

## Grantee: Alliance for Business and Training (ABT)

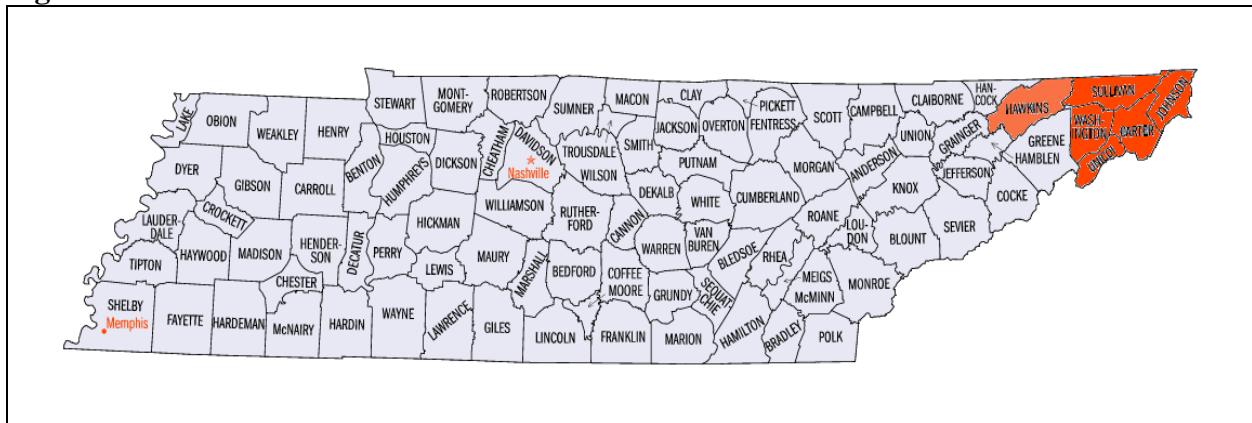
Grant Title: Northeast Tennessee Demonstration Project

### Grantee Service Area

The Alliance for Business and Training (ABT) serves Carter, Johnson, Sullivan, Unicoi, and Washington Counties in Tennessee. Through 2002, four of these counties (Carter, Sullivan, Unicoi, and Washington) were part of the Johnson City-Kingsport-Bristol, TN-VA (TN-VA) Metropolitan Statistical Area (MSA) shown in Figure 1, below. This MSA also included Hawkins County in Tennessee, Scott and Washington Counties in Virginia, and the independent city of Bristol, Virginia.

Information available on the Johnson City-Kingsport-Bristol, TN-VA MSA is used throughout this profile.

**Figure 1**



**Table 1: Grantee Service Area MSA Facts**

<b>2002 Metropolitan Status</b>	<b>Region:</b>	South	
	<b>State:</b>	Tennessee	
	<b>Counties:</b>	Carter	Johnson City-Kingsport-Bristol, TN-VA MSA
		Johnson	Nonmetropolitan
		Sullivan	Johnson City-Kingsport-Bristol, TN-VA MSA
		Unicoi	Johnson City-Kingsport-Bristol, TN-VA MSA
	Washington	Johnson City-Kingsport-Bristol, TN-VA MSA	

## Key Industries and Employment

As measured by nongovernmental employment, the economy of the five-county ABT target area is concentrated in four broad sectors: manufacturing, retailing, health and social services, and accommodations and food services. These four sectors represented more than 60 percent of total nongovernmental employment during the second week of March 2001. As noted in Table 2 below, the average annual salaries for manufacturing and health care and social services are both above the region-wide average. These data are the most recent detailed subnational industrial information that is available from the U.S. Census Bureau's annual report, *County Business Patterns*. This annual report covers most of the country's economic activity, excluding data on self-employed individuals, employees of private households, railroad employees, agricultural production employees, and most government employees. Beginning in 1998, data have been tabulated by industry as defined in the *North American Industry Classification System: United States, 1997 (NAICS)*.

