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LABORSHED ANALYSIS

The purpose of this Laborshed analysis is to measure the availability and characteristics of workers within the region by developing and conducting a telephone survey based on geographic principles. The Laborshed data generated will aid local development officials in their facilitation of industry expansion and recruitment and their service to existing industry in the area. All such entities require detailed data describing the characteristics of the available labor force including current/desired wage rates and benefits, job qualifications and skills, age cohorts, residence/work location, employment requirements/obstacles, and the distances individuals are willing to travel for employment.

The first step in determining the potential available labor supply requires an understanding of the Laborshed. Such an understanding will assist local development efforts by delineating the actual geographic boundaries from which communities are able to attract their workers. Determining the area's Laborshed also builds the foundation for collecting valuable survey data and making estimates concerning the characteristics of the area's potential labor force.

In order to determine the boundaries of the Laborshed area, Iowa Workforce Development (IWD) worked closely with the Davis County Development Corporation to identify where current employees reside. Employees were then aggregated into ZIP codes and placed into a geographic display for analysis (see **Commuter Concentration per ZIP Code** map).

Applying the mapping function of ArcView Geographic Information System (GIS) software produces the geographic display. This GIS program has been utilized to overlay the ZIP code data set, the county data set and transportation routes. IWD's database of ZIP code data sets allows for numerous analyses and comparisons of the potential labor force, such as examining the complete demographic data for a ZIP code's age cohorts (age groupings). Another benefit of applying GIS's mapping function is the ability to identify visually where the workers are located, concentrations of labor and transportation routes that they use to travel to work. This representation is a valuable tool in understanding the distribution of the labor force within the region.

The GIS analysis of the Laborshed area illustrates that segments of the Davis County Laborshed area are located within a 50-mile radius of the Iowa City Metropolitan Statistical Area (MSA), as well as a 30-mile radius of the Corydon, Keokuk, Knoxville, Mount Pleasant, Sigourney, and Kirksville (MO) labor market areas (see **Labor Market Areas in Region** map). These labor centers will have an impact on the size of the area's labor force and on the attraction of workers from within the Laborshed area. The Laborshed complements existing sources of labor data, such as the U.S. Department of Labor's Bureau of Labor Statistics (BLS) and the Employment Statistics and Labor Market Information Bureaus of IWD that concentrate on geographic areas based generally on a county or groups of counties.

The following sections of this report summarize the results of the Laborshed survey. Due to the magnitude of the survey results, it is not practical to review each set of variables. Instead, IWD has focused on the factors that we have found to be the most valuable to existing and future businesses. However, IWD will certainly conduct additional analyses if the development corporations and/or local businesses desire further review of specific variable(s) or sets of responses.

ESTIMATING THE TOTAL LABOR FORCE POTENTIAL

The fundamental goal of any Laborshed analysis is to estimate the potential availability of workers and determine how well the surrounding geographical areas are able to provide a stable supply of workers to the central Laborshed node (see **Table 1**).

Prior to applying the survey results for the Davis County Laborshed area, it was necessary to estimate the size of the potential labor force between the ages of 18 and 64 by ZIP code and survey zone. A variety of U.S. Census Bureau, BLS, Iowa Workforce Development, and private vendor publications and data sets are used to estimate the size and demographic details of the potential labor force of the Davis County Laborshed area.

A number of adjustments are made to the Davis County Laborshed area. The first adjustment is to account for differences in the labor participation rates within each of the zones. These adjusted rates are achieved by dividing the labor force cohort between the ages of 18 and 64 by the population cohort between the ages of 18 and 64 (LFC/PC). The labor force cohort includes both employed and non-employed persons that are looking for work. This ratio is similar to the BLS labor force participation rate (LFPR), except that the LFPR includes the total civilian non-institutionalized population 16 and above. Since most employers are more concerned with the population between the ages of 18 and 64, cohort groups below age 18 and above age 64 are removed.

Employment demographic variables such as employment status, age, education level and miles driven to work are taken into consideration when estimating the availability of workers. Of particular interest is the ordinal variable that rates a person's desire to change employment on a 1-4 scale (1=very likely to change; 4=very unlikely to change).

Factors are explored at both the micro (individual) level and at the macro (zip code or Laborshed) level. The estimated total potential labor force is developed using a logistic regression with polytomous response model based on the above covariates drawn from survey data that estimates the theoretical probability of persons accepting or changing employment.

**Table 1.
Estimated Total Potential Labor Force
Davis County Laborshed Area**

Weighted Labor Force				
		Total Population 18 to 64	Total Adjusted Labor Force	Total Willing to Change/Accept Employment*
Zone 1				
BLOOMFIELD, IA	52537	3,696	2,895	1,414
Total Zone 1		3,696	2,895	1,414
Zone 2				
OTTUMWA, IA	52501	18,085	14,247	6,416
CENTERVILLE, IA	52544	4,565	3,342	1,508
DRAKESVILLE, IA	52552	580	454	205
ELDON, IA	52554	764	602	270
FLORIS, IA	52560	323	253	113
MILTON, IA	52570	510	407	183
MOULTON, IA	52572	680	498	224
PULASKI, IA	52584	284	222	100
UDELL, IA	52593	83	61	27
DOWNING, MO	63536	442	358	161
LANCASTER, MO	63548	694	563	253
MEMPHIS, MO	63555	1,730	1,398	647
Total Zone 2		28,740	22,406	10,109
Zone 3				
AGENCY, IA	52530	536	422	26
ALBIA, IA	52531	3,265	2,799	93
BATAVIA, IA	52533	754	495	20
BLAKESBURG, IA	52536	577	455	22
CANTRIL, IA	52542	229	183	12
CHILLICOTHE, IA	52548	30	24	1
CINCINNATI, IA	52549	410	300	13
DOUDS, IA	52551	109	87	4
EXLINE, IA	52555	256	187	8
FAIRFIELD, IA	52556	7,736	5,081	162
HEDRICK, IA	52563	963	783	29
KEOSAUQUA, IA	52565	1,125	897	50
LIBERTYVILLE, IA	52567	359	236	8
MORAVIA, IA	52571	802	587	23
MYSTIC, IA	52574	636	466	21
SELMA, IA	52588	223	178	10
UNIONVILLE, IA	52594	194	142	10
ARBELA, MO	63432	359	290	10
KIRKSVILLE, MO	63501	14,803	11,395	348
COATSVILLE, MO	63535	72	58	3
GLENWOOD, MO	63541	255	207	14
GREENTOP, MO	63546	934	719	32
LIVONIA, MO	63551	218	172	8
NOVINGER, MO	63559	877	675	19
QUEEN CITY, MO	63561	556	451	25
Total Zone 3		36,278	27,289	971
Grand Total		68,714	52,590	12,494

*Total willing to Change/Accept Employment references those who would be willing to commute into Zone 1 from their home ZIP Code for an employment opportunity.

Some ZIP codes may not be identified above due to lack of information from the U.S. Census Bureau.

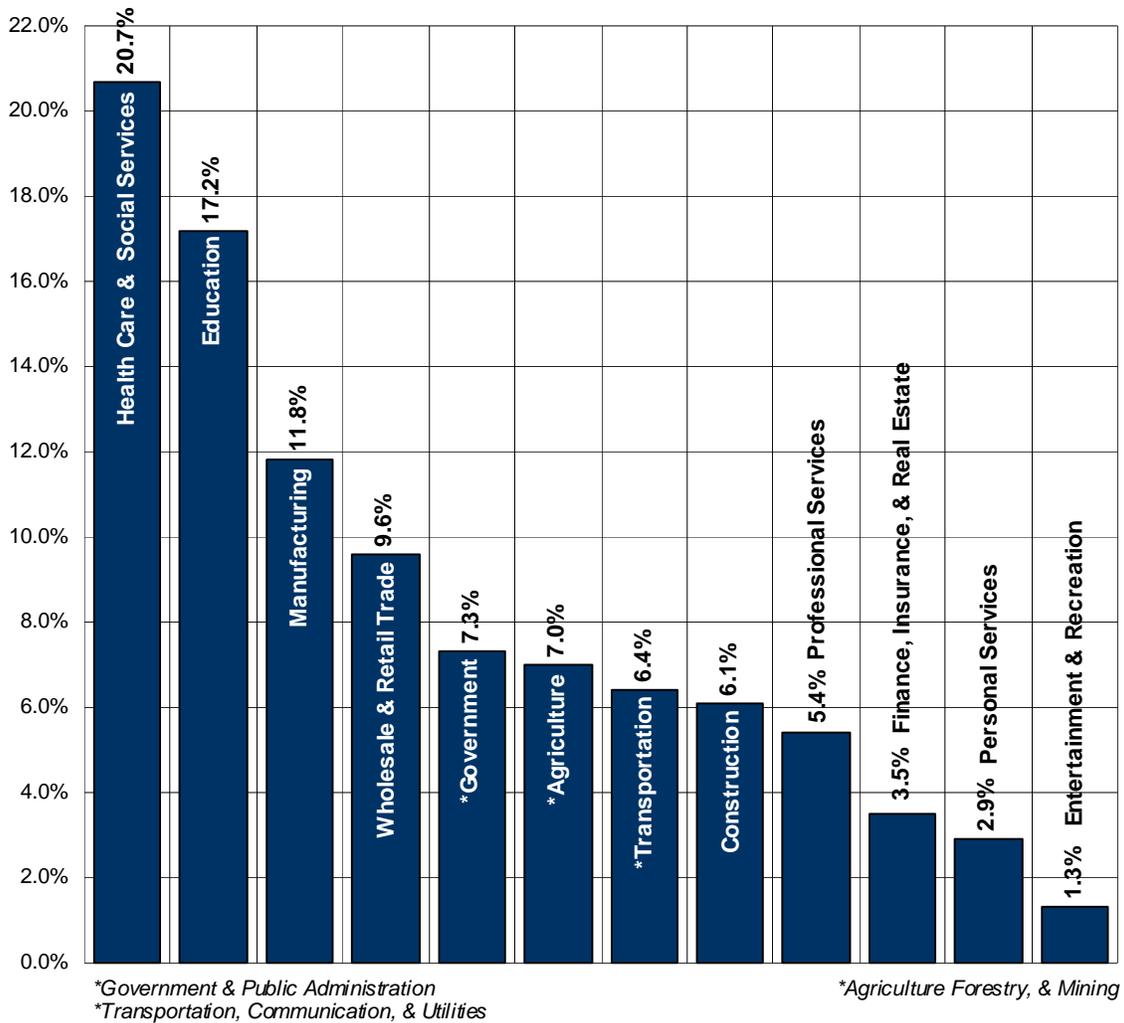
PRIMARY INDUSTRIES OF THE LABORSHED

INDUSTRIES IN THE DAVIS COUNTY LABORSHED AREA - EMPLOYED

In order to provide consistency with other labor market information, the industrial categories identified in this Laborshed analysis will follow a similar format of the Standard Industrial Classification Manual (1987).

Survey respondents from the Davis County Laborshed area were asked to identify the industry they are currently working. The following information is based on the responses from those Laborshed respondents who are currently employed (**Chart 1**).

Chart 1.
Where are the Employed Working?



