

# Advanced Manufacturing Labor Market Assessment

## Background

The Greater Jackson Alliance region requested that the team of Wadley-Donovan GrowthTech (WDG) and Younger Associates (YA) conduct a labor market assessment specific to the needs of the manufacturing industry. In August 2008 the WDG/YA team completed a comprehensive workforce analysis for the 13 counties that comprise the labor shed for the area centered on Jackson, Mississippi. In this analysis we draw from that work to particularly focus on workforce availability for manufacturing related industries in the labor shed area.

In addition, we specifically determined the number of qualified workers a start-up manufacturing related industry could expect to hire if located at one of the mega-sites in this region.

This manufacturing-focused assessment was structured to determine whether or not the labor shed area and these sites can support a mid- to large-sized, manufacturing related facility. The sites have been certified as having the infrastructure and characteristics to support a large industrial facility, or several mid-sized facilities, such as those common to manufacturing assembly plants and suppliers.

Wadley-Donovan Growth Tech, LLC, based in Springfield, NJ is the economic and workforce consulting unit of The Wadley-Donovan Group which has been in the location consulting business since 1975, and counts one-third of the Fortune 500 firms among its corporate clients. WDG has conducted several labor market assessments in Mississippi, including studies for the Tunica County and Panola County Super-Sites, and for the Meridian Super-Site (specific to Kia's "Project Harmony" needs).

Younger Associates (YA), based in Jackson, TN, specializes in research and strategic communications for economic development. The firm has pioneered many innovative economic development studies and has developed a workforce survey process that provides a highly reliable cross-section of data and reaches all sectors of the workforce. YA is recognized for the quality of the firm's work in analyzing labor-market dynamics for economic development and workforce development agencies.

The WDG/YA team is known the premier workforce analysis provider. The team's work has played a role in the most recent automotive assembly plant locations in the U.S. as well as in numerous tier one, two and three automotive supplier location and expansion decisions.

The WDG/YA team is in the process of completing comprehensive workforce assessments for the Central Mississippi Planning and Development District and the Delta Council. Prior to these studies, the WDG/YA team completed a complete labor market assessment for a 52 county region in the Memphis metro area, which included the 19 counties in northern Mississippi.

## Process

In this workforce assessment we applied the team's expertise gained from almost 15 years of collaborative work, and provided the insights gained by WDG over the past 30 years in its corporate location and economic development work. In this analysis we:

- Documented the recent annual averages and most current unemployment rates in each of the Mississippi counties within the commute zones.
- Documented the area's manufacturing employers, their peak employment, and their current employment.
- Calculated the estimated maximum staffing a new manufacturing facility could realize in its first year of operation. The calculations provide the estimated number of job applicants and the number of qualified employees that could be hired. The model used in this assessment is the standard used by WDG in its corporate location practice. The actual numbers of available workers typically exceed those produced by the assessment model. In this case the model did not include the most recently laid off area automotive employees.
- Determined the labor reserve and the number of residents within the labor shed area that possess the skill sets needed by a manufacturing industry employer. This data was collected by the YA labor supply survey conducted as part of the comprehensive workforce analysis for the Jackson 13-county labor shed area. This survey was conducted in sufficient depth to yield a 95% confidence factor and a  $\pm 4\%$  margin of error.
- Reviewed the programs and graduates of post-secondary institutions in the labor shed area, as well as other major state universities whose graduates are a resource for businesses and industries throughout the state.
- Extracted the findings related to automotive and advanced manufacturing from the employer survey, conducted by WDG/YA in the labor shed area for the comprehensive workforce analysis.

