

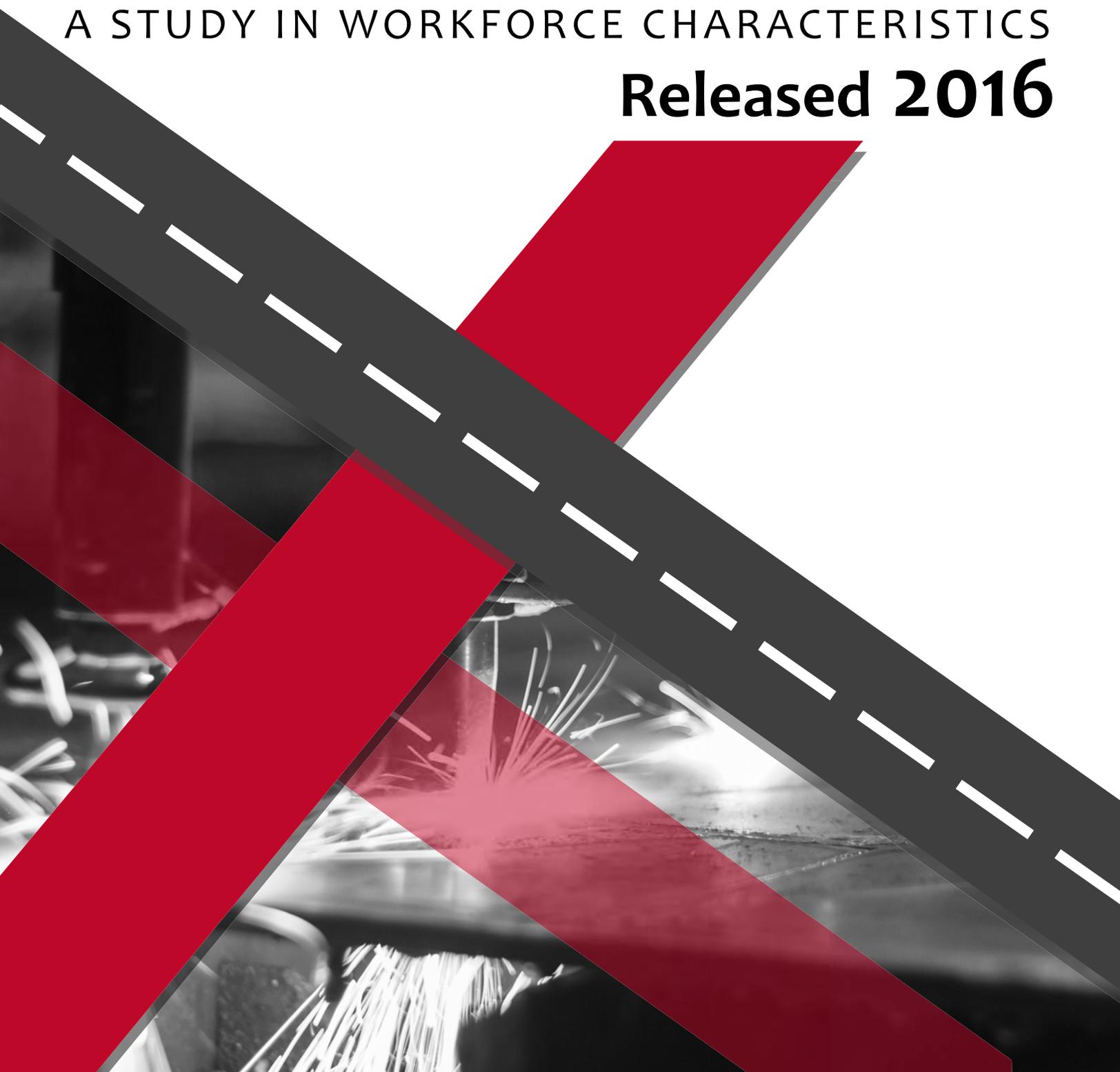
CARROLL COUNTY, IOWA



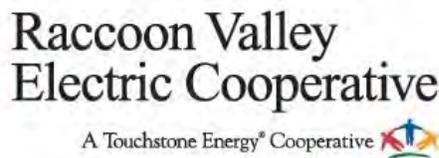
LABORSHED ANALYSIS

A STUDY IN WORKFORCE CHARACTERISTICS

Released 2016



A Project of:



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TABLE OF CONTENTS

LABORSHED ANALYSIS	1
ESTIMATING TOTAL LABOR FORCE	2
EMPLOYED	6
EMPLOYED AND LIKELY TO CHANGE EMPLOYMENT	12
Underemployed	20
NOT EMPLOYED	23
Unemployed and Likely to Accept Employment	23
Homemakers and Likely to Accept Employment	26
Retired and Likely to Accept Employment	26
LABORSHED AND COMMUTING MAPS	27
Commuter Concentration into Carroll	28
Labor Market Areas: Carroll County Laborshed Area	29
Survey Zones by ZIP Code: Carroll County Laborshed Area	30
Commuter Range into Carroll	31
Commuter Concentration into Arcadia	32
Commuter Concentration into Breda	33
Commuter Concentration into Glidden	34
Commuter Concentration into Lidderdale	35
Commuter Concentration into Manning	36
Commuter Concentration into Ralston	37
Commuter Concentration into Templeton	38
APPENDICES	39
A. Background Information	40
B. Survey Methodology and Data	41
C. Current Methods of Estimating Employment and Unemployment	42
D. Occupational Employment Statistics (OES) Category Structure	45
LABOR MARKET INFORMATION WEB RESOURCES	46
REFERENCES	47
INDEX OF FIGURES	48

LABORSHED ANALYSIS

The purpose of this Laborshed analysis is to measure the availability and characteristics of workers within the area based on commuting patterns into the node community (Carroll). 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 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 labor force.

In order to determine the boundaries of the Laborshed area, Iowa Workforce Development (IWD) worked closely with the Carroll Area 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 by Place of Residence** map, page 28).