WORKFORCE STATISTICS

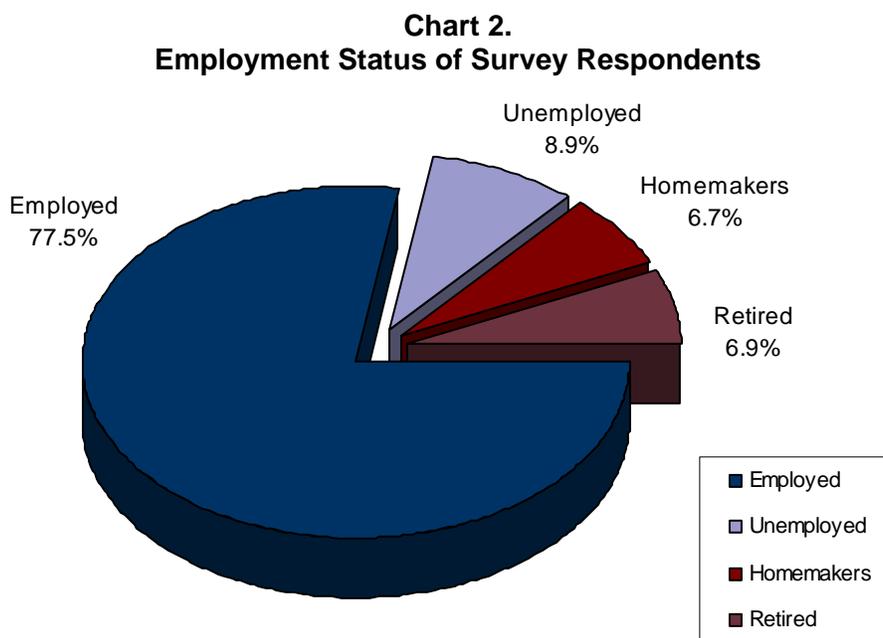
Essentially, when everything else is stripped away, it is the people that are the key to a business' success (*Expansion Management*, January 2003) and in nearly all site location studies, labor constitutes one of the most – if not the most – important criterion of the study (*AreaDevelopment*, April/May 2006). Profiling the characteristics of a community's Laborshed reveals a very dynamic and diverse collection of skills, abilities, work experience and preferences among residents. It is important to analyze each grouping of respondents to identify and respect their uniqueness and contributions to the Laborshed. The employed individuals who are "very likely" or "somewhat likely" to change jobs within their company, or accept a position with a different employer represent the primary pool of available labor. Many factors must be taken into account when evaluating these workers, such as employment experiences, unused skills, education, wages and benefits desired and the distance individuals are willing to travel to work. Current literature does not suggest standards by which to compare this Laborshed data, however, results from previous Laborshed studies conducted by Iowa Workforce Development (IWD) and the University of Northern Iowa's Institute for Decision Making (IDM) form a base of comparison for the study.

DEMOGRAPHICS OF THE EMPLOYED

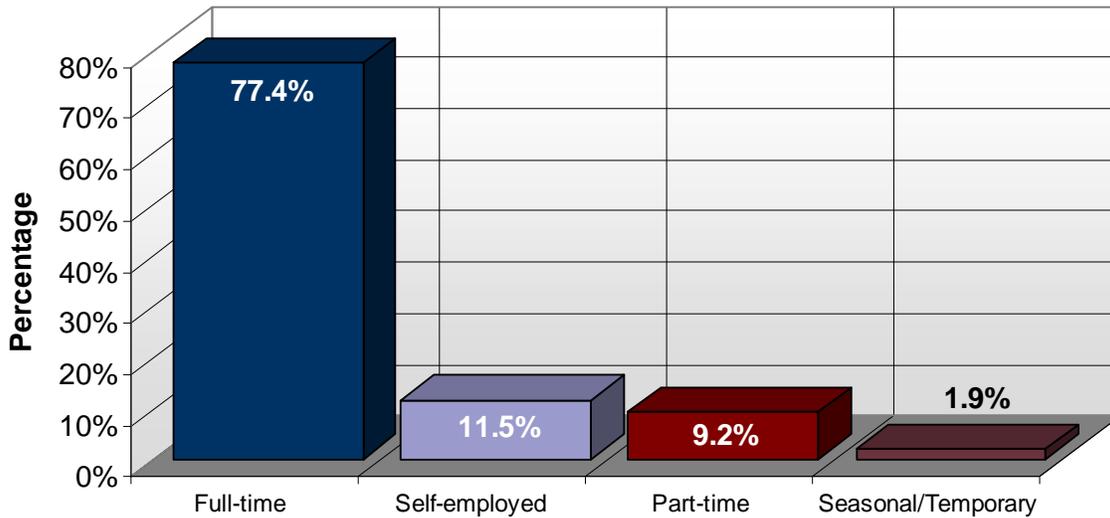
The gender break down of those respondents, who are employed, is 55.1 percent female and 44.9 percent male. The average age of the employed is 47 years old. A small portion (6.7%) of the employed respondents speaks more than one language in their household, of those respondents 56.3% speak Spanish.

EMPLOYMENT STATUS

The results of this Laborshed survey show that 77.5 percent of *all* the respondents identified themselves as being employed at the time they were contacted (**Chart 2**). The majority (77.4%) of the employed are working in positions that are considered full-time (see **Chart 3** on the next page).



**Chart 3.
Type of Employment**



Over one-tenth (11.5%) of the employed respondents are self-employed. The types of businesses they are operating include farming (22.9%), construction/handyman (14.3%), consulting (11.4%), retail store (8.6%), child care (2.9%), or restaurant (2.9%). The self-employed have been operating their businesses for an average of 18 years, ranging from one to 47 years.

EDUCATION & TRAINING

Nearly three-fourths (72.0%) of the employed residents in the Laborshed area have some level of education/training beyond high school, 2.2 percent are trade certified, 1.0 percent have completed vocational training, 15.6 percent have an associate degree, 19.8 percent have an undergraduate degree, and 15.3 percent have a postgraduate/professional degree.

Table 2 provides an overview of the educational fields of study of those who are currently employed in the Laborshed area.

**Table 2.
Educational Fields of Study**

Fields of Study	% of Laborshed
Social Sciences	19.2%
Health Care/Medical Studies	17.8%
Education	15.0%
Business, Public Administration, & Marketing	10.3%
Business Administrative Support	9.3%
Vocational Trades	9.3%
Math & Science	5.6%
Agricultural Studies	5.1%
Computer Applications/Programming/Technology	2.8%
General Studies/Liberal Arts	2.8%
Engineering & Architecture	2.8%

OCCUPATIONS & EXPERIENCES

IWD recodes the respondents' actual occupations into one of the seven Occupational Employment Statistics (OES) categories. The occupational categories represent a variety of specific occupations held by the respondents. (See OES Category Structure - **Exhibit D**.) Classifying the employed by occupational group, **Table 3** shows that the largest concentration of the workforce are employed in the professional, paraprofessional, or technical occupational category. Agricultural occupations represent the smallest sector of workers who are currently employed. The totals are based on the Total Adjusted Labor Force estimates found in **Table 1** and the percentage of employed in the Laborshed area.

**Table 3.
Estimated Workforce by Occupation**

Respondent's Occupation	% of Respondents	Potential Total in Laborshed
Professional, Paraprofessional, & Technical	34.5%	14,061
Production, Construction, Operating, Maintenance, & Material Handling	19.7%	8,029
Managerial/Administrative	19.1%	7,785
Clerical/Administrative Support	10.2%	4,157
Service	7.9%	3,220
Sales	4.9%	1,997
Agriculture	3.7%	1,508
Total	100%	40,757

Table 4 provides a comparison of the gender distribution within each occupational category.

**Table 4.
Occupational Categories by Gender**

Occupational Category	Male	Female
Managerial/Administrative	56.5%	43.5%
Professional, Paraprofessional, & Technical	29.5%	70.5%
Sales	41.2%	58.8%
Clerical/Administrative Support	14.0%	86.0%
Service	25.0%	75.0%
Agriculture	78.6%	21.4%
Production, Construction, Operating, Maintenance, & Material Handling	70.4%	29.6%

Table 5, on the next page, illustrates the percentage of respondents within each occupational category by zone of residence. The table shows that occupational experiences are generally spread across the survey zones. Although Zone 1 is the primary node in the Laborshed area, the table illustrates the impact of the other zones on the extent of available labor. Within most of the occupational categories, the largest percentage of workers may often reside in outlying zones.

**Table 5.
Occupational Categories Across the Zones**

Respondent Occupational Category	Zone 1 % of Zone	Zone 2 % of Zone	Zone 3 % of Zone
Managerial/Administrative	30.6%	35.5%	33.9%
Professional, Paraprofessional, & Technical	29.5%	24.2%	46.3%
Sales	35.3%	35.3%	29.4%
Clerical/Administrative Support	51.2%	30.2%	18.6%
Service	22.5%	50.0%	27.5%
Agriculture	50.0%	14.3%	35.7%
Production, Construction, Operating, Maintenance, & Material Handling	32.1%	48.1%	19.8%

Equals 100% across the zones

WAGE REQUIREMENTS

Respondents are surveyed on either an hourly or salaried basis; hourly wages are not converted to annual salaries. The Davis County Laborshed area has a higher concentration of respondents who are currently receiving an hourly wage (51.4%) versus those who are receiving an annual salary. The current median wage of those who are employed is \$13.00 per hour and the median salary is \$42,000 per year.

Table 6 provides the current median wages and salaries by industry of the respondents in the Laborshed area. This wage information is an overview of all employed within the Laborshed area without regard to occupational categories or willingness to change employment. If businesses are in need of wage rates within a defined Laborshed area, the survey data can be queried by various attributes to provide additional analysis of the available labor supply. The actual wage levels required by prospective workers will vary between individuals, occupational categories, industries, and economic cycles.

**Table 6.
Median Wages & Salaries Industry**

Industry	Median Wage and Salary	
	Non Salary (per hour)	Salary (per year)
Agriculture	\$ 16.19	\$ 39,000
Construction	\$ 12.00	\$ 46,250
Manufacturing	\$ 14.21	\$ 46,500
Transportation, Communication, & Utilities	\$ 16.75	\$ 44,000
Wholesale & Retail Trade	\$ 9.40	\$ 43,000
Finance, Insurance, & Real Estate	*	\$ 37,500
Professional Services	\$ 15.00	*
Health Care & Social Services	\$ 13.26	\$ 50,000
Entertainment, Recreation, & Personal Services	\$ 14.00	\$ 34,000
Government & Public Administration	\$ 14.10	\$ 47,000
Education	\$ 12.50	\$ 40,000

** Insufficient survey data/refused*

Table 7 illustrates current wage rates of those who are currently employed within each defined occupational category.

**Table 7.
Median Wages & Salaries by Occupational Category**

Occupational Category	Median Wage and Salary	
	Non Salary (per hour)	Salary (per year)
Managerial/Administrative	\$ 22.00	\$ 47,000
Professional, Paraprofessional, & Technical	\$ 15.00	\$ 42,000
Sales	\$ 12.00	\$ 46,500
Clerical/Administrative Support	\$ 11.74	\$ 32,500
Service	\$ 9.00	\$ 31,000
Agriculture	*	\$ 38,000
Production, Construction, Operating, Maintenance, & Material Handling	\$ 14.10	\$ 39,000

* Insufficient survey data/refused

Wages by gender differ in the Davis County Laborshed area. The current median hourly wage of employed females in the Laborshed area is \$12.74 per hour and the current median hourly wage of employed males is \$14.00 per hour. This \$1.26 per hour wage difference has females in the Davis County Laborshed area receiving an hourly wage of 9.0 percent less than males. Women who are receiving an annual salary also are faced with gender wage disparity (\$8,000 per year). Currently women are making a median annual salary of \$40,000 per year while men are making a median salary of \$48,000 a year. This results in a 16.7 percent difference in annual salaries.