## Findings

The data gathered by and reviewed by WDG/YA for the Greater Jackson Region, and the 13 labor shed area that serves the sites, show strong labor market advantages and a solid location opportunity for an advanced manufacturing facility. All of the indicators show that the labor shed and the commute zones workforce for region have a workforce large enough, with the skills needed, for an advanced manufacturing facility and most suppliers. Our findings show:

- The 13 county Jackson area labor shed has a labor reserve of over 204,000 workers. The labor reserve is comprised of the following components:

Component	Number
Not Employed but Interested in Working	112,830
Underemployed <sup>1</sup>	65,309
Residents employed part-time who prefer full-time employment	19,382
Recent College Graduates <sup>2</sup>	6,522
<b>Total</b>	<b>204,043</b>

<sup>1</sup> Underemployed workers have the experience, training or certified skills to hold a higher skill lever job than the current job and would prefer a higher skills job.

<sup>2</sup> Recent college graduates from the two-year and four-year colleges located in the 13 county labor shed area

- The Jackson area labor shed has 48,600 employed residents with manufacturing skill sets, and approximately 21,700 not-employed residents wanting work who also have these skills. These skill sets are computer technology; engineering; engineering technology; highly skilled, skilled, and unskilled manufacturing; special trades; warehouse/distribution.
- Fourteen post-secondary schools located within the labor shed area produce approximately 1,650 graduates with manufacturing related degrees or certificates. In addition, Mississippi State, the University of Mississippi and the University of Southern Mississippi produce almost 3,000 manufacturing related graduates per year. The job opportunities provided by the established manufacturing industry is critical to retaining this young talent in Mississippi.
- An advanced manufacturing facility could expect to hire 2,370 qualified and fully screened employees in year one of operations.

This assessment assumes that a new facility would have starting wages at or above \$12.50 per hour for entry level workers, and strong benefit plan Skilled technicians would have to earn roughly \$20 per hour to start.

- The actual staffing potential is likely higher because of the recent downsizing of area automotive employers. Available data shows that recently there have been just over 2,900 employees laid off in the automotive sector. More lay-offs are expected as several area suppliers' contracts related to truck production end in 2008 and 2009. These workers have the skills and work environment attitudes needed by manufacturing related employers.
- The unemployment rates of the counties within the commute zones area have increased significantly in 2008. The unemployment rate has shown higher point growth than the national average in all but one of the counties, and it has shown higher point growth than the state average in seven out of the area's 13 counties.
- The area has an excellent training and educational base that has a proven track record in assisting advanced manufacturing companies to train employees. This established training infrastructure includes Holmes, Hinds, and Copiah-Lincoln Community Colleges, and the CAVS Center
- Private employment agencies, temporary employment agencies and the WIN centers in the immediate area are accustomed to the manufacturing industry and are familiar with the available and trained workforce.

## **Additional Advantages for the Advanced Manufacturing Industry in the Greater Jackson Area**

In addition to these workforce advantages, the clustering of manufacturing related industries within the area's available sites provides the following opportunities for manufacturing sector employers:

- Just-in-time delivery is easier to accomplish when located near the center of manufacturing operations, particularly for made to order parts
- Retooling and design changes are easier to plan and implement with suppliers in close proximity
- Better ability of assemblers and suppliers located in close proximity to assess and quickly address design flaws
- Reduced costs and minimized response times due to a shorter learning curve for the supporting service infrastructure (e.g., economic development, workforce development, educators, other training providers) than in areas not accustomed to the needs of the manufacturing industry
- Established relationships with Mississippi State's CAVS Center; since its establishment, CAVS in Canton, MS, has become a trusted partner to the manufacturing industry for research and engineering technology collaborations.
- Training programs and protocols already established with Holmes Community College and Hinds Community College and Copiah-Lincoln Community College
- Reduced transportation/logistics costs for assembly/suppliers within the region due to shorter shipping distance
- Greatly reduced travel costs for frequently required benchmarking and other on-site activities
- Easier day-to-day communication and more opportunities for innovation among customers and suppliers since close proximity allows on-site visits and impromptu meetings
- Reduced start-up costs versus areas without fully developed manufacturing support infrastructure.

