,459	5,284

## New Hires Continued

NAICS 3 Code	Description	Region 7	Region 8	Region 9	Region 10	Jefferson	Mobile
119	Agriculture (all 3 digits combined)	243	293	531	308	42	152
211	Oil and Gas Extraction						13
212	Mining (not Oil and Gas)	13	9	37	24	178	
213	Mining Support Activities			52	7	9	95
221	Utilities	29	19	65	43	178	39
236	Construction of Building Heavy and Civil Engineering	508	388	706	590	1,727	1,078
237	Construction	539	291	412	292	550	711
238	Specialty Trade Contractors	899	367	843	486	2,143	1,909
311	Food Manufacturing Beverage and Tobacco Product	335	62	125	877	179	368
312	Manufacturing	21		22		80	27
313	Textile Mills	41	47	8	176		
314	Textile Product Mills	25	80	20	60	11	6
315	Apparel Manufacturing Leather and Allied Product Manufacturing	3	67	85	97	11	4
316	Manufacturing						
321	Wood Product Manufacturing	210	64	426	240	38	156
322	Paper Manufacturing Printing and Related Support Activities	39	32	42	13	40	44
323	Activities	64	30	28	16	158	33
324	Petroleum and Coal Products					15	12



<b>NAICS 3 Code</b>	<b>Description</b>	<b>Region 7</b>	<b>Region 8</b>	<b>Region 9</b>	<b>Region 10</b>	<b>Jefferson</b>	<b>Mobile</b>
	Manufacturing						
<b>325</b>	Chemical Manufacturing	48	88	21	28	80	73
	Plastics and Rubber Products						
<b>326</b>	Manufacturing	235	140	79	364	255	65
	Nonmetallic Mineral Product						
<b>327</b>	Manufacturing	40	76	85	99	148	88
<b>331</b>	Primary Metal Manufacturing	46	112		86	454	32
	Fabricated Metal Product						
<b>332</b>	Manufacturing	272	212	169	302	509	274
<b>333</b>	Machinery Manufacturing	29	135	77	94	148	177
	Computer and Electronic Product						
<b>334</b>	Manufacturing	82		11	37	19	58
	Electrical Equipment, Appliance, and Component Manufacturing						
<b>335</b>	Manufacturing	33			12	58	29
	Transportation Equipment						
<b>336</b>	Manufacturing	923	228	85	421	127	519
	Furniture and Related Product						
<b>337</b>	Manufacturing	136	450	636	76	212	77
<b>339</b>	Miscellaneous Manufacturing	80	41	40	113	189	29
	Merchant Wholesalers, Durable Goods						
<b>423</b>	Goods	422	234	233	352	1,138	687
	Merchant Wholesalers, Nondurable Goods						
<b>424</b>	Goods	286	79	126	372	770	346
	Wholesale Electronic Markets and Agents and Brokers						
<b>425</b>	Motor Vehicle and Parts Dealers	88	69	39	95	345	292
<b>441</b>	Furniture and Home Furnishings Stores	376	224	388	466	1,122	694
<b>442</b>	Stores	136	47	156	137	289	662
<b>443</b>	Electronics and Appliance Stores	68	23	59	51	140	73
<b>444</b>	Building and Garden Supply Stores	274	308	261	339	571	384
<b>445</b>	Food and Beverage Stores	786	390	506	523	1,425	663
<b>446</b>	Home and Personal Care Stores	198	72	157	134	451	250
<b>447</b>	Gasoline Stations	647	407	603	867	666	804
<b>448</b>	Clothing and Clothing Accessories	405	172	464	240	1,376	543

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	Stores						
<b>451</b>	Sporting Goods, Hobby, Book and Music Stores	142	93	119	66	506	177
<b>452</b>	General Merchandise Stores	1,865	338	400	476	1,432	629
<b>453</b>	Miscellaneous Store Retailers	210	82	203	166	553	433
<b>454</b>	Non-store Retailers	17	10	17	96	75	56
<b>481</b>	Air Transportation	29			13	29	20
<b>482</b>	Rail Transportation						88
<b>483</b>	Water Transportation						519
<b>484</b>	Truck Transportation	372	206	533	789	838	
	Transit and Ground Passenger Transportation	44	41	9	24	117	107
<b>485</b>	Pipeline Transportation						5
<b>486</b>	Scenic and Sightseeing Transportation			4			
<b>487</b>	Transportation Support Activities	106	30	72	101	171	438
<b>488</b>	Postal Service						
<b>491</b>	Couriers and Messengers	72	6	14	23	201	75
<b>492</b>	Warehousing and Storage	176	59	11	72	127	425
<b>493</b>	Publishing Industries (except Internet)	164	31	25	53	128	32
<b>511</b>	Motion Picture and Sound Recording Industries	46	25	23	32	109	66
<b>512</b>	Broadcasting (except Internet)	56	25	14	34	65	79
<b>515</b>	Internet Publishing and Broadcasting					10	
<b>516</b>	Telecommunications	68	56	430	84	370	167
<b>517</b>	Internet Service Providers, Web Search Portals, and Data Processing Service	90	31	4	11	26	53
<b>518</b>	Other Information Services	4	5		20	12	3
<b>519</b>	Monetary Authorities -- Central Banks						
<b>521</b>							

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<b>522</b>	Credit Intermediation and Related Activities	382	145	139	224	1,280	499
<b>523</b>	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	25	4	27	14	123	38
<b>524</b>	Insurance Carriers and Related Activities	196	78	91	71	829	359
<b>525</b>	Funds, Trusts, and Other Financial Vehicles	7				10	
<b>531</b>	Real Estate	223	169	375	133	444	370
<b>532</b>	Rental and Leasing Services	161	98	104	241	445	401
<b>533</b>	Lessors of Non-financial Intangible Assets (except Copyrighted Works)						
<b>541</b>	Professional, Scientific, and Technical Services	1,107	406	684	911	4,076	1,556
<b>551</b>	Management of Companies and Enterprises	118	29	64	129	915	96
<b>561</b>	Administrative and Support Services	5,667	2,172	1,234	2,102	12,097	6,535
<b>562</b>	Waste Management and Remediation Services	45	32	65	22	80	232
<b>611</b>	Educational Services	916	629	436	601	1,740	1,080
<b>621</b>	Ambulatory Health Care Services	878	361	512	614	2,033	987
<b>622</b>	Hospitals	370	190	290	463	1,884	633
<b>623</b>	Nursing and Residential Care Facilities	840	378	328	549	1,290	666
<b>624</b>	Social Assistance	560	289	171	405	738	468
<b>711</b>	Performing Arts, Spectator Sports, and Related Industries	53	223	3	7	216	113
<b>712</b>	Museums, Historical Sites, and Similar Institutions	9		6	12	47	58
<b>713</b>	Amusement, Gambling, and Recreation Industries	323	249	416	202	525	216
<b>721</b>	Accommodations	512	234	368	328	990	689

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<b>722</b>	Food Services and Drinking Places	5,602	3,357	3,780	4,353	9,022	6,341
<b>811</b>	Repair and Maintenance Services	406	161	403	246	806	510
<b>812</b>	Personal and Laundry Services	365	194	183	269	632	461
	Religious, Grant making, Civic, Professional, and Similar Organizations	414	42	126	93	362	191
<b>999</b>	Public Administration	921	258	298	348	522	311
	<b>Total</b>	<b>32,140</b>	<b>15,992</b>	<b>19,578</b>	<b>22,834</b>	<b>61,726</b>	<b>37,648</b>