EMPLOYMENT BENEFITS

There is a variety of benefit packages being offered to employees within the Davis County Laborshed area in addition to wages. Current benefits include health/medical insurance (91.0%), pension/retirement options (67.2%), dental coverage (46.3%), paid vacation (43.4%), paid holidays (30.3%), life insurance (29.5%), paid sick leave (27.9%), vision coverage (19.7%), disability insurance (14.8%), prescription drug coverage (9.4%), tuition assistance/reimbursement (3.7%), flextime (2.9%), and stock options (0.8%). Nearly two-thirds (64.8%) of the employers and employees in the Laborshed area are sharing in the premium costs of health/medical insurance, 26.5 percent of the employers are covering the entire cost of insurance premiums while 8.7 percent of the employers/employees have made other arrangements.

COMMUTING

Commuting data collected by the Laborshed survey assists developers and employers in understanding how employed residents can/could commute within/out of the area. Overall, individuals are commuting an average of 9 miles one way for employment opportunities. Those who live in Zone 1 are commuting an average of 9 miles one way, while residents in Zone 2 are commuting an average of 8 miles one way, and Zone 3 residents are commuting an average of 9 miles one way for the right employment opportunity. Keep in mind that for those residing in Zones 2 and 3 commuting distances of less than 20 miles one way may or may not get them into the nodal community (Bloomfield).

ANALYSIS OF THOSE EMPLOYED WILLING TO CHANGE EMPLOYMENT

Analyzing the employed based on their willingness to change employment creates a profile of individuals interested in changing from their current position. The data shows that 24.8 percent of those who are currently employed within the Laborshed area indicated they are either “very likely” or “somewhat likely” to change employers or employment if presented with the right job opportunity. Job satisfaction is the primary reason that those who are currently employed are *not* willing to consider changing employment. Age/near retirement, benefits, a good working relationship with current employer, flexibility of work hours, family reasons, job security, length of service/seniority, health issues, currently attending school or other training, and lack of reliable transportation are other reasons mentioned but not as frequently.

Table 8 shows the employed willing to change employment residing throughout the survey zones. Respondents willing to change employment by zone are calculated using a logistic regression model weighted by multiple variables such as education level, gender, age, miles willing to travel, and wages. This model provides an estimate for the total number of individuals “willing to change” by zone. The totals are based on the Total Adjusted Labor Force estimates found in **Table 1**.

**Table 8.
Totals by Zone**

	Total Adjusted Laborforce by Zone	Estimated Total Willing to Change/Accept by Zone*	Estimated Number of Employed Willing to Change by Zone*
Zone 1	2,895	1,414	1,091
Zone 2	22,406	10,109	8,150
Zone 3	27,289	971	732
Total	52,590	12,494	9,973

**Total Willing to Change/Accept Employment references those who would be willing to commute into Zone 1 from their home ZIP code for an employment opportunity.*

A segment of those who are employed (17.9%), willing to change employment, are working two or more jobs. This group would prefer to work full-time hours for one employer versus working for multiple employers to accomplish full-time employment. Those who are employed willing to change are currently working an average of 43 hours per week. Slightly over one-tenth (10.3%) would consider employment offers that require them to work more hours. Further analysis finds that 92.3 percent would prefer to work full-time positions (35+ hrs./week), while 7.7 percent prefer positions with less than full-time hours. Temporary and seasonal employment opportunities do not appeal to the majority of those who are currently employed and willing to change employment. Seasonal employment would interest 28.2 percent, while 23.1 percent would consider a temporary employment offer.

When asked about their interest in entrepreneurship opportunities, 29.5 percent of the employed, that are willing to change employment, expressed an interest in starting a business. The types of businesses they are primarily interested in starting include construction/handyman (39.1%), retail (26.1%), farming (8.7%), restaurant (8.7%), and consulting (4.3%). However, the majority find access to capital/start-up funds is the primary impediment of operating their own business venture followed by finding a prime business location, risk involved, time involved, marketing expertise, development of a business plan, and insurance/regulatory issues.

AGE AND GENDER OF THE EMPLOYED

The gender break down of those willing to change employment is distributed 56.4 percent female and 43.6 percent male. **Table 9** compares the gender distribution among the employed respondents willing to change employment in each zone. These calculations are based on the Estimated Number of Employed Willing to Change of 9,973 projections found in **Table 8**.

Table 9.
Estimated Totals by Zone & Gender

	Zone 1		Zone 2		Zone 3	
	Female	Male	Female	Male	Female	Male
% of Zone	69.6%	30.4%	41.7%	58.3%	58.1%	41.9%
Estimated Total by Zone	759	332	3,399	4,751	425	307

The average age of those willing to change employment is 44 years of age. **Table 10** provides a breakdown by age category of the employed respondents who are willing to change employment. These calculations are based on the Estimated Number of Employed Willing to Change of 9,973 projections found in **Table 8**.

Table 10.
Age Range Distribution

Age Range	% of Respondents	Potential Total in Laborshed
18 to 24	7.7%	768
25 to 34	14.1%	1,406
35 to 44	30.8%	3,072
45 to 54	24.3%	2,423
55 to 64	23.1%	2,304
Total	100%	9,973

EDUCATION & TRAINING

The survey results show that 71.8 percent of the respondents willing to change employment have some level of education/training beyond high school, 14.1 percent have obtained an associate degree, 2.6 percent are trade certified, 20.5 percent have an undergraduate degree, and 11.5 percent have a postgraduate/professional degree. As with other segments of the Laborshed study, education levels vary by industrial and occupational categories, gender and age groups. Additional data can be provided for specific inquiries regarding education and training by contacting the Davis County Development Corporation.

Table 11 provides an overview of the educational fields of study for those who are employed and willing to change employment.

**Table 11.
Educational Fields of Study**

Fields of Study	% of Laborshed
Health Care/Medical Studies	19.6%
Social Sciences	19.6%
Education	15.7%
Vocational Trades	13.7%
Business Administrative Support	9.8%
Business, Public Administration, & Marketing	7.9%
Computer Applications/Programming/Technology	3.9%
Engineering & Architecture	3.9%
Math & Science	3.9%
Agricultural Studies	2.0%

Education and training are the keys to successful careers and employment opportunities. Over two-fifths (44.9%) of the employed, willing to change employment, realize to make a successful transition to new employment or be promoted within their current organization, they will need additional education/training. Those respondents desire to start/finish college degree (33.3%), attend computer courses (27.8%), obtain continuing education units “CEU’s” (19.4%), and participate in on-the-job training (11.1%). The primary areas of computer training which they want to take are in general computer operations (keyboarding, etc.) (44.4%), programming (COBOL, JAVA, network administration, etc.) (33.3%), and software classes (Office, Word, etc.) (22.2%).

Two-fifths (40.0%) are likely to seek additional training/education in their specified areas of study within the next year. Lack of time (work scheduling conflicts), financing, child care issues, and transportation issues are the primary obstacles to obtaining their educational/training needs.

Community and economic developers, college/university professionals, and human resource professionals may use this information as a guide for determining and enhancing their workforce education and training programs. Additional issues influencing education/training programs may include class time, cost, and location.

OCCUPATIONS & EXPERIENCES

IWD recodes the respondents’ actual occupations into one of the seven Occupational Employment Statistics (OES) categories. The occupational categories represent a variety of specific occupations held by the respondents. (See OES Category Structure - **Exhibit D**.) Classifying the employed by current occupations and likeliness to change, **Table 12** (on next page) shows that the largest concentration of potential available labor is employed in professional, paraprofessional, or technical occupations. Agricultural occupations represent the smallest sector of workers willing to change employment. The calculations for potential available labor are based on the Estimated Number of Employed Willing to Change of 9,973 projections found in **Table 8**.

**Table 12.
Estimated Workforce by Occupation**

Respondent's Occupation	% of Respondents	Potential Total in Laborshed
Professional, Paraprofessional, & Technical	35.5%	3,540
Production, Construction, Operating, Maintenance, & Material Handling	26.3%	2,623
Managerial/Administrative	14.5%	1,446
Clerical/Administrative Support	7.9%	788
Service	7.9%	788
Sales	6.6%	658
Agriculture	1.3%	130
Total	100%	9,973

Table 13 provides a comparison of those willing to change employment by gender. The Davis County Laborshed area has a higher percentage of women who are employed willing to change than men (56.4% and 43.6% respectively). It can be expected that there would be a higher concentration of females in certain occupational categories such as clerical, while males will have higher concentrations of potential available labor in other occupational categories such as construction. Employers within the Laborshed area looking to fill positions can utilize this information to more efficiently focus their recruitment efforts in the occupational categories from which they plan to hire.

**Table 13.
Occupational Categories by Gender**

Occupational Category	Male	Female
Managerial/Administrative	27.3%	72.7%
Professional, Paraprofessional, & Technical	37.0%	63.0%
Sales	40.0%	60.0%
Clerical/Administrative Support	16.7%	83.3%
Service	16.7%	83.3%
Agriculture	100%	0.0%
Production, Construction, Operating, Maintenance, & Material Handling	75.0%	25.0%

The occupational categories encompass a wide variety of individual occupations in which workers in the Laborshed area are employed. In some cases, workers willing to change positions may be employed in jobs that do not maximize all of their available skills and work experiences. Employees may possess talents that go unutilized or unrecognized by their current employer. Employers tapping into this resource may be effective in attracting employees to different positions or increasing their value to the company. For a list of current or previous occupational titles and experiences in the Davis County Laborshed area, contact the Davis County Development Corporation.

Employers may be aided in their recruiting efforts by being able to identify the respondents by their occupation and area of residence. **Table 14**, on the next page, illustrates the percentage of respondents in each occupational category within each Laborshed zone. The table shows that the occupational experiences are generally spread across the survey zones, but the outlying zones have a substantial effect on a community's in-commute, thus affecting many

economic factors. For the most part, employers looking to fill positions within these occupational categories may want to expand their recruitment efforts to include communities surrounding Davis County.

Table 14.
Occupational Categories Across the Zones

Occupational Category	Zone 1 % of Zone	Zone 2 % of Zone	Zone 3 % of Zone
Managerial/Administrative	18.2%	54.5%	27.3%
Professional, Paraprofessional, & Technical	37.0%	22.2%	40.8%
Sales	20.0%	40.0%	40.0%
Clerical/Administrative Support	66.7%	0.0%	33.3%
Service	0.0%	50.0%	50.0%
Agriculture	0.0%	0%	100%
Production, Construction, Operating, Maintenance, & Material Handling	25.0%	30.0%	45.0%

Equals 100% across the zones

Table 15 details the occupational categories the residents would consider seeking employment by survey zone of residence. This information can provide businesses, community developers, and leaders a “snapshot” for future community growth.