**Table 2: Nongovernmental Employment by Major Sector in the Grantee Service Area, 2001**

Industry	Non-governmental Employment (March 12, 2001)	Annual Payroll (\$1,000)	Number of Establishments	% of all Nongovernmental Employment	Average Annual Wage/Salary
Total	131,101	\$3,834,086	7,536	100.0%	\$27,389
Manufacturing	28,840	\$1,291,964	407	22.0%	\$38,458
Retail	18,184	\$354,139	1,487	13.9%	\$18,688
Health & social services	21,524	\$729,359	837	16.4%	\$33,504
Accommodations & food services	11,509	\$119,095	573	8.8%	\$9,951

Source: U.S. Bureau of the Census, *County Business Patterns*, 2001.

*Manufacturing.* Although the geographic composition of the five-county ABT service area does not precisely match the Johnson City-Kingsport-Bristol, TN-VA MSA, these areas overlap and are reasonably similar. As considerably more detailed industry employment data are available for the metropolitan area than for any of the individual or aggregated counties, the following section is based on 2001 *County Business Patterns* data for the Johnson City-Kingsport-Bristol, TN-VA MSA. Again, these are the only detailed subnational industry data that are currently available.

Although a county-level analysis is beyond the scope of this profile, it should be noted that the data presented in Table 2, above, mask some differences among the five counties that comprise the ABT target area. For example, the five counties vary in terms of their manufacturing diversity, and they vary in terms of the relative importance (in terms of employment) of manufacturing to each county's economy. Washington County is the largest of the five counties in the ABT target area, but only 17 percent of its workforce was employed in manufacturing in 2001. In contrast, Johnson and Unicoi Counties are the two smallest counties in the target area, but the number of those employed in manufacturing in each of those counties—29 percent in Johnson County and 36 percent in Unicoi County—were considerably above average as reported in the 2001 *County Business Patterns*.

Data from the U.S. Census Bureau's 2001 *County Business Patterns* (Table 3) indicate that northeastern Tennessee has a fairly diversified manufacturing base with significant concentration in chemical manufacturing, machinery manufacturing, fabricated metal products, printing, transportation equipment, and electrical equipment and appliance manufacturing. As noted below, 24.0 percent of all manufacturing employment in the area is in chemical manufacturing, and much of that is involved in the manufacture of basic organic chemicals. It also should be noted that average annual wage levels in the area's chemical industry are considerably higher than all other manufacturing employment.

**Table 3: Manufacturing Employment in the Johnson City-Kingsport-Bristol, TN-VA MSA, 2001**

Industry	Employees (3/12/01)	Annual Payroll (\$1,000)	Number of Establishments	% of Total Manufacturing Employment	Average Annual Wage
Total	42,683	1,541,096	544	100%	\$36,106
Chemical mfg.	10,249	561,225	22	24.0%	\$54,759
Machinery mfg.	4,764	139,529	36	11.2%	\$29,288
Fabricated metal product mfg.	3,914	125,800	105	9.2%	\$32,141
Printing & related support activities	3,656	118,424	59	8.6%	\$32,392
Transportation equipment mfg.	2,629	95,975	18	6.2%	\$36,506
Electrical equip, appliance & component mfg.	2,615	69,681	11	6.1%	\$26,647
Plastics & rubber products mfg.	2,275	66,504	29	5.3%	\$29,233
Nonmetallic mineral product mfg.	1,991	72,594	42	4.7%	\$36,461
Primary metal mfg.	1,689	49,803	20	4.0%	\$29,487
Textile mills	1,390	37,193	13	3.3%	\$26,758

Source: U.S. Bureau of the Census, *County Business Patterns*, 2001.

*Health Care.* As with the details concerning manufacturing employment, relatively little detailed industry employment data are available for each of the counties that comprise the ABT target area of northeastern Tennessee. The data presented in Table 4, below, represent employment in the Johnson City-Kingsport-Bristol, TN-VA MSA as this metropolitan area and the ABT target area overlap and are reasonably similar. Again, data for 2001 are being presented, as these are the most recent detailed industry employment data available at this geographic level.