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 dataset, the county dataset and transportation routes. Iowa Workforce Development's database of ZIP code datasets allows for numerous analyses and comparisons of the 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 used 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 Carroll County Laborshed area are located within a 50-mile radii of the Ames (IA), Des Moines (IA) and Omaha-Council Bluffs (NE-IA) Metropolitan Statistical Areas (MSA), a 40-mile radii of the Boone (IA), Fort Dodge (IA) and Storm Lake (IA) micropolitan areas, as well as a 30-mile radii of the Atlantic (IA), Harlan (IA) and Perry (IA) labor market areas (see **Labor Market Areas in Region** map, page 29). 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 Employment Statistics (ES), as well as the Labor Force & Occupational Analysis Bureau of IWD, which all 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 found to be the most valuable to existing and future businesses. However, upon request, IWD will conduct additional analyses for further review of specific variable(s) or sets of responses.

ESTIMATING TOTAL LABOR FORCE

The fundamental goal of any Laborshed analysis is to estimate the 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 **Figure 1**, page 3).

Prior to applying the survey results for the Carroll County Laborshed area, it was necessary to estimate the size of the labor force between the ages of 18 and 64 by ZIP code and survey zone. A variety of sources: U.S. Census Bureau, Bureau of Labor Statistics (BLS), Iowa Workforce Development (IWD) and private vendor publications and datasets are used to estimate the size and demographic details of the labor force in the Carroll County Laborshed area.

A number of adjustments are made to the Carroll 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 age 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 for the purposes of this study.

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 probability of persons likely to accept or change employment is estimated using a logistic regression with polytomous response model, which is based upon the above demographic variables drawn from survey data. This probability is then used to estimate the total number of persons likely to accept or change employment within each ZIP code.

Figure 1
Estimated Total Labor Force
Carroll County Laborshed Area

Weighted Labor Force					
	ZIP Code	Total Population 18 to 64	Total Adjusted Labor Force	Total Likely to Change/Accept Employment*	
Zone 1					
	Carroll, IA	51401	7,104	6,370	3,361
Total Zone 1		7,104	6,370	3,361	
Zone 2					
	Arcadia, IA	51430	430	386	185
	Auburn, IA	51433	316	291	136
	Audubon, IA	50025	1,733	1,556	664
	Breda, IA	51436	458	411	192
	Coon Rapids, IA	50058	1,014	909	399
	Dedham, IA	51440	211	189	88
	Denison, IA	51442	5,380	4,567	1,972
	Glidden, IA	51443	1,138	1,020	497
	Halbur, IA	51444	107	96	46
	Jefferson, IA	50129	2,846	2,823	1,221
	Lake City, IA	51449	1,150	840	373
	Lake View, IA	51450	827	761	330
	Lanesboro, IA	51451	54	48	22
	Manning, IA	51455	1,401	1,256	558
	Ralston, IA	51459	38	34	16
	Scranton, IA	51462	560	555	251
	Templeton, IA	51463	396	355	165
	Vail, IA	51465	390	331	148
	Westside, IA	51467	430	365	170
Total Zone 2		18,879	16,793	7,433	
Zone 3					
	Arthur, IA	51431	242	226	16
	Bagley, IA	50026	407	358	31
	Bayard, IA	50029	489	431	50
	Churdan, IA	50050	316	313	36
	Defiance, IA	51527	275	271	19
	Deloit, IA	51441	198	168	16
	Early, IA	50535	529	487	36
	Exira, IA	50076	789	708	56
	Farnhamville, IA	50538	303	221	17
	Gowrie, IA	50543	900	766	50
	Guthrie Center, IA	50115	1,390	1,224	79
	Hamlin, IA	50117	135	121	12
	Harlan, IA	51537	3,656	3,603	178
Zone 3 Continued On Next Page					

*Total Likely to Change/Accept Employment references the estimated total of those who would be likely 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.