Table 15.
Desired Occupational Categories Within the Zones

Desired Occupational Category	Zone 1 % of Zone	Zone 2 % of Zone	Zone 3 % of Zone
Managerial/Administrative	0.0%	23.1%	18.2%
Professional, Paraprofessional, & Technical	49.9%	30.7%	36.3%
Sales	0.0%	15.4%	9.1%
Clerical/Administrative Support	0.0%	7.7%	9.1%
Service	16.7%	7.7%	9.1%
Agriculture	16.7%	0.0%	0.0%
Production, Construction, Operating, Maintenance, & Material Handling	16.7%	15.4%	18.2%

Equals 100% within the zone

As **Table 15** notes, those who are employed within the Davis County Laborshed area who are willing to change employment are looking for a wide variety of employment opportunities. However, the majority of those who reside in Zone 1 (Bloomfield) are looking for positions in professional, paraprofessional, and technical occupations (approximately 544 people each). Those who reside in Zones 2 and 3 are also primarily looking for positions in professional, paraprofessional, or technical occupations (approximately 2,502 people in Zone 2 and 266 people in Zone 3). Projections are based on zone totals obtained from **Table 8**.

WAGE REQUIREMENTS

Table 16 provides data concerning the employed respondents' current median wages and salaries, by their likeliness to change employment. Additional data from the survey can be analyzed to provide businesses a benchmark for determining wage rates in the Laborshed area. The actual wage levels required by prospective workers will vary between individuals, occupational categories, industries, and economic cycles. Nearly three-fifths (57.7%) are hourly wage earners.

Table 16.
Comparison of Current Wage Data

	All Employed	Those Likely to Change	Those Unlikely to Change
Current Wage:			
Median (hourly)	\$13.00	\$11.90	\$14.10
Current Salary:			
Median (yearly)	\$42,000	\$38,500	\$44,000

As **Table 16** shows there is a disparity between the median hourly wages of respondents likely to change employment and those content with their current position (\$2.20/hr or \$5,500/yr). Those who changed jobs in the past year cited better wages (27.9%), employer layoff/relocation (23.5%), respondent moved from area (13.2%), and family reasons (8.8%) as the primary reasons for change.

The wage threshold of employed residents who are “very likely” or “somewhat likely” to change employment is estimated to be \$15.00 to \$15.50 per hour regardless of industry. Salaried employees willing to change employment have a threshold of \$50,000 to \$50,500 per year.

Table 17 reflects those who are currently employed willing to change and the estimated wage range required to attract 66 percent to 75 percent of the most qualified hourly wage applicants by industry.

Table 17.
Wage Threshold by Industry

Industry	Wage Threshold
	Non Salary (per hour)
Agriculture	*
Construction	\$10.30 - \$10.75
Manufacturing	\$14.88 - \$15.00
Transportation, Communication, & Utilities	*
Wholesale & Retail Trade	\$12.26 - \$12.65
Finance, Insurance, Real Estate, & Professional Services	\$18.90 - \$20.25
Health Care & Social Services	\$19.40 - \$20.00
Entertainment, Recreation, & Personal Services	*
Government & Public Administration	*
Education	\$15.00 - \$15.50

**Insufficient data collected to provide thresholds due to the limited number of hourly wage earners likely to change employment in those industries.*

Another comparison to consider is the employed respondents' lowest wages considered based on gender. **Table 18** provides the lowest wages considered between the genders.

**Table 18.
Comparison of Lowest Wages Considered by Gender**

	Male	Female
Lowest Wage Considered:		
Median (hourly)	\$14.98	\$10.00
Lowest Salary Considered:		
Median (yearly)	\$50,000	\$45,000

In many Laborshed areas, there is a discrepancy between the lowest wages considered of males and females. This falls true in the Davis County Laborshed area when looking at hourly wage rates of those who are willing to change employment without regard to specific industry. The lowest median hourly wage that females would consider is 33.2 percent less than that of men. Likewise, the median salary women would consider is 10.0 percent less than that of men. Some of the disparity may be explained by the differences in the occupational and industrial categories of the respondents, nevertheless discrepancies still exist.

EMPLOYMENT BENEFITS

The survey provides the respondents an opportunity to identify employment benefits that would influence their decision to change employment. Desired benefits include health/medical insurance (84.5%), pension/retirement options (33.8%), dental coverage (18.3%), paid vacation (18.3%), vision coverage (11.3%), life insurance (7.0%), paid holidays (7.0%), paid sick leave (4.2%), disability insurance (2.8%), prescription drug coverage (2.8%), flextime (2.8%), tuition assistance/reimbursement (1.4%), and stock options (1.4%). For some respondents, benefits offered in lieu of higher wages can be the driving force to change employment. Some respondents assume that particular benefits, such as health/medical insurance, would be incorporated into most standard employment packages; therefore, they did not select health/medical as an influential benefit option.

In order to change employment, nearly one-fourth (23.3%) of those surveyed would prefer to look for offers where the employer covers all the premium costs of health/medical insurance while the majority (76.7%) would be willing to cost share the premium for health/medical insurance with their employer. When looking at cost sharing of current benefits, most (64.8%) of the employers and employees in the Laborshed area are sharing in the premium costs of health/medical insurance and 26.5 percent of the employers are covering the entire cost of health/medical insurance premiums. When it comes to considering influential benefit options to employment offers, there is a difference between those who currently share in the costs of medical insurance premiums to that of those who desire cost sharing of medical insurance premiums. This leads to the belief that cost sharing versus employer paid would influence the employed to change positions or companies.

FLEXIBILITY & ADAPTABILITY IN THE WORKPLACE

The Laborshed area residents are very receptive to various work environments. Most respondents (61.5%) would prefer to work in team environments, groups of individuals coming together to accomplish a common goal; 65.4 percent are willing to work in an environment that offers cross-training opportunities, training to do more than one job; and more than one-fourth (28.2%) would consider job sharing work arrangements, involving two or more individuals splitting one full-time job. As such arrangements become more common in the workplace; more

and more employees are expressing greater interest. Employment opportunities that require a variety of work schedules (combinations of 2nd, 3rd or split shifts) would pique the interest of 19.2 percent of the employed that are willing to change employment.

JOB SEARCH TECHNIQUES

Employers who have a clear understanding of the job search resources used by workers will improve their ability to maximize their effectiveness and efficiency in attracting qualified applicants. Residents living in the Davis County Laborshed area are undoubtedly exposed to numerous sources by which employers communicate job openings and new hiring. Therefore, it is important to understand what sources potential workers rely on when looking for jobs. The most frequently identified job search resources are the internet (57.7%), local newspapers (52.6%), local Iowa Workforce Development Centers (33.3%), networking (24.4%), regional newspapers (15.4%), and private employment services (7.7%). College/university/career centers were also mentioned but less frequently as utilized sources for employment opportunities.

Those utilizing the local newspaper tend to seek employment opportunities by searching in their hometown news publication. The most popular local/regional newspaper sources include The Ottumwa Courier and The Des Moines Register. The internet is host to many sources for employment opportunities, the most commonly used sites to look for employment opportunities in the Davis County Laborshed are www.monster.com and www.iowaworkforce.org. The type of industry the individual is seeking to be employed may determine the sources used. Businesses wanting more detailed advertising sources may contact the Davis County Development Corporation. Understanding and utilizing traditional and non-traditional advertising mediums will provide employers a more focused and effective recruitment tool.

COMMUTING

Commuting data collected by the Laborshed survey assists developers and employers in understanding how employed residents that are willing to change employment can/could commute within/out of the area. Overall, the employed willing to change would commute an average of 25 miles one way for employment opportunities. Those who live in Zone 1 are willing to commute an average of 23 miles one way, while residents in Zone 2 are willing to commute an average of 26 miles one way and Zone 3 residents are willing to commute an average of 27 miles one way for the right employment opportunity. To provide a comparison, those employed willing to change are currently commuting 10 miles one way, and those currently employed but *not* willing to change, commute an average of 8 miles one way to work.

Where individuals live within the Laborshed will influence their desire to commute to the node community. The node community may be the largest economic center for many of the smaller communities in the area. Individuals from the surrounding communities seeking job opportunities and competitive wages/benefits may be resigned to the fact that they will have to commute some distance to a new employer. In these cases, the willingness of the Zone 2 and 3 respondents to commute a substantial distance increases the likelihood that they may be interested in commuting (or interested in continuing to commute) to the node community. However, the willingness of Zone 1 residents to commute represents a potential out commute from the node community. This point illustrates the influence of surrounding labor on the individual Laborsheds - potentially drawing workers out of the node (see **Labor Market Areas in Region** map).

OUT COMMUTERS

The out commute of a community represents the percentage of residents living in the node community (Bloomfield), but working for employers located in other communities. The out commute for Bloomfield is estimated at 35.0 percent – approximately 773 people living in Bloomfield who work in other communities. Most of those who are out commuting are working in Ottumwa, and Centerville. Of those who are commuting to other communities for employment opportunities, 22.2 percent are willing to change employment (approximately 172 people) if presented with the right employment offer. The calculations for potential available labor are based on adjusted labor force zone totals obtained from **Table 8**.

As a group, they are primarily employed in professional, paraprofessional, technical, production, construction, material handling, managerial, or service occupations within the health care, social services, manufacturing, and education industries.

For those who out commute, 75.0 percent have education/technical training beyond high school, 25.0 percent have an associate degree, 16.7 percent have an undergraduate degree, and 13.9 percent have a post graduate/professional degree. Areas of emphasis include medical studies, social sciences, various trades, business/public administration, marketing, business administrative support, education, and engineering/architecture.

Over half (58.3%) of those who are commuting out of Bloomfield for employment are hourly wage employees, their current median wage is \$13.55 per hour. Salaried employees (38.9%) have a median income of \$38,500 per year.

Out commuters are currently commuting an average of 18 miles one way to work, and are willing to commute an average of 20 miles for a “new opportunity”. Over three-fifths (61.1%) of out commuters are female. The average age of out commuters is 49 with over two-fifths (41.7%) between the ages of 45 and 54.

ESTIMATED UNDEREMPLOYED

Underemployment is a recent point of interest in popular literature, but has actually been an issue studied and addressed by economists for nearly 20 years. While there is no one widely accepted definition of underemployment for the purpose of this Laborshed study, underemployment is defined in the following three ways:

1. Inadequate hours worked -- individuals working less than 35 hours per week and desiring more hours.
2. Mismatch of skills -- workers are denoted as “mismatched” if their completed years of education are above the number needed for their current occupational group, they have significant technical skills beyond those currently being utilized, or if they have held previous jobs with a higher wage or salary.
3. Low income -- individuals working full-time but at wages insufficient enough to keep them above the poverty level.

Each of these categories of underemployment can be very difficult to estimate; however, it appears as though elements of each of these categories exist in this Laborshed area.

UNDEREMPLOYED DUE TO INADEQUATE HOURS WORKED

In order to assess the impact of underemployment by inadequate hours worked in the Laborshed area, we refer to tabulations of the employed willing to change employment working 34 hours or less from the survey responses. The survey data shows that underemployment due to inadequate hours is estimated to be 0.7 percent within the Laborshed area (**Table 19**).

Table 19.
Underemployed Due to Inadequate Hours Worked

Percent Underemployed Low Hours	Estimated Underemployed Desiring More Hours
0.7%	70

The calculation for estimated underemployed desiring more hours is based on the Estimated Number of Employed Willing to Change 9,973 projections found in **Table 8**.

Two-thirds (66.7%) of those who are considered to be underemployed due to low hours in the Davis County Laborshed are women, with an average age of 52 years old.

Additionally, those who are underemployed due to inadequate hours are currently employed in managerial, professional, paraprofessional, or technical occupations and are currently seeking employment opportunities in professional, paraprofessional, technical, production, construction, or material handling occupations. This group is willing to commute an average of 20 miles one way for the right employment opportunity. Businesses may want to look inside their own organizations for potential candidates when looking to fill openings requiring full-time employment status.