**Table 4: Health Care Employment in the  
Johnson City-Kingsport-Bristol, TN-VA MSA, 2001**

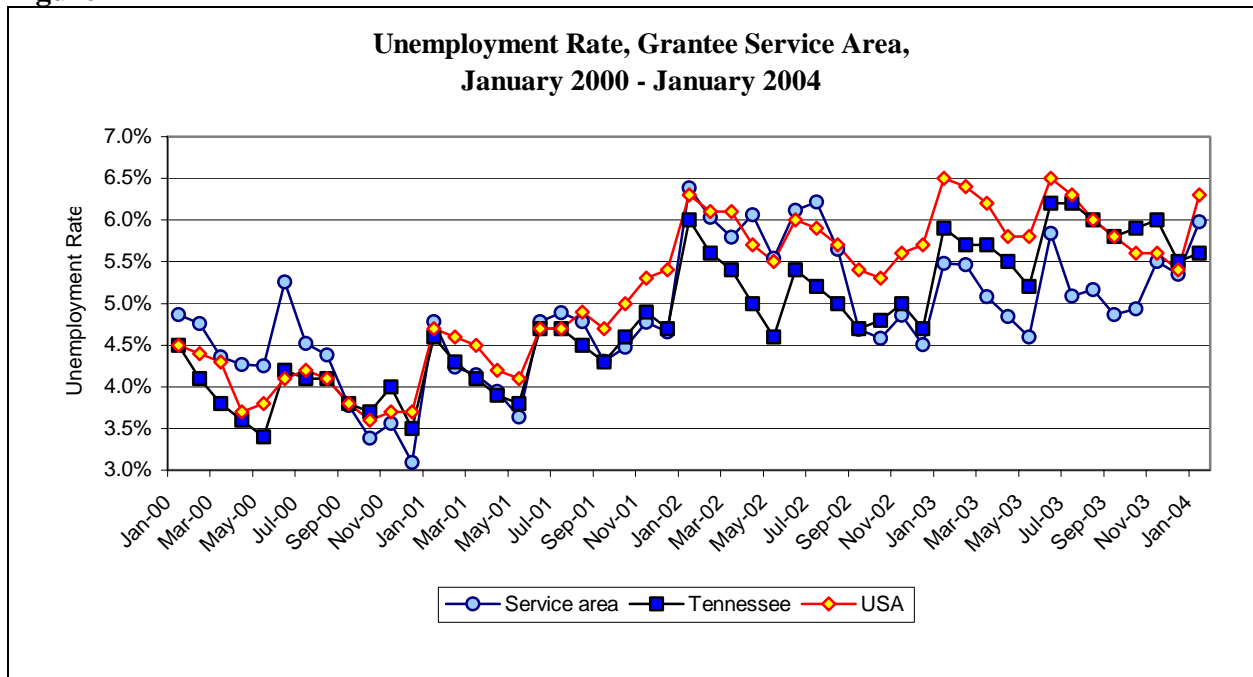
<b>Health Care Service</b>	<b>Employees (3/12/01)</b>	<b>Annual Payroll (\$1,000)</b>	<b>Number of Establishments</b>	<b>% of Total Health Care Employment</b>	<b>Average Annual Wage</b>
Physician offices	4,410	\$269,713	336	17.4%	\$61,159
Dentists offices	1,155	\$35,446	174	4.6%	\$30,689
Offices of other health practitioners	474	\$12,108	131	1.9%	\$25,544
Outpatient care facilities	939	\$25,752	57	3.7%	\$27,425
Medical & diagnostic laboratories	351	\$11,665	16	1.4%	\$33,234
Home health services	431	\$9,821	27	1.7%	\$22,787
General medical-surgical hospitals	10,014	\$324,142	11	39.6%	\$32,369
Nursing & residential care facilities	4,697	\$81,635	117	18.6%	\$17,380
All other health care and social services	2,824	\$43,183	207	11.2%	\$15,291
<b>Total</b>	<b>25,295</b>	<b>\$813,465</b>	<b>1,076</b>	<b>100.0%</b>	<b>\$32,159</b>

Source: U.S. Bureau of the Census, *County Business Patterns*, 2001.