Figure 1 (Cont'd)
Estimated Total Labor Force
Carroll County Laborshed Area

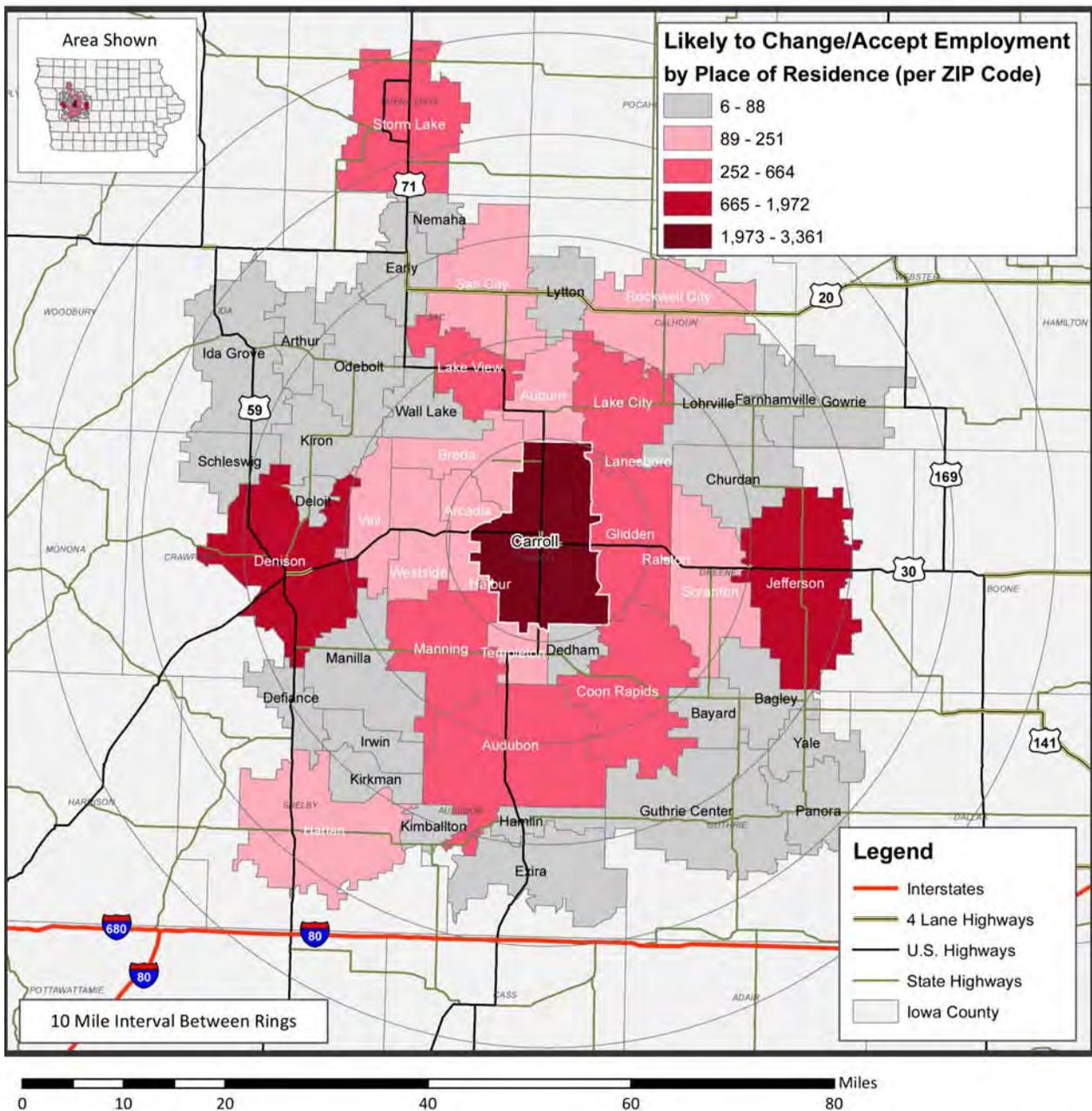
Weighted Labor Force					
	ZIP Code	Total Population 18 to 64	Total Adjusted Labor Force	Total Likely to Change/Accept Employment*	
Zone 3					
	Ida Grove, IA	51445	1,520	1,418	81
	Irwin, IA	51446	295	291	24
	Kimballton, IA	51543	221	198	15
	Kirkman, IA	51447	92	91	6
	Kiron, IA	51448	332	282	28
	Lohrville, IA	51453	402	294	30
	Lytton, IA	50561	296	216	27
	Manilla, IA	51454	757	643	66
	Nemaha, IA	50567	125	115	8
	Odebolt, IA	51458	849	782	68
	Panora, IA	50216	1,461	1,287	71
	Rockwell City, IA	50579	1,697	1,239	108
	Sac City, IA	50583	1,511	1,391	144
	Schleswig, IA	51461	671	570	46
	Storm Lake, IA	50588	7,874	7,054	331
	Wall Lake, IA	51466	477	439	54
	Yale, IA	50277	259	228	16
Total Zone 3		28,468	25,435	1,719	
Grand Total		54,451	48,598	12,513	

**Total Likely to Change/Accept Employment references the estimated total of those who would be likely 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.

The estimated total of those likely to change or accept employment references those who would be likely to commute into Zone 1 (Carroll) from their home ZIP for an employment opportunity. Employment demographic variables such as employment status, age, education level, wage and distance from Carroll are taken into consideration when estimating the availability of these workers. The map below (**Figure 2**) provides a visual representation of this data (which is provided in **Figure 1**) and shows the concentration of those likely to change or accept employment in Carroll within the Carroll County Laborshed area.

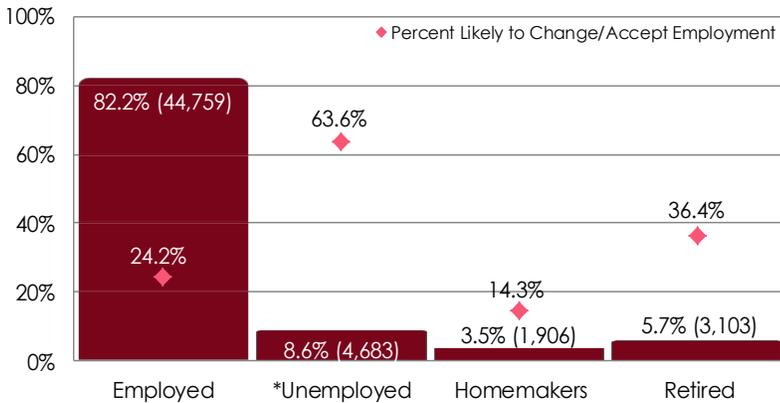
Figure 2
Concentration of Those within the Carroll County Laborshed Area
Likely to Change/Accept Employment in Carroll



EMPLOYMENT STATUS

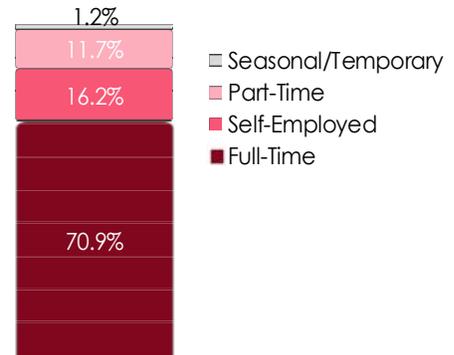
The results of this Laborshed survey show that 82.2 percent of *all* respondents identified themselves as being employed at the time they were contacted (**Figure 3**) resulting in an estimated total of 44,759 in the Laborshed area (totals based on the Total Population 18-64 estimates found in **Figure 1**). The majority (70.9%) of the employed are working in positions that are considered full-time (**Figure 4**).

Figure 3
Employment Status of Survey Respondents (Estimated Total)



**Employment status is self-identified by the survey respondent. The unemployment percentage above does not reflect the unemployment rate published by the U.S. Bureau of Labor Statistics, which applies a stricter definition.*

Figure 4
Type of Employment



Nearly one-fifth (16.2%) of the employed respondents are self-employed. The primary types of businesses they are operating include farming (29.6%), professional services (13.0%), construction/handyman (11.1%), personal services (9.3%) and trucking/logistics (7.4%). The self-employed have been operating their businesses for an average of 20 years, ranging from one to 46 years.



DEMOGRAPHICS OF THE EMPLOYED

The gender breakdown of those respondents, who are employed, is 53.2 percent male and 46.8 percent female. The average age of the employed is 50 years old.

A small portion (4.2%) of the employed respondents speak more than one language in their household. Of those respondents, 80.0 percent speak Spanish.