UNDEREMPLOYED DUE TO MISMATCH OF SKILLS

Underemployment may also be calculated by examining individuals that are employed in positions that do not maximize their previous experience, skills and education, or that do not adequately compensate them based on their qualifications. IWD’s Laborshed survey of the region attempts to provide the best estimate of this “mismatch” of skills by asking respondents if they believe that they are underemployed and if so, why. Respondents first answer the question, “Are you qualified for a better job?” Individuals answering “yes” are then asked to classify why they are qualified based on categories relating to previously held jobs that required more skill and education, acquiring additional job training and education at their current job, current job does not require their level of training or education and greater pay at a previous job. Respondents selected all descriptors that applied to their situation.

The choices provided on the survey are not an exhaustive list of explanations of why the respondent is overqualified, but a collection of the most likely responses based on prior surveys and research. The respondents’ results are then applied to the entire Laborshed area to analyze why underemployment by mismatch of skills exists. IWD then conducts a second method of validating whether or not underemployment by mismatch of skills actually exists. Each time a respondent lists a reason for why he or she is qualified for a better job, other survey questions are analyzed to estimate whether the person is truly underemployed, or simply overstating their skills and education or underestimating the requirements of the labor market. For example, if a respondent states that they are underemployed because they previously held a job that required more skill and education, IWD evaluates the person’s current employer type, occupation type, skills unused at their current position, age, employment status, education, years in current position, and the type of job they would consider to see if they are consistent with the person’s underemployment.

Table 20 shows that 1.2 percent are underemployed due to mismatch of skills. If a respondent is determined to be underemployed due to mismatch of skills for more than one of the four reasons, that individual is only counted once for the *Estimated Underemployed* and for the *Potential Total* figures. The calculation for *Potential Total in Laborshed* figure is based on the Estimated Number of Employed Willing to Change of 9,973 projections found in **Table 8**. Additionally, all employed respondents are filtered to include only those that identified that they are “very or somewhat likely” to accept employment when calculating underemployment. This filtering reflects the belief that a respondent is not accurately representing himself or herself as underemployed when they are unwilling to accept new employment opportunities that could improve their status.

Table 20.
Underemployed Due to Mismatch of Skills

Estimated Underemployed due to Mismatch of Skills	Potential Total in Laborshed
1.2%	120

Zone 1 contains 40.0 percent of those who are underemployed due to mismatch of skills, Zone 2 contains 20.0 percent, and Zone 3 contains 40.0 percent in the Davis County Laborshed area. In many rural areas, mismatch of skills tends to be higher because of the desire to maintain a certain level of quality of life issues. Four-fifths (80.0%) of those who are considered to be underemployed due to mismatch of skills in the Davis County Laborshed are women. The education level obtained compared to occupation previously held provides the greatest discrepancy when looking at mismatch of skills.

One-fifth (20.0%) have obtained an undergraduate degree, and 20.0 percent have obtained a post graduate/professional degree. They are willing to commute an average of 19 miles one way for employment opportunities in professional, paraprofessional, technical, and clerical occupations.

UNDEREMPLOYED DUE TO LOW INCOME

Measuring underemployment by low income is accomplished by determining how many households in the Laborshed area fall below the poverty level. A total of 1.0 percent of the respondents answering the household income question fall below the 2007 federal poverty thresholds based on their household income and number of members living in the household (i.e. based on a family of four, the annual household income guideline is \$20,650). **Table 21** provides an overview of the survey respondents who fall below the 2007 federal poverty level and the potential number affected in the Laborshed area that are underemployed due to low income.

Table 21.
Underemployed Due to Low Income

Percent Underemployed Due to Low Income	Potential Underemployed Due to Low Income
1.0%	100

The calculation for potential underemployment due to low income is based on the Estimated Number of Employed Willing to Change of 9,973 employment projections found in **Table 8**.

TOTAL ESTIMATED UNDEREMPLOYED

All three measures of underemployment result in an estimated total underemployment rate of 2.5 percent in the Laborshed area (**Table 22**). It is important to emphasize that these underemployment percentages are only estimates; however, IWD has filtered the data to eliminate double counting of respondents within and between the three categories. A person underemployed due to inadequate hours and mismatch of skills is only counted once.

Table 22.
Total Estimated Underemployed

Percent Underemployed by Inadequate Hours	Percent Underemployed by Mismatched Skills	Percent Underemployed by Low Income	Percent Total Estimated Underemployment
0.7%	1.2%	1.0%	2.5%

The wage threshold for the underemployed is \$10.00 to \$10.60 per hour with a lowest median considered wage of \$10.00 per hour. When looking for employment opportunities the underemployed use local newspapers (50.0%); the internet (50.0%); networking through friends, family, and/or acquaintances (40.0%); local Iowa Workforce Development Centers (30.0%); regional newspapers (10.0%); or private employment services (10.0%) as the preferred job search mediums.

WILLINGNESS OF THOSE NOT CURRENTLY EMPLOYED TO ACCEPT EMPLOYMENT

The BLS defines unemployed persons as individuals who are currently not employed but that are actively seeking employment. Using only this definition overlooks sources of potential labor, specifically homemakers who are not employed and retirees who, though currently not employed, would consider entering or re-entering the workforce if the right opportunity arose. IWD uses an alternative definition “not employed” for its Laborshed studies which includes the unemployed, homemakers/not employed, and retirees as subsets of the category. The survey asks the respondents to identify whether they are unemployed, a homemaker/not employed or retired. It is useful to look at the specific characteristics of each of these subsets of “not employed” persons.

The inclusion of these subset groups into the analysis provides a more accurate assessment of the potential labor force in the Laborshed area. Of the respondents surveyed, 22.5 percent reported that they are “not employed”. By questioning these respondents about their willingness to re-enter or accept a job offer, the survey identified 31.9 percent who stated they are “very likely” or “somewhat likely” to accept employment. Aggregated totals for the “not employed” may be achieved by combining the data from any or all of **Tables 23, 24, and 25**.

Each of the “not employed” subsets has their own unique characteristics that define their contribution to the Laborshed area. Recognizing and understanding these factors will aid in efforts to target and tap into this often unrecognized and underutilized labor resource. The following sections provide a profile of the unemployed, not employed homemakers, and retired respondents.

UNEMPLOYED

Of those who responded to being unemployed, 44.4 percent are “very likely” or “somewhat likely” to accept employment if the right opportunity arose. **Table 23** shows that the unemployed reside across all three zones of the Laborshed area. Respondents willing to accept employment by zone are calculated using a logistic regression model weighted by multiple variables such as education level, gender, age, miles willing to travel, and wages. This model provides an estimate for the total number of individuals “willing to change” by zone. The totals are based on the Total Adjusted Labor Force estimates found in **Table 1** (approximately 846 unemployed persons).

Table 23.
Unemployed - Willing to Accept Employment

	Total Adjusted Laborforce by Zone	Estimated Total Willing to Change/Accept by Zone*	Estimated Number of Unemployed Willing to Accept by Zone*
Zone 1	2,895	1,414	128
Zone 2	22,406	10,109	644
Zone 3	27,289	971	74
Total	52,590	12,494	846

**Total Willing to Change/Accept Employment references those who would be willing to commute into Zone 1 from their home ZIP code for an employment opportunity.*

The current methods to determine the unemployment rate exclude those who have been unemployed longer than six months, those who did not register with the unemployment office and students who are seeking employment. The Laborshed unemployed percent includes anyone who stated they were unemployed then incorporates all counties within the Laborshed area, where as the unemployment rate only takes into consideration individual counties.

DEMOGRAPHICS OF THE UNEMPLOYED

The average age of this group is 43 years old. The unemployed respondents are distributed amongst four age range groups, 25 to 34 (18.8%), 35 to 44 (37.5%), 45 to 54 (37.5%), and 55 to 64 (6.3%). The gender breakdown of those unemployed is 37.5 percent male and 62.5 percent female.

EDUCATION & TRAINING

Over three-fifths (62.5%) of the unemployed respondents in the Davis County Laborshed area have some post high school education, 6.3 percent have an associate degree, 25.0 percent have an undergraduate degree, and 6.3 percent have a post graduate/professional degree.

Nearly one-third (31.3%) of those who are unemployed and willing to re-enter the workforce feel they need additional training/education in order to make a successful transition back into the workforce. They would like to begin/complete a college degree (40.0%). Health issues, disabilities, age, and financial reasons are the main obstacles preventing them from pursuing additional education/training.

WORK EXPERIENCE & ENVIRONMENT

Over three-fifths (62.5%) of the respondents became unemployed within the last year with the majority (81.3%) of those having held full-time positions and 18.7 percent were self-employed. These individuals have diverse work experiences; the majority held positions in service, production, construction, material handling, professional, paraprofessional, or technical occupations.

A variety of explanations were given as to why the respondents are unemployed at this time. The most frequently mentioned responses include employer layoff/closing (25.0%), disability (25.0%), health reasons (25.0%), respondent wanted to continue/further their education (12.5%), personality conflicts with previous employer/co-workers (6.3%), transportation issues (6.3%), or did not want to work (6.3%). Nearly three-fifths (56.3%) of those who are unemployed are seeking/have sought services to gain employment. Most (55.6%) of them are utilizing the local Iowa Workforce Development Centers to assist in seeking qualified offers and plan to seek jobs in professional, paraprofessional, or technical occupations.

The unemployed respondents can accommodate a variety of work environments. Over four-fifths (81.3%) of the respondents would prefer employment opportunities that provide job team work environments, 68.8 percent of the respondents expressed an interest in cross-training, and 60.0 percent would be interested in job sharing positions - two people sharing one full-time position. Over one-third (37.5%) of the unemployed expressed an interest in working a variety of work schedules (combinations of 2nd, 3rd or split shifts). Seasonal employment opportunities would interest 68.8 percent of those who are unemployed, while temporary employment would be a consideration for 50.0 percent of the unemployed looking to re-enter the workforce.

Nearly one-third (31.3%) of those who are unemployed, willing to re-enter, would consider starting their own business. The businesses they are primarily interested in starting include retail (33.3%), restaurant (22.2%), and consulting (11.1%). Access to start-up funds and uncertainty about the economy are the primary obstacles preventing them from pursuing their entrepreneurial venture. Keep in mind that not all of those who stated they had an interest will actually pursue an entrepreneurial venture. What this does show is a certain level of entrepreneurial ambition is present in the area that can be captured in the workplace environment.

WAGES & BENEFITS

Wage levels, hours available, and employee benefits are important factors for unemployed individuals. The estimated wage threshold for the unemployed willing to re-enter employment is \$10.60 to \$14.25 per hour. This threshold should serve as a base recommendation for obtaining the most qualified applicants for hiring. The median of the lowest hourly wage that unemployed respondents are willing to accept is \$8.50 per hour. At their prior employment, the unemployed received a median hourly wage of \$9.00 per hour.

In addition to salary/wages and hours, some of the unemployed would be influenced by the following benefits when considering an employment offer: health/medical insurance (83.3%), pension/retirement options (16.7%), disability insurance (8.3%), prescription drug coverage (8.3%), and flexible scheduling (8.3%). In some situations, benefits offered will play a deciding factor in whether the unemployed accept a position. One such example would be companies that offer cost sharing of medical insurance benefits. Those seeking to return to the workforce would prefer employment offers that include medical insurance where the employer/employee cost share the premiums (70.0%).