## **Economic Impact Considerations**

In locations where an industry has become well established and a network of suppliers, support services, logistics providers, research, and training has formed, the economic impact of a change in that industry is greater than in locations where the industry sector is not as integrated into the local economy. The manufacturing industry has become well established in the Jackson labor shed. A complex network of services, logistics, research and a trained workforce has formed.

The most recent data from the U.S. Bureau of Economic Analysis shows that for each \$1 earned by households employed in manufacturing within the 13-county labor shed

area, the earnings of all households in the area increases \$4.22. For each job gained or lost in the manufacturing industry a total of 7.3858 jobs are gained or lost across all industry sectors within the labor shed area.

Manufacturing industry employment gains and losses within the Jackson labor shed have a dramatic impact due to the high level of integration within the economy. Resources invested in the manufacturing industry within this labor shed will likely generate a larger economic impact than investments located outside the established industry network of suppliers and services.

**EXHIBIT**  
**Greater Jackson MS Area Workers with Manufacturing Skill Sets**  
**13-County Labor Shed**

*Source: Younger Associates Labor Supply Survey,*

<b>Skill Set</b>	<b>Currently Employed</b>	<b>Not Employed, But Interested</b>
Computer Technology	1,725	5,429
Engineering/Engineering Technology	1,438	-
Highly Skilled Labor -Mfg	1,438	-
Skilled Labor -Mfg	11,788	3,455
Unskilled Labor -Mfg	5,750	4,442
Special Trades	4,600	3,949
Warehousing/Distribution	21,850	4,442
<b>Total</b>	<b>48,589</b>	<b>21,717</b>

**Average Unemployment Rates for Counties with the Commute Zones**

<b>County</b>	<b>Average Unemployment, 2007</b>		<b>Unemployment, July 2008</b>		<b>Point Difference 2007 &amp; July 2008</b>
	<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>	
Claiborne	416	11.2%	607	15.6%	4.4%
Copiah	938	7.6%	1,152	9.1%	1.5%
Hinds	6,778	5.7%	9,506	7.7%	2.0%
Lawrence	404	7.9%	594	11.3%	3.4%
Leake	538	6.7%	812	10.1%	3.4%
Lincoln	951	6.6%	1,439	9.6%	3.0%
Madison	2,209	4.9%	3,252	7.0%	2.1%
Rankin	3,004	4.1%	4,001	5.4%	1.3%
Scott	673	5.1%	922	6.7%	1.6%

Simpson	661	5.6%	932	7.7%	2.1%
Smith	379	5.6%	607	9.0%	3.4%
Warren	1,416	6.4%	2,058	9.2%	2.8%
Yazoo	815	8.0%	1,227	11.5%	3.5%
Mississippi	83,068	6.3%	115,270	8.5%	2.2%
US	7,078,000	4.6%	9,433,000	6.0%	1.4%

Source: U.S. Bureau of Labor Statistics

### EXHIBIT C EMPLOYMENT CHANGE: AUTOMOTIVE RELATED OPERATIONS

Source: WDG/YA Surveys, Mississippi Department of Employment Security

Company	Location		Employment			Comments
	City	County	Current	Previous	Change	
<b>Within Greater Jackson</b>						
Nissan	Canton	Madison	3,400	4,300	-900	FT employees
AGC Automotive Americas	Canton	Madison	30	80	-50	
American National Moulding	Flowood	Rankin	40	100	-60	
Business Interiors of Jackson	Jackson	Hinds	-	-	-	
Bynoe Consulting Group Inc. (BCG)	Madison	Madison	5	-	-	
Calsonic/Kansei North America – Canton	Canton	Madison	75	100	-25	Will be affected by loss of truck production
Calsonic/Kansei North America – Vicksburg	Vicksburg	Warren	50	-	-	
Carlex Glass Company	Canton	Madison	35	38	-3	
Center for Advanced Vehicular Systems Extension	Canton	Madison	-	-	-	
Creative Logistics Warehousing/Venture Express	Canton	Madison	145	-	-	
Crown Enterprises	Gluckstadt	Madison	-	-	-	
Distribution Automotive Services, Inc. (DAS)	Canton	Madison	186	-	-	
Visteon Corporation (formerly G & C Industries)	Durant	Homes	126	300	-174	Closing plant in 12/08
Visteon, LLC (was Lextron/Visteon)	Canton	Madison	80	258	-178	Will add 17 from Durant closure
Goggin Warehousing, LLC	Jackson	Hinds	10	-	-	
IMS Autrans	Canton	Madison	165	250	-85	
Johnson Controls, Inc.	Madison	Madison	300	600	-300	
K & S Wiring Systems, Inc	Canton	Madison	5	10	-5	
Kincses Tool & Molding Corp.	Flora	Madison	65	-	-	
IAC (formerly Lear Corporation)	Canton	Madison	10	26	-16	