All of the standard health care employment settings are found in northeastern Tennessee, including hospitals, nursing homes, the offices of physicians and other health care practitioners, and home health services. Health care employment is concentrated in hospitals, physician offices, and nursing and residential care facilities. Salary levels are highest for physician offices at \$61,159 in 2001, although this figure is most likely inflated by the inclusion of physicians who may be employees of the practices where they work. At the other end of the spectrum, those employed in nursing homes and other long-term care and residential facilities are among the lowest paid workers throughout the entire health care employment category.

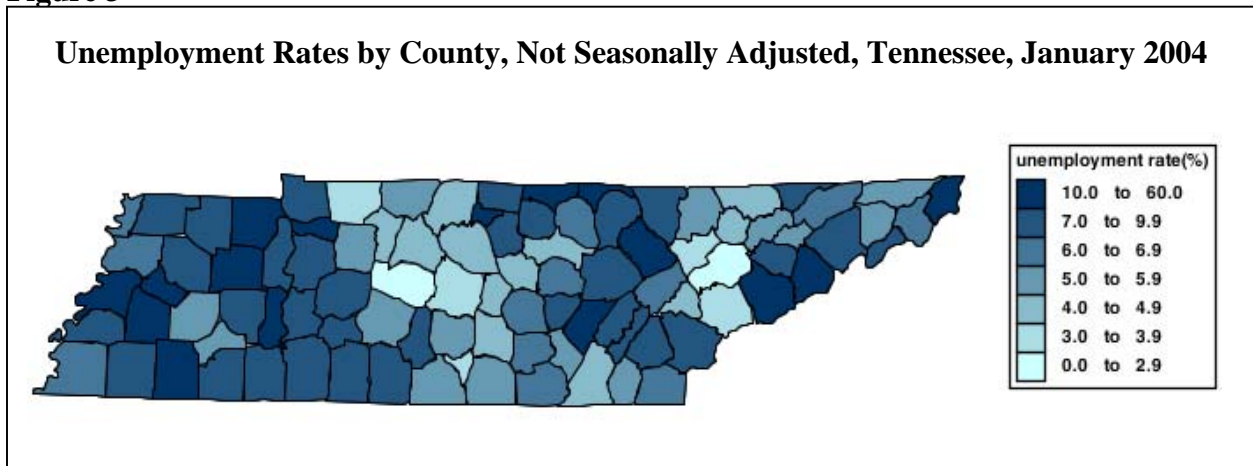
## Unemployment

As shown below in Figure 2, the unemployment rate for the five-county ABT target area peaked in 2002 at about 6.5 percent, but then declined below 5.5 percent for most of 2003. Since mid-2002, the unemployment rate for this region has been lower than the rates for either the entire state of Tennessee or for the entire nation.

**Figure 2**

Source: U.S. Department of Labor, Bureau of Labor Statistics, 2004.

Unemployment rates as of December 2003, for each Tennessee County are illustrated in Figure 3, below. Careful examination of Figure 3 reveals that there is considerable variation in unemployment in the ABT target area. As of December 2003, Johnson and Unicoi Counties had high unemployment rates of 8.4 percent and 7.4 percent, respectively. The other three counties were much closer to the average for the entire five-county area: Washington County at 4.6 percent; Carter County at 5.5 percent; and Sullivan County at 5.3 percent.