EDUCATION & TRAINING

Nearly three-fourths (73.9%) of the employed residents in the Laborshed area have some level of education/training beyond high school. **Figure 5** breaks down these respondents' education/training by degree level.

Figure 5
Education Level

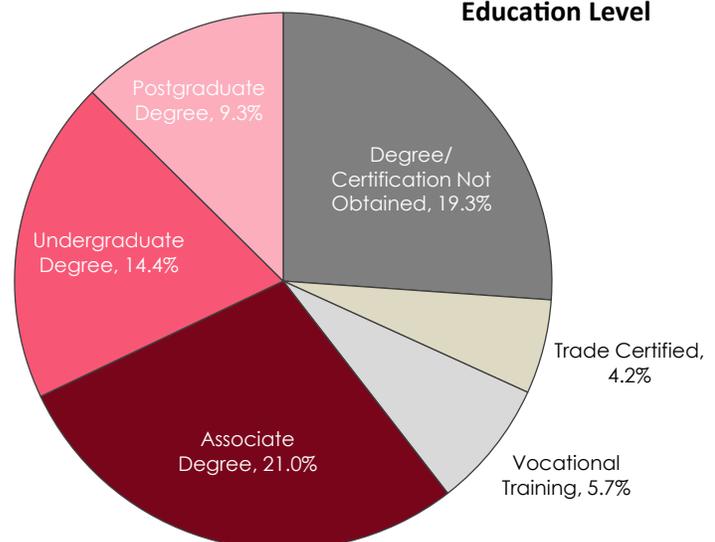
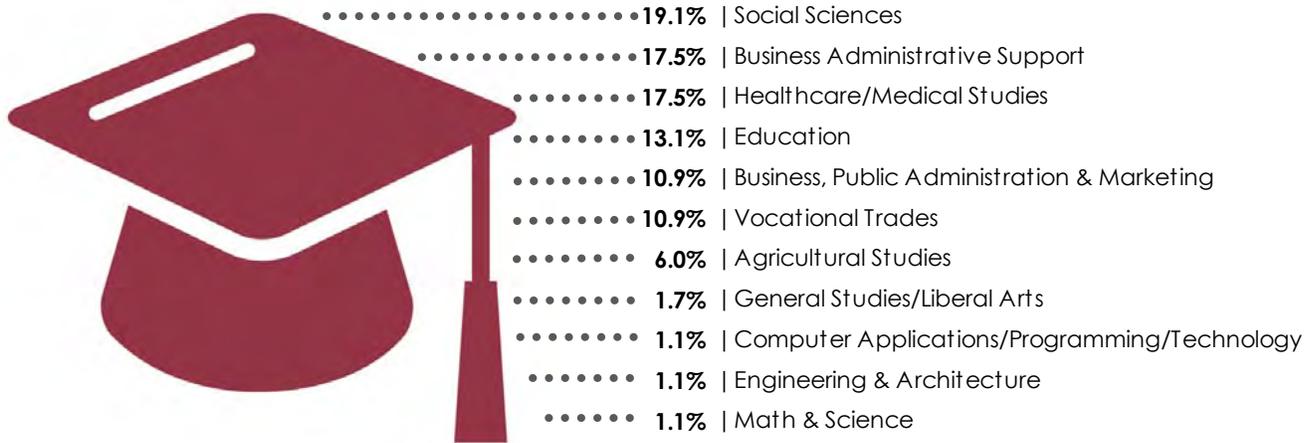


Figure 6 provides an overview of the educational fields of study of those who are currently employed within the Laborshed area.

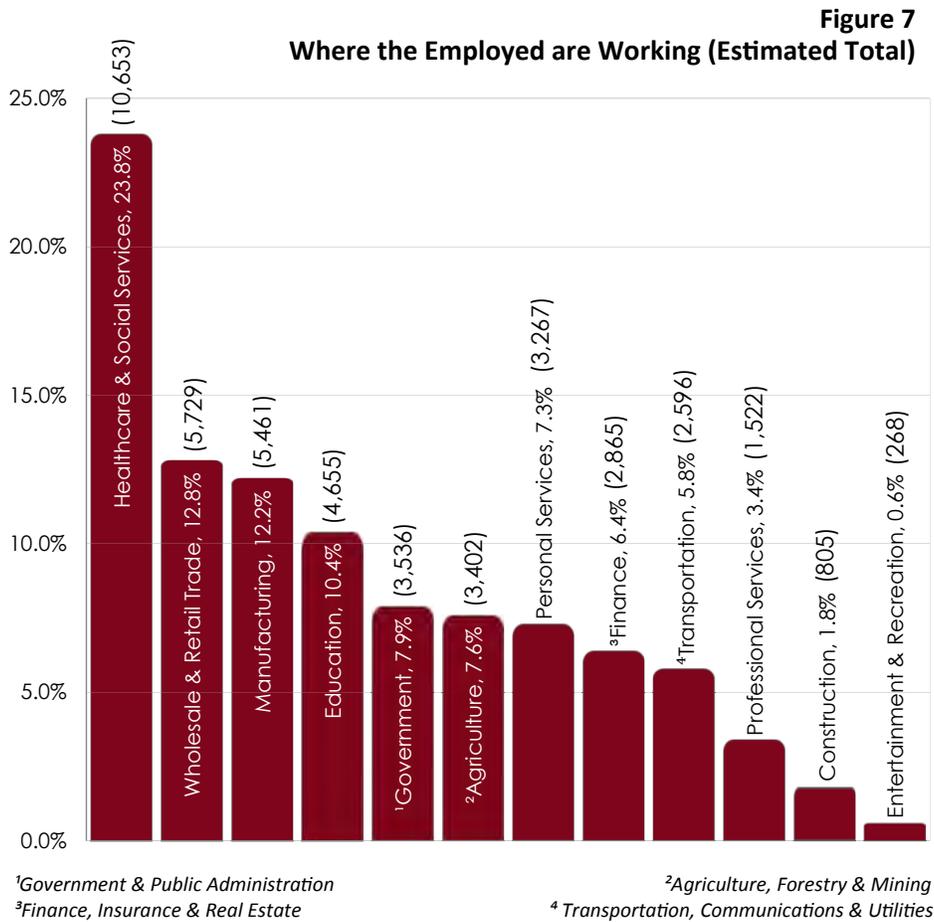
Figure 6
Educational Fields of Study



INDUSTRIES IN THE CARROLL COUNTY LABORSHED AREA

In order to provide consistency with other labor market information, the industrial categories identified in this Laborshed analysis will follow a similar format to the North American Industry Classification System (2012).