JOB SEARCH TECHNIQUES

When looking for employment opportunities, unemployed persons generally rely on common and easily accessible sources of information; however, non-traditional methods are also being utilized in order to locate the “right opportunity”. The most frequently identified job search mediums are local newspapers (73.3%); the internet (60.0%); local Iowa Workforce Development Centers (40.0%); networking through family, friends, and acquaintances (40.0%); regional newspapers (13.3%); private employment services (13.3%); and walk in (door-to-door solicitation) (6.7%).

To provide businesses and community leaders with a more in-depth focus on advertising sources currently being used by the unemployed willing to re-enter the workforce, The Ottumwa Courier and The Fairfield Ledger are the primary print sources and www.monster.com is the primary internet source viewed by those seeking employment in the Davis County Laborshed area.

COMMUTING

The average number of miles that unemployed respondents are willing to travel one way to work is 32 miles. Zone 1 respondents are willing to commute an average of 57 miles one way to work, Zone 2 respondents are willing to commute an average of 24 miles one way to work, and Zone 3 respondents are willing to commute an average of 30 miles one way to work. Since some Zone 1 unemployed residents are willing to commute great distances, once employed, they could become part of the out commuting of the nodal community. The unemployed in the Laborshed area are an excellent pool of available labor that is interested in returning to work that offer a variety of past work experiences to apply to new employment opportunities.

HOMEMAKERS

Of those who responded as not employed homemakers, 29.6 percent are “very or somewhat likely” to accept employment if the right opportunity is presented. **Table 24** shows that the Davis County Laborshed area is estimated to contain 976 homemakers who are willing to work if presented with the right opportunity. This group may represent a quality source of potential available labor in the Laborshed area for certain industries/businesses looking to fill non-traditional work arrangements.

Table 24.
Homemakers - Willing to Accept Employment

	Total Adjusted Laborforce by Zone	Estimated Total Willing to Change/Accept by Zone*	Estimated Number of Homemakers Willing to Accept by Zone*
Zone 1	2,895	1,414	98
Zone 2	22,406	10,109	789
Zone 3	27,289	971	89
Total	52,590	12,494	976

**Total Willing to Change/Accept Employment references those who would be willing to commute into Zone 1 from their home ZIP code for an employment opportunity.*

Respondents willing to accept employment by zone are calculated using a regression model weighted by multiple variables such as education level, gender, age, miles willing to travel, and wages. This model provides an estimate for the total number of individuals “willing to change” by zone. The totals are based on the Total Adjusted Labor Force estimates found in **Table 1**.

For more information regarding homemakers, please contact the Davis County Development Corporation.

RETIRED PERSONS

Retired individuals (18-64 years of age) represent an underutilized and knowledgeable pool of workers in some Laborshed areas. In the Davis County Laborshed area, 17.9 percent of those who are retired are willing to re-enter the workforce at some capacity. **Table 25** illustrates that those who are retired and willing to re-enter the workforce reside throughout the survey zones (approximately 699).

Table 25.
Retired (18 to 64) - Willing to Accept Employment

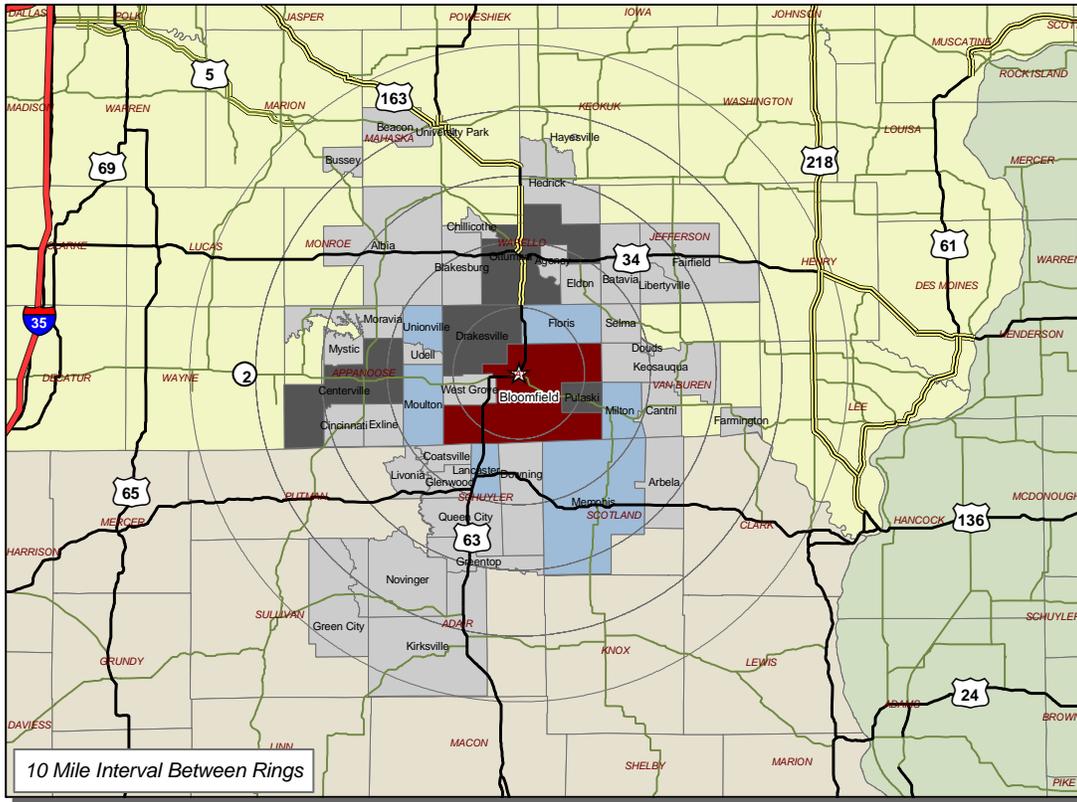
	Total Adjusted Laborforce by Zone	Estimated Total Willing to Change/Accept by Zone*	Estimated Number of Retirees Willing to Accept by Zone*
Zone 1	2,895	1,414	97
Zone 2	22,406	10,109	526
Zone 3	27,289	971	76
Total	52,590	12,494	699

**Total Willing to Change/Accept Employment references those who would be willing to commute into Zone 1 from their home ZIP code for an employment opportunity.*

Respondents willing to accept employment by zone are calculated using a regression model weighted by multiple variables such as education level, gender, age, miles willing to travel, and wages. This model provides an estimate for the total number of individuals “willing to change” by zone. The totals are based on the Total Adjusted Labor Force estimates found in **Table 1**.

For more information regarding retirees, please contact the Davis County Development Corporation.

Commuter Concentration by Place of Residence into Bloomfield



10 Mile Interval Between Rings

0 10 20 40 60 80 Miles



Legend

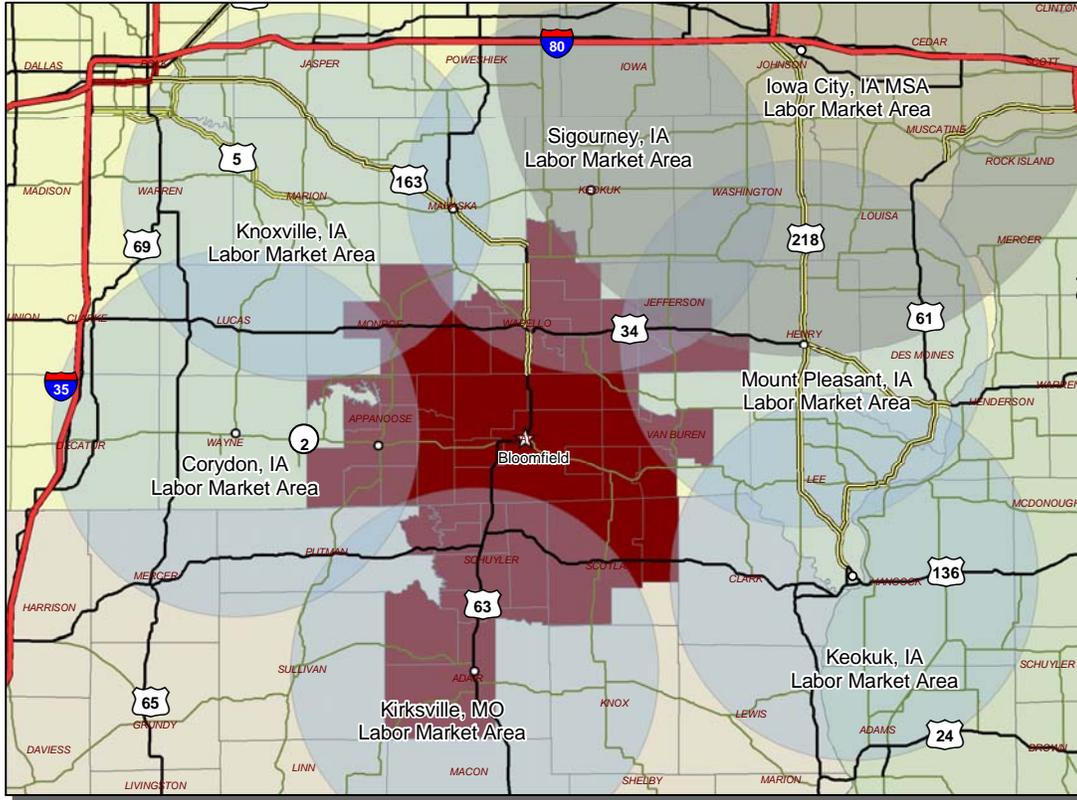
- ☆ Bloomfield
- Interstate
- 4-Lane US Highways
- US Highways
- State Highways
- Iowa County
- Missouri County

Commuter Concentration

- by Place of Residence (per ZIP Code)
- 1 - 11
 - 12 - 27
 - 28 - 93
 - 94 - 806



Labor Market Areas in Region Davis County Laborshed Area

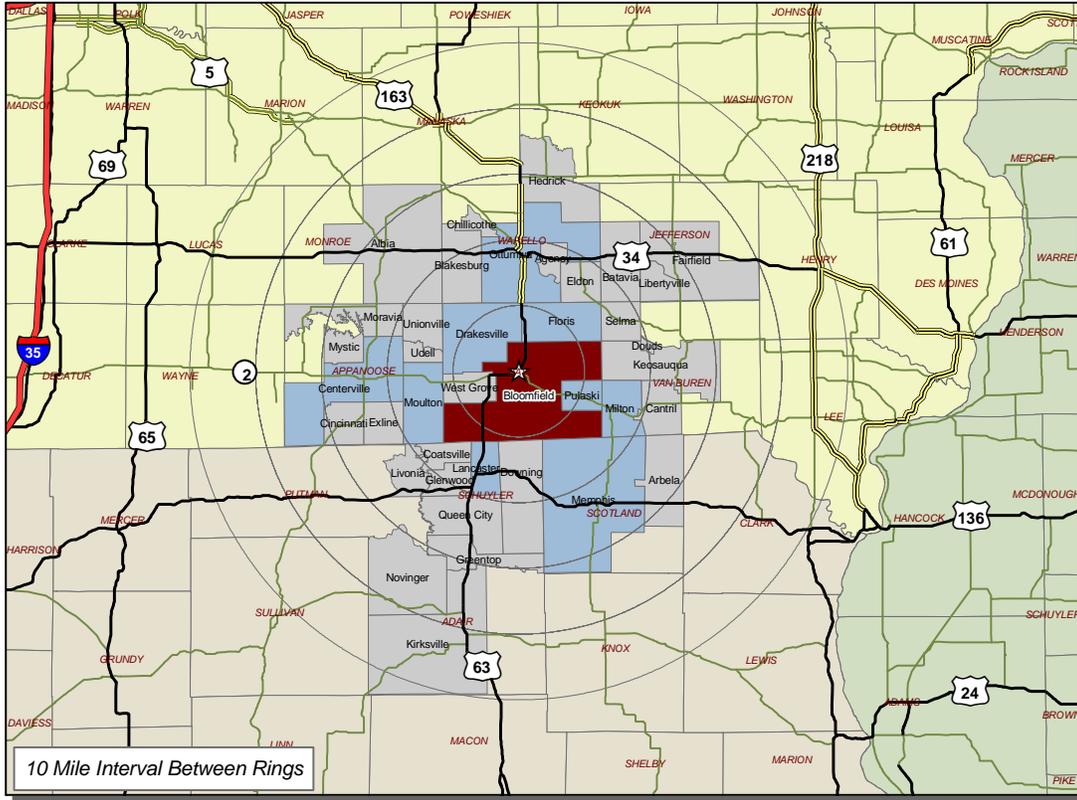


Legend

- ☆ Bloomfield
- Davis County Laborshed
- Small Labor Market Area (30 Mile Radius)
- Large Labor Market Area (50 Mile Radius)
- Interstate
- 4-Lane US Highways
- US Highways
- State Highways
- Iowa County
- Illinois County
- Missouri County