**Figure 3**

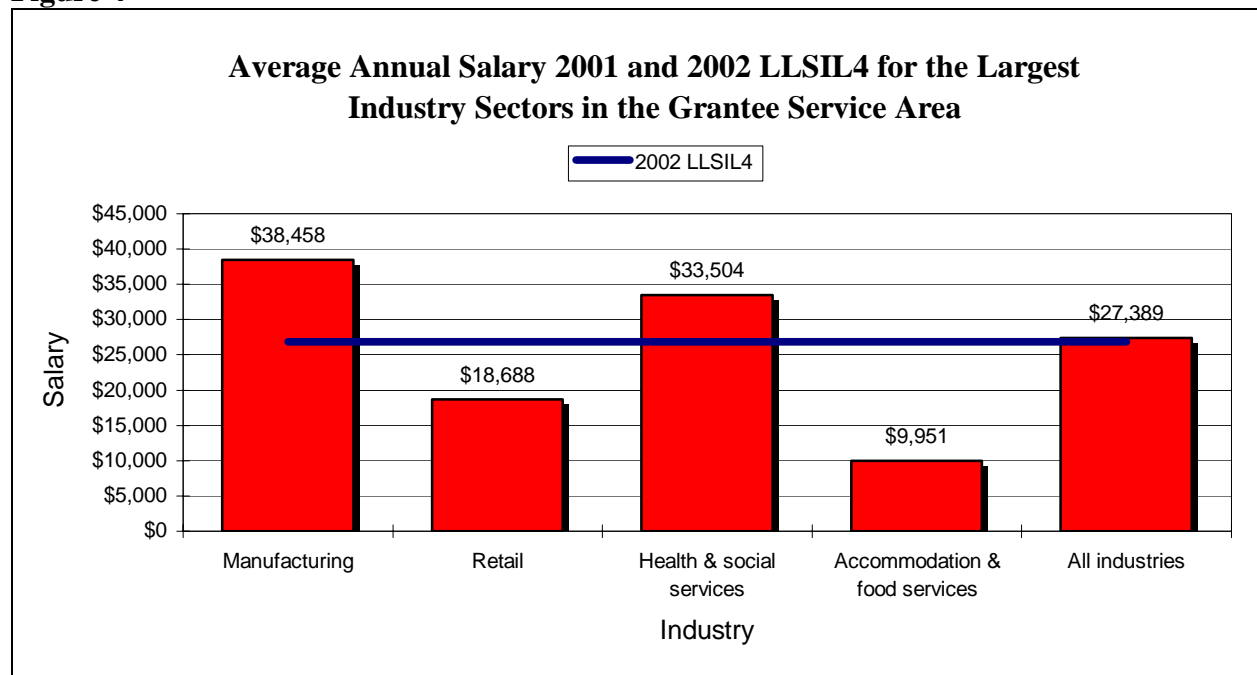
Source: U.S. Department of Labor, Bureau of Labor Statistics, 2004.

## Lower Living Standard Income Level

The adjusted 2002 Lower Living Standard Income Level for a family of four (LLSIL4) in a metropolitan area in the South is \$26,900. This figure was chosen for use as the standard for the five-county ABT target area due to the area's location in the U.S. Department of Labor's southern region and because four of the five counties in this area are designated metropolitan counties. Only Johnson County is not located in an officially designated MSA, and Johnson County contained only 5.1 percent of the target area's total population in 2002 according to the latest U.S. Census Bureau estimates.

As discussed earlier, the four largest industry sectors in the five-county ABT target area of northeastern Tennessee are manufacturing, retail, health and social services, and accommodation and food services. Persons employed in retail services in the target area in 2001 earned an average of \$18,688, and those employed in the accommodations and food service industry earned a little over half that (\$9,951). Both of these sectors fall considerably below the area's \$26,900 LLSIL4, and neither of these sectors was targeted by the ABT. In contrast, the ABT has targeted manufacturing, health care, and technology within its service area. As noted below in Figure 4, both manufacturing and the broad health and social services category generated higher average salaries in 2001 than the 2002 LLSIL4 level for northeastern Tennessee. Technology, however, is not a distinct or unique industrial category within readily available government data resources although technology-based jobs generally require some training and specialized knowledge, both of which typically translate to salaries above the LLSIL4 level. Technology-based positions may be found in almost all sectors of the economy.

**Figure 4**



Source: U.S. Bureau of the Census, *County Business Patterns*, 2001; U.S. Department of Labor, Employment, and Training Administration, 2002.

## Occupations Targeted by Grantee

The ABT focused its efforts on three major industries: manufacturing, technology, and health care. Based on the analysis presented above, two of these, manufacturing and health care, are key sectors of the regional economy and appear to offer ample job opportunities at or above the

LLSIL4. The third area of focus, i.e., technology, cuts across multiple industry sectors. Within the three industry sectors selected by the grantee, 60 distinct occupations were targeted through their efforts. As noted below, a number of these occupations are specific to the chemical manufacturing and health care industries. The rest are either technology or manufacturing occupations that may be utilized within a wide variety of technology, manufacturing, and business settings.