Survey respondents from the Carroll County Laborshed area were asked to identify the industry in which they are currently working. The following information is based on the responses from those Laborshed respondents who are currently employed (Figure 7).



OCCUPATIONS & EXPERIENCES

Iowa Workforce Development 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 - **Appendix D**). Classifying the employed by occupational group, **Figure 8** shows that the largest concentration of the workforce are employed

within the professional, paraprofessional & technical occupational category. The agricultural occupational category represents the smallest sector of workers who are currently employed. Totals are based on the Total Population 18-64 estimates found in **Figure 1** and the percentage of employed in the Laborshed area.

Figure 8
Estimated Workforce by Occupational Category

	Percent of Respondents	Estimated Employed in Laborshed
Professional, Paraprofessional & Technical	31.4%	14,054
Production, Construction & Material Handling	20.5%	9,176
Clerical/Administrative Support	17.8%	7,967
Managerial/Administrative	12.1%	5,416
Service	12.1%	5,416
Sales	4.9%	2,193
Agriculture	1.2%	537
Total	100%	44,759

Figure 9
Occupational Categories by Gender

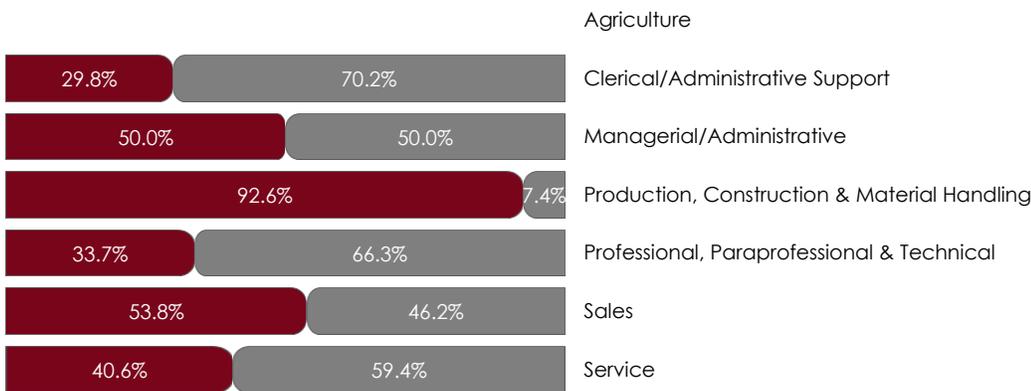


Figure 9 provides a comparison of the gender distribution within each occupational category.



Figure 10 illustrates the percentage of respondents within each occupational category by zone of residence. The figure shows that occupational experiences are generally spread across the survey zones. Although Zone 1 is the primary node in the Laborshed area, the figure 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.

Figure 10
Percentage within Occupational Categories Across the Zones

	Zone 1	Zone 2	Zone 3
Agriculture	*	*	*
Clerical/Administrative Support	29.8%	38.3%	31.9%
Managerial/Administrative	34.4%	25.0%	40.6%
Production, Construction & Material Handling	29.6%	40.7%	29.7%
Professional, Paraprofessional & Technical	42.2%	26.5%	31.3%
Sales	46.2%	30.8%	23.0%
Service	21.9%	40.6%	37.5%

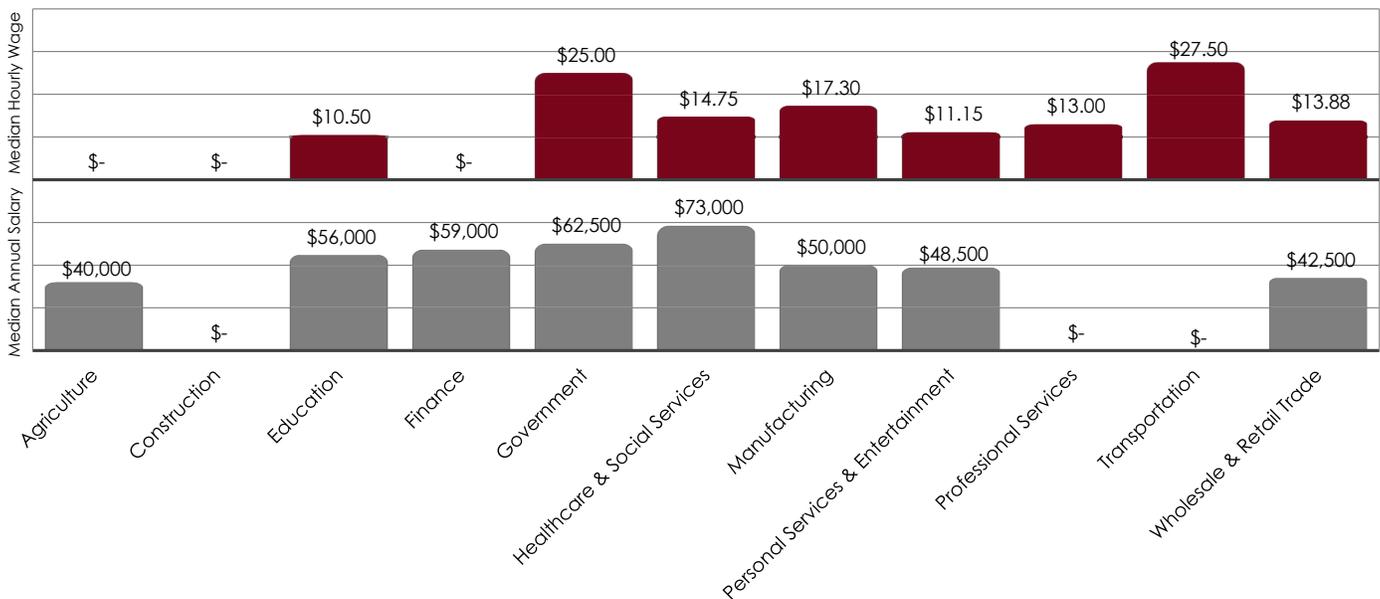
Equals 100% across the zones

WAGE REQUIREMENTS

Respondents are surveyed on either an hourly or salaried basis; hourly wages are not converted to annual salaries. The breakdown of respondents who indicated a type of compensation is as follows: 57.0 percent state they are currently receiving an hourly wage, followed by 30.6 percent that receive an annual salary, 7.6 percent that are paid on alternative basis and 4.8 percent that are on commission. The current median wage of those who are employed is \$15.00 per hour and the median salary is \$56,000 per year.