MINACT/Yates Logistic Center	Canton	Madison	460	474	-14	
M-TEK Mississippi, Inc.	Madison	Madison	324	435	-111	Will be affected by 60% when truck line ends. All released were temps

**EXHIBIT C, continued**  
**EMPLOYMENT CHANGE: AUTOMOTIVE RELATED OPERATIONS**

Company	Location		Employment			Comments
	City	County	Current	Previous	Change	
<b>Martinrea Fabco</b>			n/a	n/a	n/a	Employment numbers confidential, not released by company
Nissan Canton Welding Operations	Canton	Madison	90	-	-	
Nissan Trading Corporation (NITCO)	Canton	Madison	7	10	-3	
PIC, Inc. (Productivity Improvement Center)	Canton	Madison	118	-	-	
<b>PK Mississippi, Inc. (PK-USA)</b>			14	67	-53	When truck line ends company will be in trouble
Pro Logistics	Jackson	Hinds	75	-	-	
Product Support Solutions	Durant	Holmes	25	-	-	
<b>Sable Innovative Plastics (formerly GE Plastics)</b>			-	-	-	
SANOH American (formerly Hisan)	Carthage	Leake	31	-	-	
Systems Electro-Coating, LLC	Madison	Madison	32	52	-20	Will have to do \$5 million expansion in 2009 for new contract
Tower Automotive Madison	Madison	Madison	50	103	-53	Company will be affected by truck business
<b>USUI International Corporation</b>			-	-	-	
<b>Tegant Corporation</b>			-	-	-	
Trillium Services, Parts & Aftermarket (Multicraft Intl LP)	Pelahatchie	Rankin	186	-	-	
Unipres Southeast U. S. A., Inc.	Forest	Scott	180	300	-120	
Valley Services	Flowood	Rankin	55	-	-	
Yates Services, Inc	Canton	Madison	50	350	-300	
Yazaki North America, Inc.	Canton	Madison	3	43	-40	
Yorozu Automotive Mississippi	Vicksburg	Warren	50	322	-275	
<b>Harrison Manufacturing, LLC</b>			17	23	-6	
<b>Lighthouse Plastics, LLC (formerly Mulay)</b>						

Plastics)			-	-	-	
Total			3,576	3,954	(2,923)	

**EXHIBIT C, continued**  
**EMPLOYMENT CHANGE: AUTOMOTIVE RELATED SUPPLIERS**

Company	Location		Employment			Comments
	City	County	Current	Previous	Change	
<b>Outside Greater Jackson</b>						
Ferguson Enterprises	Fulton	Itawamba	50	-	-	
Foamade Industries	Saltillo	Lee	60	80	-20	
Grenada Manufacturing Company	Grenada	Grenada	150	-	-	
SCA Packaging	Tupelo	Lee	-	-	-	
The Brown Corporation	Greenville	Washington	87	170	-83	Possible closure summer 2009
ThyssenKrupp Fabco	Shannon	Lee	188	-	-	
Tower Automotive Meridian	Meridian	Lauderdale	112	134	-22	
Total			647	384	-125	