Network technician	Machine operator
Telephony technician	Welder
Cable technician	Production worker
Solution design engineer	Shipper/packer
Technical sales engineer	Production employee
System engineer	Supervisor
Software developer	Management-level employee
Visual design specialist	Human resources manager
Electronic business technical support specialist	Trainer
Wan/Lan infrastructure installer and support technician	Quality manager
Network security and monitoring	ISO coordinator
eBusiness custom application developer	Production lead person
Customized Web site designer	Foundry man
Customized software developer	Power metal specialist
Shrink-wrapper	Electronic assembler
CNC equipment operator	Residential assistant
Ergonomic team member	Psychiatric technician
Blueprint reader	Clinical professional staff
Die designer	Certified nursing assistant
Chemical operator	Patient care partner
Acid production team leader	Personnel specialist
Instrument technician/electrician	Work measurement technician
Instrument technician	Computer operator
Explosive material handler	Screen print technician
Laboratory analyst	Maintenance
Analytical chemist	Industrial repairer
Technician	Maintenance electrician
Engineer	Maintenance machinist
Maintenance mechanic	Production supervisor
	Quality engineer
	Quality auditor

## Wage Level Analysis

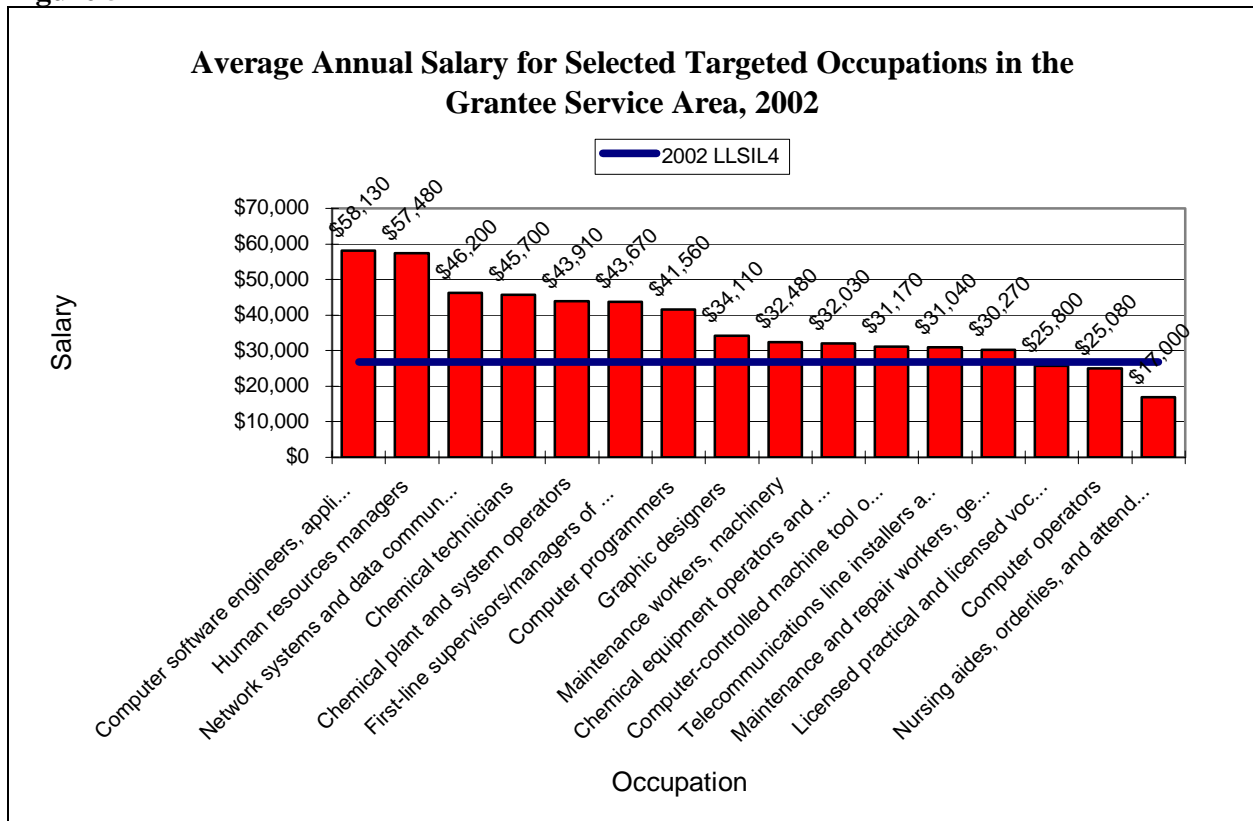
Of the 60 specific occupations that were targeted for northeastern Tennessee by the ABT, 16 of them may be directly compared with data provided through the U.S. Department of Labor's Occupational Employment Statistics (OES) series for this area. Unfortunately, most of the remaining targeted occupational categories are too broad to compare directly while some of the others are too specific to be matched to an occupational category that already exists within the ABT demonstration site area. Nonetheless, of the 16 occupational categories for which OES categories have been identified (see Table 5, below), most of these occupations appear likely to provide wage levels that are in excess of the LLSIL4 base for this region. More specifically, individuals who may be trained to fill any of these 16 occupations in northeastern Tennessee can anticipate annual earnings that are above the 2002 LLSIL4 of \$26,900. For several of the occupational categories, such as human resources manager, computer programmers, computer software engineers, chemical technicians, and chemical plant operators, the annual salaries are likely to be as much as twice the LLSIL4 level. In contrast, computer operators and several of the health care support occupations fall below LLSIL4 for this area. These data are also illustrated in Figure 6 on the following page.