Figure 11 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 likeliness 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.

Figure 11
Median Wages & Salaries by Industry



\$- Insufficient survey data/refused

Figure 12
Median Wages & Salaries by Occupational Category

Occupational Category	Hourly Wage	Annual Salary
Agriculture	*	*
Clerical/Administrative Support	\$13.00	\$40,000
Managerial/Administrative	\$14.70	\$83,000
Production, Construction & Material Handling	\$17.24	\$46,500
Professional, Paraprofessional & Technical	\$19.50	\$50,000
Sales	\$14.23	*
Service	\$10.79	*

* Insufficient survey data/refused

Figure 12 illustrates current wage rates of those who are currently employed within each defined occupational category.

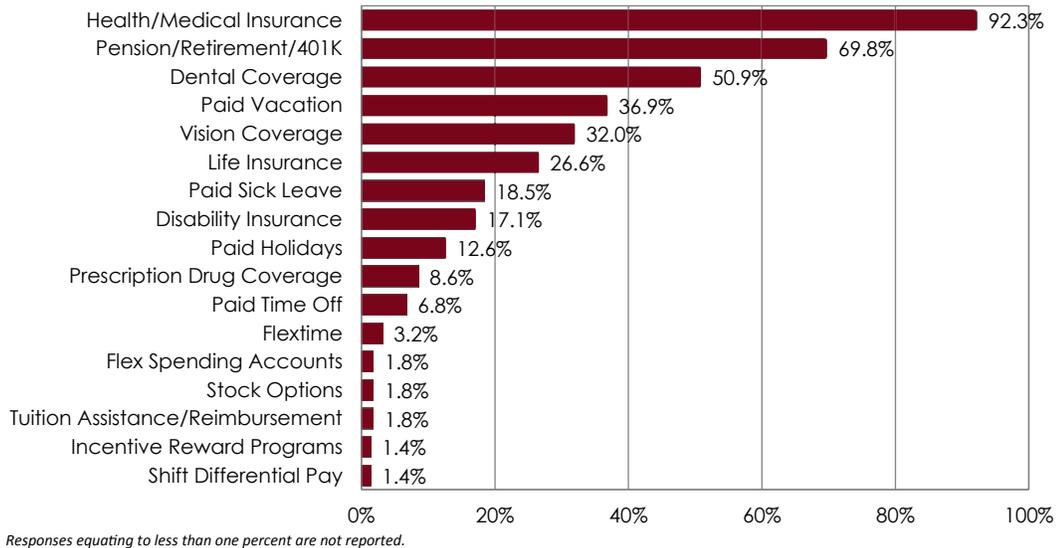


Wages by gender differ in the Carroll County Laborshed area. The current median hourly wage of employed females in the Laborshed area is \$13.88 per hour and the current median hourly wage of employed males is \$17.00 per hour. This \$3.12 per hour wage difference has females in the Carroll County Laborshed area receiving an hourly wage that is 18.4 percent less than males. Females who are receiving an annual salary also are faced with gender wage disparity (\$10,000 per year difference). Currently females are making a median annual salary of \$50,000 per year while males are making a median salary of \$60,000 a year. This results in a 16.7 percent difference in annual salaries.

EMPLOYMENT BENEFITS

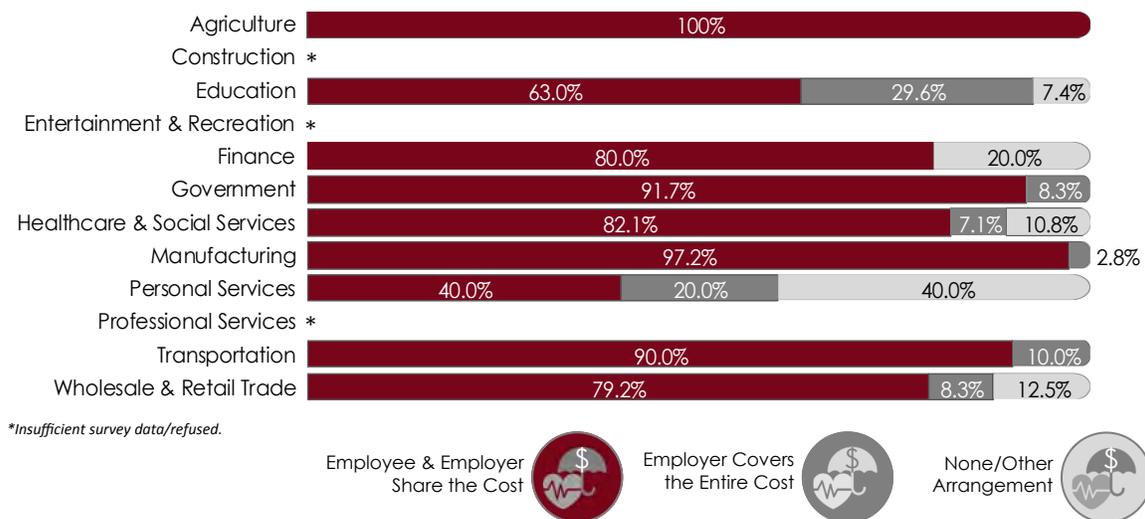
Figure 13 shows the current benefits of those employed full-time by percentage of respondents that receive the benefit. Slightly over four-fifths (80.1%) of the respondents in the Laborshed area state they are currently sharing the premium costs of health/medical insurance with their employer, 9.3 percent indicate their employer covers the entire cost of insurance premiums while 10.6 percent indicate their employer covers none of the premium costs.