**EXHIBIT D**  
**ESTIMATED LABOR SUPPLY FOR AUTOMOTIVE FACILITIES AT 4 MEGA-SITES, BY**  
**COMMUTE ZONE**

*Source: WDG Estimate Based on YA Labor Supply Survey and Claritas Data*

		Maximum Size (Year 1) of an Auto Operation:							
		GJA Region 0-30 Mins	GJA Region 0-60 Mins	Pelahatchie 0-30 Mins	Pelahatchie 0-60 Mins	Clinton 0-30 Mins	Clinton 0-60 Mins	Wesson 0-30 Mins	Wesson 0-60 Mins
1	Currently employed supply	6,664	17,729	5,840	18,582	10,180	19,902	2,174	16,589
2	Potential underemployment yield	7,290	18,831	5,625	18,509	12,832	20,135	1,427	17,120
3	Not employed	902	1,578	420	1,468	950	1,714	186	1,437
4	New labor force entrants	174	1,257	386	1,452	768	1,404	111	1,185
5	Total expected applicants – 1 year	21,030	39,395	12,271	40,011	24,730	43,155	3,898	36,330
6	Applicant commute propensity	16,824	31,516	9,817	32,009	19,784	34,524	3,118	29,064
7	Initial employer intercept	12,618	23,637	7,363	24,007	14,838	25,893	2,339	21,798
8	<b>Qualified Applicants</b>	<b>3,785</b>	<b>7,091</b>	<b>2,209</b>	<b>7,202</b>	<b>4,451</b>	<b>7,768</b>	<b>702</b>	<b>6,539</b>
9	<b>1 in 3 selectivity</b>	<b>1,262</b>	<b>2,364</b>	<b>736</b>	<b>2,401</b>	<b>1,484</b>	<b>2,589</b>	<b>234</b>	<b>2,180</b>

	<b>ratio</b>								
<b>10</b>	<b>1 in 5 selectivity ratio</b>	<b>757</b>	<b>1,418</b>	<b>442</b>	<b>1,440</b>	<b>890</b>	<b>1,554</b>	<b>140</b>	<b>1,308</b>

**Explanatory Notes**

1. Estimate of currently employed production, transportation/material moving, and installation/maintenance/repair workers unhappy enough with their current job to apply. WDG assumes 35% of residents employed in these occupations will apply for new positions. Individuals currently working in low-level sales, service, and farming occupations who will apply. WDG assumes that 25% of residents currently employed in sales and service occupations and agriculture will apply for new positions.
2. Not-employed residents (including unemployed and those not participating in the workforce) that would be interested in working in manufacturing and distribution operations. WDG assumes 10.5% of not-employed residents will apply for manufacturing positions, based on the workforce survey not-employed but interested characteristics. It is assumed both male and female residents will apply for positions.
3. Growth component to account for new entrants into the labor force. Includes a percentage of high school graduates and new residents that are likely to apply for manufacturing positions.
4. Total eligible population.
5. Percentage of applicants willing to commute up to 30 and 60 minutes for employment – based on prevailing area commuting patterns, 80% of the total number of applicants (line 5) is assumed. The propensity for underemployed residents and not-employed residents to commute longer distances for jobs meeting their expectations is not factored into the model. If it were, the number of potential applicants would be higher.
6. Percentage of applicants (among those willing to commute as shown in line 6) who will work at the new operation despite similar positions available between their residence and the original employers. In this case, it is assumed that a new employer coming into the area would be the employer-of-choice and a high percentage of workers would commute to the employer's new location. As more competitors enter the market, the percentage of workers accepting work at that location is assumed to decline. It is assumed that 75% of workers will work at the new operation.
7. Number of applicants shown in line 7 passing initial screening and offered an interview. The actual percentage will vary according to the skills required by the operation, and the skill level of the available workforce. It is assumed 30% would be qualified.
8. The number of employees an employer could hire assuming a selectivity ratio of one hire per three applicants.
9. The number of employees an employer could hire assuming a selectivity ratio of one hire per five applicants.
10. The number of employees an employer could hire assuming a selectivity ratio of one hire per five applicants.