**Table 5: DOL Occupation & Employment Data for Targeted Occupations in the Grantee Service Area, 2002**

Occupations	Area Employment	Median Hourly	Mean Hourly	Mean Annual
Human resources managers	210	\$27.25	\$27.63	\$57,480
Computer programmers	430	\$17.69	\$19.98	\$41,560
Computer software engineers, applications	180	\$25.69	\$27.95	\$58,130
Network systems and data communications analysts	90	\$20.27	\$22.21	\$46,200
Chemical technicians*	NA	\$22.07	\$21.97	\$45,700
Graphic designers	190	\$13.89	\$16.40	\$34,110
Licensed practical and licensed vocational nurses	1,990	\$11.33	\$12.40	\$25,800
Nursing aides, orderlies, and attendants	2,480	\$8.08	\$8.17	\$17,000
Computer operators	190	\$11.58	\$12.06	\$25,080
Maintenance and repair workers, general	2,140	\$13.67	\$14.55	\$30,270
Maintenance workers, machinery	290	\$16.18	\$15.62	\$32,480
Telecommunications line installers and repairers*	NA	\$14.52	\$14.93	\$31,040
First-line supervisors/managers of production and operating workers	1,550	\$19.13	\$20.99	\$43,670
Computer-controlled machine tool operators, metal and plastic	320	\$15.65	\$14.98	\$31,170
Chemical plant and system operators*	NA	\$21.95	\$21.11	\$43,910
Chemical equipment operators and tenders*	NA	\$13.94	\$15.40	\$32,030

Source: U.S. Department of Labor, Occupational, and Employment Statistics, 2002.