Figure 13
Current Benefits of the Full-Time Employed



Health/medical insurance premium costs for those employed full-time are most frequently shared between the employer and the employee. However, coverage of insurance premiums does vary between industries. **Figure 14** breaks down the reported coverage of health/medical premium costs by industry.

Figure 14
Health/Medical Insurance Premium Coverage by Industry



COMMUTING

Overall, respondents are commuting an average of 8 miles one-way for employment opportunities. Those who live in Zone 1 are commuting an average of 5 miles one-way for work, while residents in Zone 2 are commuting an average of 10 miles and Zone 3 residents are commuting an average of 10 miles one-way for employment. 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 node community (Carroll).

Respondents were also asked how much time (in minutes) they spend commuting. Overall, employed respondents within the Laborshed area stated they are currently spending an average of 12 minutes commuting one-way to work. Those who live in Zone 1 spend an average of 8 minutes commuting, while residents in Zone 2 spend an average of 13 minutes and Zone 3 residents spend an average of 14 minutes commuting one-way for employment.

**Current Average Commute to Work (One-Way) by Zone of Residence
(by Miles/Minutes)**



EMPLOYED AND LIKELY TO CHANGE EMPLOYMENT

Survey data for the Carroll County Laborshed area shows that 24.2 percent of those who are currently employed indicated they are either “very likely” or “somewhat likely” to change employers or employment if presented with the right job opportunity.

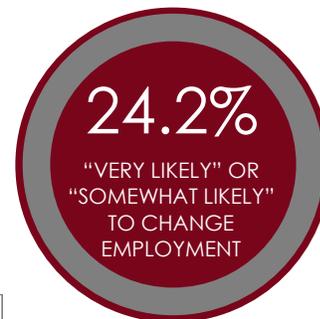
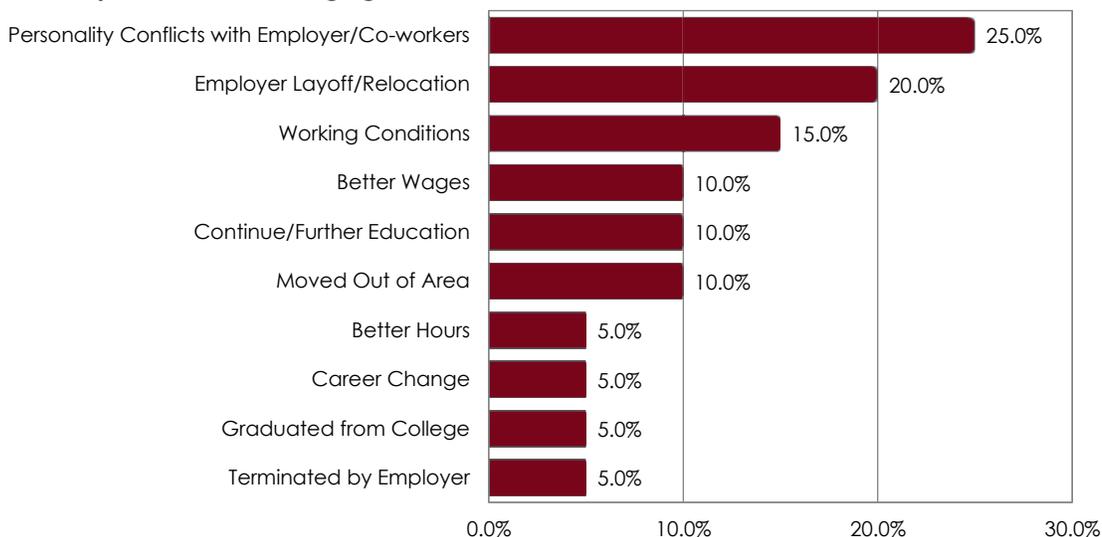


Figure 15 details the primary reasons cited by those who changed jobs in the past year.

Figure 15
Primary Reasons for Changing Jobs



Conversely, those that are currently employed that indicated they are unlikely to change employers or positions gave the following reasons for not considering a change in employment (**Figure 16**).

Figure 16
Reasons Not to Change Employment

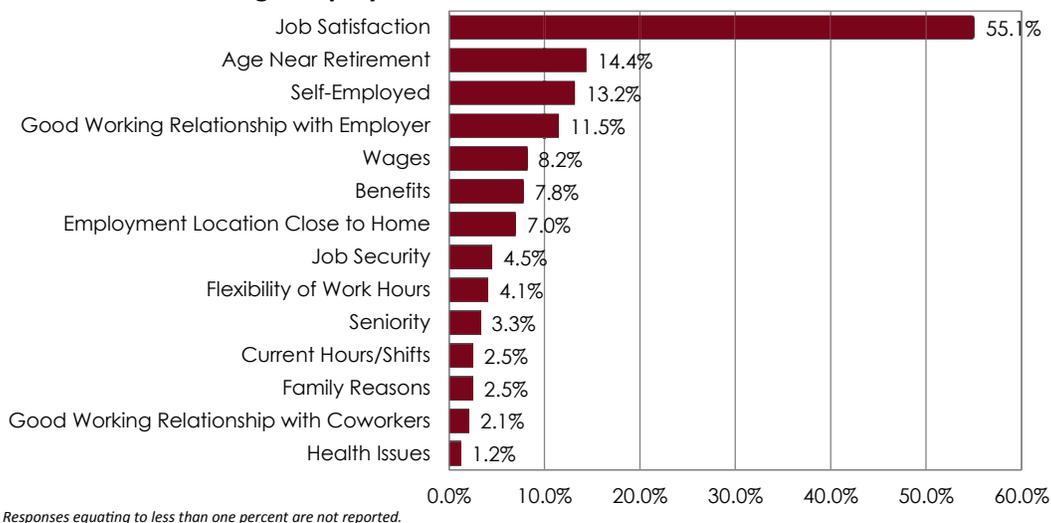


Figure 17, on the next page, breaks out by survey zones the estimated number of those who are currently employed but likely to change jobs for a different opportunity in Carroll. Respondents likely to change jobs for employment in Carroll by zone of residence are calculated using a logistic regression 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 “likely to change” by zone. The totals are based on the Total Adjusted Labor Force estimates found in **Figure 1**.