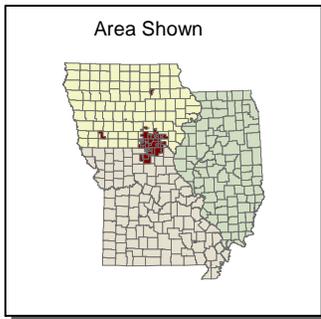


Survey Zones by ZIP Code Davis County Laborshed Area



10 Mile Interval Between Rings

0 10 20 40 60 80 Miles



Legend

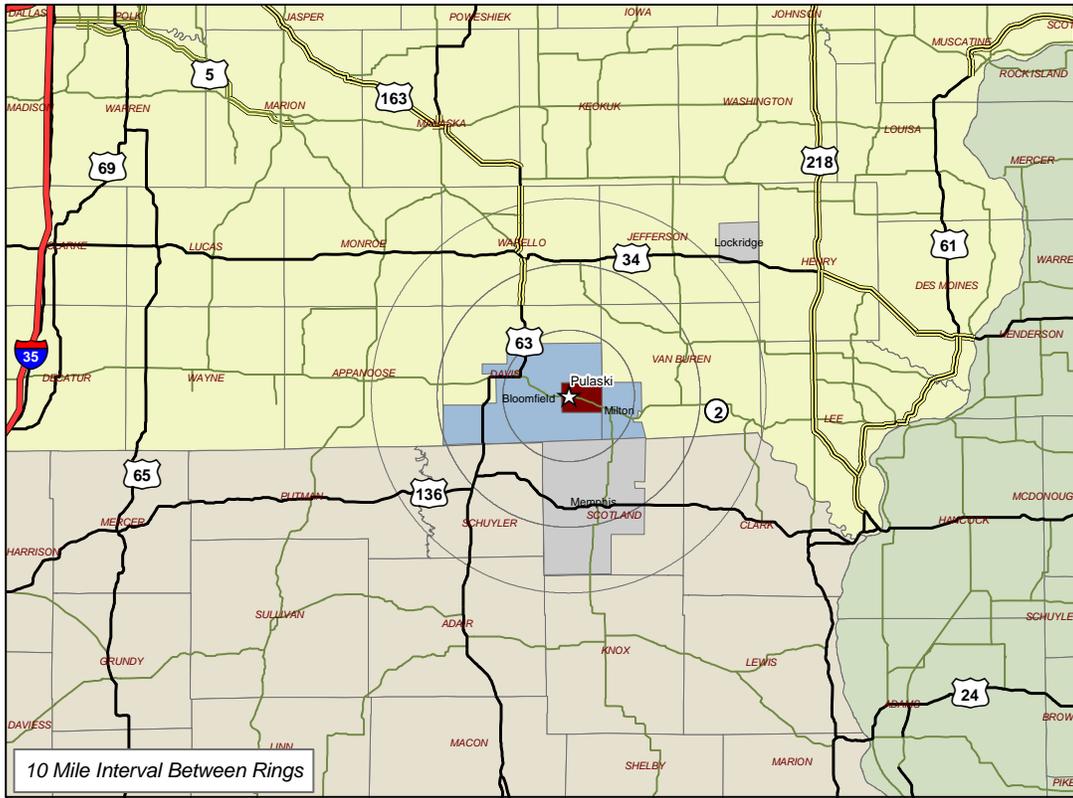
- ☆ Bloomfield
- Interstate
- 4-Lane US Highways
- US Highways
- State Highways
- Iowa County
- Missouri County

Commuter Concentration by Place of Residence (per ZIP Code)

- Zone 3 (1 - 17)
- Zone 2 (18 - 93)
- Zone 1 (94 - 806)



Commuter Concentration by Place of Residence into Pulaski



10 Mile Interval Between Rings
 0 5 10 20 30 40 Miles



Legend

- ☆ Pulaski
- Interstate
- 4-Lane US Highways
- US Highways
- State Highways
- Iowa County
- Illinois County
- Missouri County

Commuter Concentration by Place of Residence (per ZIP Code)

- 1
- 2 - 3
- 4 - 10



EXHIBITS

BACKGROUND INFORMATION

In early 1998, the Institute for Decision Making (IDM) at the University of Northern Iowa (UNI) completed the first pilot Laborshed study. The Laborshed approach and methodology was developed to meet the specific needs of economic development groups trying to understand and detail the unique characteristics of their area labor force. From 1998 to June, 2001, IDM completed 24 Laborshed studies for Iowa communities and gained national attention for its innovative approach. Beginning in 1999, Laborshed studies were completed in partnership with the Iowa Department of Economic Development (IDED) and Iowa Workforce Development (IWD) for communities that met specific criteria and for “immediate opportunities” (expansion projects or prospects).

During the 2000 legislative session, the General Assembly mandated that as of July 1, 2001, Iowa Workforce Development (IWD) assume the responsibilities for conducting Laborshed studies for Iowa communities. IDM staff worked with members of IWD’s Research and Strategic Initiatives Unit to train them in IDM’s Laborshed process and methodology. Beginning in July, 2001, IWD’s Research and Strategic Initiatives Unit assumed all responsibilities for scheduling and conducting all future Laborshed projects in Iowa.

The availability of a well-trained and educated labor force is among the top three important location factors for businesses considering expansions or relocations (*Area Development*, December 2000). Previously faced with historically low unemployment rates, local economic development officials throughout Iowa needed access to obtain timely and tailored data to help define their available labor force and its characteristics. Iowa’s low rates of unemployment often lead to the incorrect assumption that economic growth cannot occur within the state. It was presumed that employers will be unable to attract employees from Iowa communities because the areas have reached full employment. Even in today’s economy, employers desire a higher skilled and/or education worker. Employers also do not have the excess resources to blanket an area for employment opportunity recruitment. The Laborshed study addresses both of these issues and more to assist employers and communities with expansion efforts.

Contrary to these assumptions, many companies currently expanding or locating in Iowa are receiving between five and ten applicants for each new position that they have opened. The discrepancy between the assumptions and the reality of these measurements indicates that a problem exists in the way unemployment data is defined, measured, reported and used. When unemployment statistics are utilized as the sole method for determining labor availability, they appear to lead to inaccurate conclusions regarding the potential available labor supply within a “Laborshed” or sub-labor market area (sub-LMA). A Laborshed is defined as the actual area or nodal region from which an area draws its commuting workers. This region has been found to extend beyond the confines of county and state boundaries typically used to delineate labor information. The limitations of current labor data have significant implications for local economic development officials as they strive to create additional jobs and enhance wealth within their region.

SURVEY METHODOLOGY AND DATA

Understanding what Iowa employment and unemployment figures represent requires a familiarity with how estimates are calculated and how data differs at the national, state and sub-state levels. The U.S. Department of Labor's Bureau of Labor Statistics (BLS) calculates employment statistics for the nation, while state-level data is computed independently by each state. Unfortunately, the methodology used by the BLS is such that the data cannot be directly translated into comparable state data. **Exhibit C** reviews the methodology currently in place.

In order to obtain current and accurate labor force information for the Laborshed area, NCS Pearson administered a random household telephone survey to individuals residing within the Laborshed boundaries during October 2007. The survey was designed by IDM with assistance from the Center for Social and Behavioral Research at UNI. The overall goal of the process, to collect a minimum of 405 valid phone surveys completed by respondents 18 to 64 years of age, was achieved. Validity of survey results is estimated at a confidence of +/- 5 percent of the 405 responses analyzed in this report.

To ensure that an even distribution of respondents is achieved, an equal number of calls are completed to three separate survey zones (see **Survey Zone by ZIP Code – Bloomfield Laborshed area** map). The three zones created are classified as Zone 1) Bloomfield, Zone 2) ZIP codes adjacent or near Zone 1 that have a moderate number of residents working in Bloomfield and Zone 3) the ZIP codes in outlying areas with a low concentration of residents working in Bloomfield. This distribution of surveys is an attempt to avoid a clustering of respondents in Davis County or in the surrounding rural areas. Utilizing this survey distribution method also provides the basis for comparisons among the zones and offers a more valid means of applying the survey results within each individual zone.

Survey administrators posed questions to determine the respondents' gender, age, education level, place of residence and current employment status. Employed respondents also identified the location of their employer, employer type, occupation, years of employment in their occupation, employment status, current salary or wage, additional education/skills possessed, number of jobs currently held, distance traveled to work and the hours worked per week. Employed respondents were then asked how likely they were to change employers or employment, how far they would be willing to travel for employment, the wage required for them to change employment and the benefits desired for new employment. Underemployment was estimated by examining those employees desiring more hours of work than offered in their current position, those who stated they possessed additional education/skills that they do not utilize in their current position and wages insufficient enough to keep them above the poverty level.

Respondents in the 18-64 year age range self-identifying themselves as unemployed, homemakers/not employed or retired were asked a series of questions to determine what job characteristics and benefits were most important for them when considering employment, the reasons for unemployment, obstacles to employment and how far they would be willing to travel to accept employment. Information on previous employers and skills was also gathered for these sectors.

Once completed, the results of the survey are compiled and cross-tabulated to determine the relationship between the variables in each zone and the entire survey sample. Documenting and analyzing the Laborshed survey results by zone and by characteristics, provides new insight into the labor force that is currently unavailable in any other form.

CURRENT METHODS OF ESTIMATING EMPLOYMENT AND UNEMPLOYMENT

The federal government and the state of Iowa estimate an area's labor force by drawing from the portion of the civilian population that is non-institutionalized, 16 years of age or older and currently employed or unemployed (*BLS Handbook*, Chapter 1, p. 5). The BLS defines employed persons in the following two ways:

1. Did any work as paid employees, for their own business, profession, on their own farm, or worked 15 hours or more as unpaid workers in a family-operated enterprise (*BLS Handbook*, Chapter 1, p. 5).
2. Did not work but had jobs or businesses from which they were temporarily absent due to illness, bad weather, vacation, child-care problems, labor dispute, maternity or paternity leave, or other family or personal obligations -- whether or not they were paid by their employers for the time off and whether or not they are seeking other jobs. Individuals volunteering or engaged in housework, painting and home repair around their own residence are not considered employed (*BLS Handbook*, Chapter 1, p. 5).