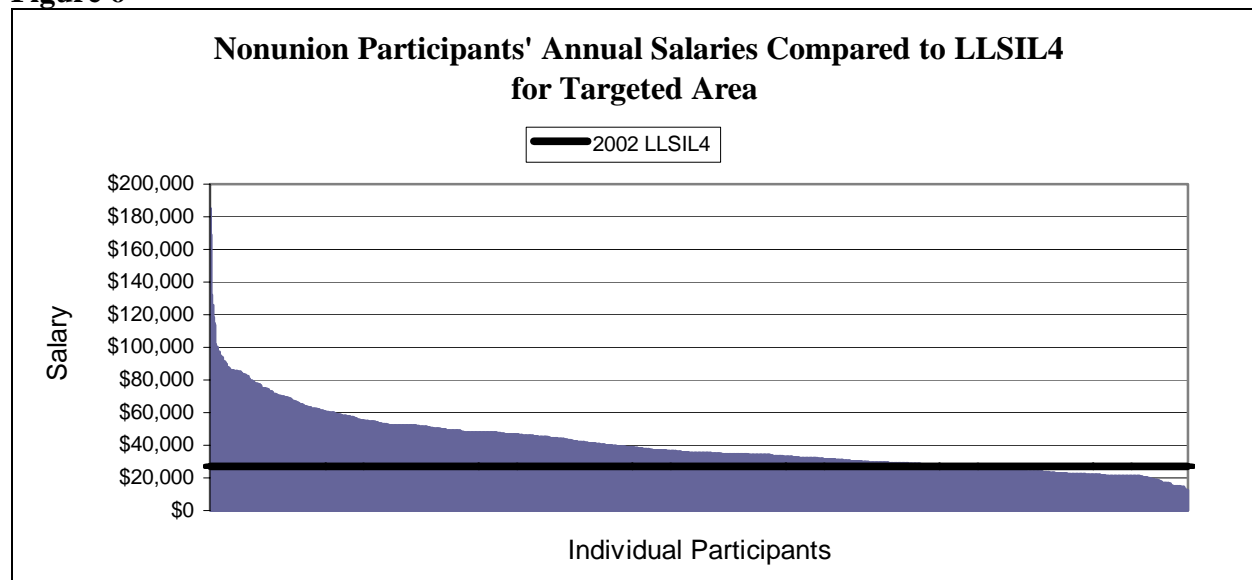
\* Estimated. The number of employees in these industry categories is estimated due to suppression of details in order to maintain employer confidentiality. Where available, average reported salaries are slightly underestimated due to the suppression of data for smaller employers.

**Figure 5**

Source: U.S. Department of Labor, Occupational, and Employment Statistics, 2002.

## Outcomes Analysis

The hypothetical wage levels that trainees may expect to earn were illustrated in Table 5 and Figure 5, above. Final outcome information is also available from the ABT for individuals that were trained and are employed in the 60 specific occupations targeted for training within its five-county demonstration site area. The data indicate that 79 percent of workers receive annual salaries that are at or above the \$26,900 LLSIL4 for this region. Roughly one-quarter of the workers have salaries in excess of \$40,000 per year, and 8 percent of them have annual salaries that are more than twice the LLSIL4 for the region. These patterns are illustrated in Figure 6, below.

**Figure 6**

Source: ABT (Northeastern Tennessee Demonstration Project), 2004

Note: The outcome data submitted by the grantee was missing outcome wage data for 74 nonunion trainees (5 percent of participants). The data did not specify union or nonunion workers; therefore, all participants are treated as nonunion workers.

Each vertical line on Figure 6 above represents an individual's outcome. Occupations that fell below the 2002 LLSIL4 included supervisor, applications tester, support specialist, machinist, quality manager, production scheduler, help desk agent, and independent repair apprentice.

## Summary of Findings

The data provided in this profile and overview of the ABT demonstration site area in northeastern Tennessee indicate that the area has a relatively diverse industrial base. Two of the major sectors within the area are manufacturing and health care, and the manufacturing sector may also be characterized as fairly diverse. Key manufacturing activities include chemicals, machinery and fabricated metal products, printing, transportation equipment, appliances, and plastics.

Unemployment in the five-county area has tracked fairly closely to both state and national trends since 2000, but the region's two small counties have recently exhibited unemployment rates that are considerably higher than those in adjacent counties that are larger and more urban.

The ABT has targeted 60 specific occupations that fall within three broad industry categories: manufacturing, health care, and technology. Where specific occupations can be matched with data from OES resources, most of these categories, especially those in manufacturing, may be expected to provide incumbents with annual salary levels above the designated LLSIL4 for the demonstration site area.

Based on the outcome data provided by ABT concerning annual salary levels of individuals that have been trained and are employed in target occupations within the demonstration site area, nearly 80 percent of its trainees are working in jobs that pay more than the \$26,900 LLSIL4. Approximately one-quarter are working in positions that pay in excess of \$40,000 per year, and a few are in positions that pay more than \$70,000 per year.