Unemployed persons are defined as those individuals that were not employed on a given reference week prior to questioning and who made an effort to find work by contacting prospective employers. These individuals identified that they are ready to work with the exception of inability due to a temporary illness. Individuals are also classified as unemployed if they have been laid off and are awaiting recall back to their positions. (*BLS Handbook*, Chapter 1, p. 5). The unemployed are grouped into job losers (both temporarily and permanently laid off), quit/terminated and looking for work, re-entrants to the job market after an extended absence and new entrants that have never worked (*BLS Handbook*, Chapter 1, p. 5).

Those individuals that are not classified as employed or unemployed are not considered to be part of the labor force by BLS. The non-working designation may be due to a variety of reasons; however, the underlying factor is that the individuals have not sought employment within the past four weeks (*BLS Handbook*, Chapter 1, p. 6).

Because the BLS utilizes a multiple step process to estimate employment and underemployment statistics on a monthly basis, this process cannot be described in only a few paragraphs. A complete summary of the process used to generate national estimates and an outline of the process used to generate state and sub-state projections is available through IWD.

METHODS FOR ESTIMATING EMPLOYMENT

The BLS uses the employed and unemployed persons to calculate the civilian labor force, the unemployment rate and labor force participation rate.

The labor force is:

$$\text{employed} + \text{unemployed} = \text{labor force}$$

The labor force participation rate is:

$$\text{labor force} / \text{non-institutionalized citizens 16+ years of age} = \text{LFPR}$$

The unemployment rate is the percentage of the civilian labor force that is unemployed:

$$\text{unemployed} / \text{total labor force} = \text{unemployment rate} \text{ (BLS Handbook, Chapter 1 p. 5)}$$

A proper interpretation of the unemployment **rate** requires an understanding of the processes used to generate the data on which the calculations are based. The BLS uses the monthly Current Population Survey (CPS) to collect data from a sample of 59,000 households, taken from 754 sample areas located throughout the country. The purpose of the survey is to collect information on earnings, employment, hours of work, occupation, demographics, industry and socio-economic class. The data is obtained through personal and telephone interviews. Of the 59,000 households, only about 50,000 are generally available for testing due to absence and illness. The 50,000 households generate information on 94,000 individuals (*BLS Handbook*, Chapter 1, p. 8). Each household is interviewed for two, four-month periods, with an eight-month break between the periods. The pool of respondents is divided into 8 panels, with a new panel being rotated each month. (*BLS Handbook*, Chapter 1, p. 10)

“The 754 sample areas from which the households are selected represent 3,141 counties and cities broken into 2,007 population sample units (PSU’s). A PSU can consist of a combination of counties, urban and rural areas, or entire metropolitan areas that are contained within a single state. The PSU’s for each state are categorized into the 754 sample groups of similar population, households, average wages and industry. The 754 sample areas consist of 428 PSU’s that are large and diverse enough to be considered an independent PSU and 326 groupings of PSU’s” (*BLS Handbook*, Chapter 1, p. 9).

“The sample calculates an unemployment estimate with a 1.9 percent coefficient of co-variation. This is the standard error of the estimate divided by the estimate, expressed as a percentage. This translates into a .2-percent change in unemployment being significant at the 90 percent confidence level. The respondent’s information is weighted to represent the group’s population, age, race, sex and the state from which it originates. Using a composite estimation procedure minimizes the standard of error for the estimate. This estimate is based on the two-stage rotation estimate on data obtained from the entire sample for the current month and the composite estimate for the previous month, adjusted by an estimate of the month-to-month change based on the six rotation groups common to both months” (*BLS Handbook*, Chapter 1, p. 8). The estimates are also seasonally adjusted to minimize the influence of trends in seasonal employment.

IOWA & SUB-STATE UNEMPLOYMENT RATES

The CPS produces reliable national unemployment estimates; however these do not translate into estimates for all state and sub-state areas. Only 11 of the most populous states and the

LMA's of Los Angeles and New York City are large enough to be calculated by the CPS. The unemployment estimates for the 39 other states, 5600 geographic areas, LMA's, counties and cities, are calculated using BLS guidelines established by each state's employment agency. The state of Iowa's counties are each considered small LMA's, with the exception of micropolitan and metropolitan statistical areas. For further definition of counties included in micropolitan statistical areas, visit www.iowaworkforce.org/lmi/pressrelease/iowamicro.pdf and for counties included in metropolitan statistical areas, visit www.iowaworkforce.org/lmi/pressrelease/iowamsa.pdf.

A time series model is used to estimate state labor force statistics and a Handbook method is used for sub-state projections. The state unemployment estimates are based on a time series to reduce the high variability found in the CPU estimates caused by small sample size. The time series combines historical relationships in the monthly CPS estimates along with Unemployment Insurance and Current Employment Statistics (CES) data. Each State has two models designed for it that measure the employment to work ratio and the unemployment rate (*BLS Handbook*, Chapter 4, p. 37).

The CES is a monthly survey of employers conducted by the BLS and state employment agencies. Employment, hours/overtime and earning information for 400,000 workers are obtained from employer payroll records. Annually, the monthly unemployment estimates are benchmarked to the CPS estimate so that the annual average of the final benchmarked series equals the annual average and to preserve the pattern of the model series (*BLS Handbook*, Chapter 4, p. 38).

The sub-state unemployment estimates are calculated by using the *BLS Handbook* Method. The *Handbook* Method accounts for the previous status of the unemployed worker and divides the workers into two categories: those who were last employed in industries covered by State Unemployment Insurance (UI) laws and workers who either entered the labor force for the first time or reentered after a period of separation (*BLS Handbook*, Chapter 4, p. 38).

Individuals considered covered by UI are those currently collecting UI benefits and those that have exhausted their benefits. The data for those that are insured is collected from State UI, Federal and Railroad programs. The estimate for those who have exhausted their funds is based on the number who stopped receiving benefits at that time and an estimate of the individuals who remain unemployed (*BLS Handbook*, Chapter 4, p. 39).

New entrants and reentrants into the labor force are estimated based on the national historical relationship of entrants to the experienced unemployed and the experienced labor force. The Department of Labor states that the Handbook estimate of entrants into the labor force is a function of (1) the month of the year, (2) the level of the experienced unemployed, (3) the level of the experienced labor force and (4) the proportion of the working age population (*BLS Handbook*, Chapter 4, p. 39). The total entrants are estimated by:

$$ENT = A(X+E)+BX$$

where:

ENT = total entrant unemployment

E = total employment

X = total experienced unemployment

A,B = synthetic factors incorporating both seasonal variations and the assumed relationship between the proportion of youth in the working-age population and the historical

relationship of entrants, either the experienced unemployed or the experienced labor force (*BLS Handbook*, Chapter 4, p. 39).

Total employment (E) estimates represent the total number of paid employees in non-farm industries. The estimates are based on various sources, including the CES survey and state designed surveys of establishments. These figures are combined with a weighted factor accounting for historic employment relationships found in the Census. The resulting estimate is combined with standard estimates for agricultural workers, non-farm self-employed and unpaid family workers and private household workers to compute the total Handbook employment” (*BLS Handbook*, Chapter 4, p. 39).

“Total unemployment for the sub-state/LMA is estimated by the formula:

$$U_a(t) = U_s(t) * U_{HBa}(t)$$

where:

U = total unemployment
 UHB = Handbook unemployment
 a = area
 s = State
 t = time

As with the state data, the sub-state/LMA estimates are benchmarked annually so that they sum to the revised state estimates of employment and unemployment (*BLS Handbook*, Chapter 4, p. 39).

“Unemployment estimates for portions of the LMAs are calculated by one of two methods, (1) the population-claims method, or (2) the Census-share method. The population-claims method is the preferred method according to the BLS. Where available, resident based UI claims data for the sub-LMA area are used to find the ratio of the claims to the total number of UI claims within the LMA. This figure is used to analyze the estimate of experienced unemployed in the area. The number of unemployed entrants is based on the Census distribution of adult and teenage population groups. The employment is estimated using current population distributions prepared by the Census Bureau and weighted by each area’s Census relative share of employment to population. The Census-share method is used if UI claims data for the sub-LMA area is unavailable. Instead, the decennial Census data from the county in which the area is located is divided into a portion consistent with the size of the area. The Census-share method is less accurate than the population-claims method” (*BLS Handbook*, Chapter 4, p. 40).

LIMITATIONS

“Since the State, LMA & sub-LMA data are not directly obtained from a survey; the estimates calculated are subject to a level of error. These errors can occur due to improper estimations and insufficient data sources. Unfortunately, a universal level of error cannot be easily computed because of the wide variety of sources and methods used. The CPS information used to calculate the national estimates and to benchmark the state figures is subject to sampling and non-sampling error. Non-sampling errors in the CPS, such as those due to respondent bias and question interpretation, are minimized through re-interviewing respondents and rotating the panels of respondents. Sampling errors in the CPS over time show that 68 percent of the intervals are within 1 standard deviation, 90 percent are within 1.6 standard deviations and 95 percent of the intervals are within 2 standard deviations of the mean” (*BLS Handbook*, Chapter 1, p. 14).

OCCUPATIONAL EMPLOYMENT STATISTICS (OES)

CATEGORY STRUCTURE

Managerial/Administrative Occupations

Professional, Paraprofessional, & Technical Occupations

- Engineers
- Natural Scientists
- Computer, Mathematical, and Operations Research
- Social Scientists
- Teachers
- Health Practitioners
- Writers, Artists, Entertainers, and Athletes

Sales Occupations

Clerical/Administrative Support Occupations

- Secretarial
- Electronic Data Processing

Service Occupations

- Protective Service
- Food and Beverage
- Health Service
- Cleaning and Building Service
- Personal Service

Agricultural Occupations

Production, Construction, Operating, Maintenance, & Material Handling Occupations

- Construction Trades and Extraction
- Precision Production
- Machine Setters, Set-Up Operators, Operators, and Tenders
- Hand Working Occupations
- Plant and System
- Transportation and Material Moving
- Helpers, Laborers, and Material Movers, Hand

LABOR MARKET INFORMATION (EMPLOYER-BASED) WEB RESOURCES:

Iowa Wage Survey

<http://www.iowaworkforce.org/lmi/occupations/wages/index.htm>

Affirmative Action

<http://www.iowaworkforce.org/lmi/publications/affirm/>

Condition of Employment

<http://www.iowaworkforce.org/lmi/condempl.pdf>

Covered Employment & Wages by Counties

<http://www.iowaworkforce.org/lmi/empstat/coveredemp.html>

Iowa Job Outlook Statewide

<http://www.iowaworkforce.org/lmi/outlook/index.html>

Iowa Licensed Occupations

<http://www.iowaworkforce.org/lmi/publications/licocc/>

Iowa Workforce Development Trends

<http://www.iowaworkforce.org/trends>

Iowa Works – Iowa Workforce Development’s Portal for Iowa Businesses

<http://www.iowaworks.org>

Labor Force Summaries

<http://www.iowaworkforce.org/lmi/laborforce/index.html>

Labor Market Information Directory

<http://www.iowaworkforce.org/lmi/lmidirectory>

Occupational Projections & Job Outlooks

<http://www.iowaworkforce.org/lmi/occupations/index.html>

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