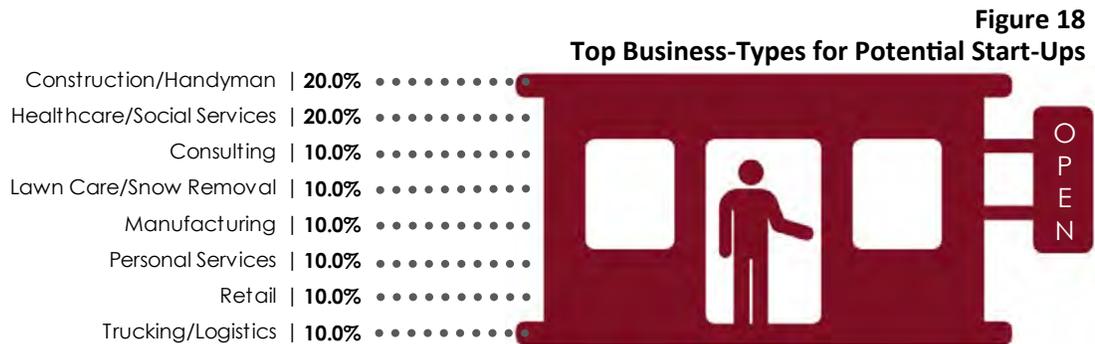
**Figure 17
Employed - Likely to Change Employment**

	Total Adjusted Labor Force by Zone	Overall Estimated Total Likely to Change/Accept by Zone*	Estimated Number of Employed Likely to Change by Zone*
Zone 1	6,370	3,361	2,985
Zone 2	16,793	7,433	6,418
Zone 3	25,435	1,719	1,488
Total	48,598	12,513	10,891

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

Over one-tenth (13.9%) of those who are employed and likely to change employment are working two or more jobs. This group may prefer to work full-time hours for one employer versus working for multiple employers to accomplish full-time employment. Those who are employed and likely to change employment are currently working an average of 42 hours per week. Over one-tenth (12.8%) would consider employment offers that require them to work more hours. Further analysis finds that 71.8 percent would prefer to work 35 or more hours per week, while 28.2 percent prefer to work less than 35 hours per week. Temporary and seasonal employment opportunities do not appeal to the majority of those who are currently employed and likely to change employment. However, seasonal employment would interest 24.7 percent and temporary employment would interest 23.1 percent of employed respondents likely to change employment.

Slightly over one-fourth (25.6%) of the employed and likely to change employment expressed an interest in starting a business. The types of businesses they are primarily interested in starting are detailed in **Figure 18**.



However, the majority find access to capital/start-up funds as the primary impediment of operating their own business venture followed by development of a business plan, insurance issues, tax/regulatory laws, accounting/bookkeeping expertise and finding a prime business location.

AGE AND GENDER OF THE EMPLOYED

The average age of those likely to change employment is 45 years of age. **Figure 19** provides a breakdown by age category of the employed respondents who are likely to change employment. These calculations are based on the total Estimated Number of Employed Likely to Change Employment for a position in Carroll (10,891) found in **Figure 17**.

**Figure 19
Age Range Distribution**

	% of Respondents Likely to Change by Age Range	Estimated Total	% of Respondents Likely to Change within Each Age Range
18 to 24	9.0%	980	70.0%
25 to 34	12.8%	1,394	41.7%
35 to 44	17.9%	1,949	26.5%
45 to 54	30.8%	3,354	24.7%
55 to 64	29.5%	3,213	16.4%
Total	100%	10,890	-

Totals may vary due to rounding methods.

The gender breakdown of respondents likely to change employment is distributed 53.2 percent male and 46.8 percent female. **Figure 20** compares the gender distribution among the employed respondents likely to change employment in each zone. These calculations are based on the total Estimated Number of Employed Likely to Change Employment for a position in Carroll (10,891) found in **Figure 17**.

**Figure 20
Estimated Totals by Zone & Gender**

	Zone 1		Zone 2		Zone 3	
	Female	Male	Female	Male	Female	Male
% of Zone	47.4%	52.6%	46.7%	53.3%	46.1%	53.9%
Estimated Total	1,415	1,570	2,997	3,421	686	802

EDUCATION & TRAINING

Over two-thirds (68.4%) of employed respondents likely to change employment have some level of education/training beyond high school. **Figure 21** breaks down these respondents' education/training by degree level. The education level among those that are employed and *unlikely* to change employment is higher (**Figure 22**); 76.1 percent have an education beyond high school; with 26.7 percent having an undergraduate degree or higher compared to only 16.4 percent among those employed and likely to change employment.

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 Carroll Area Development Corporation.

Figure 21
Education Level of Employed and Likely to Change

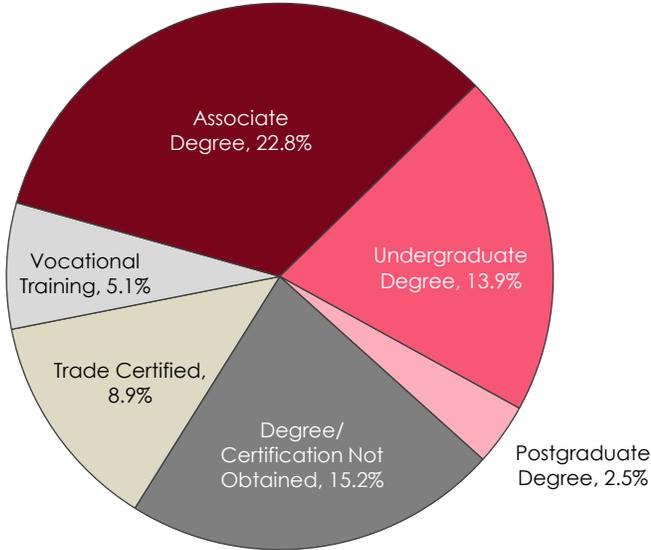


Figure 22
Education Level of Employed and Unlikely to Change

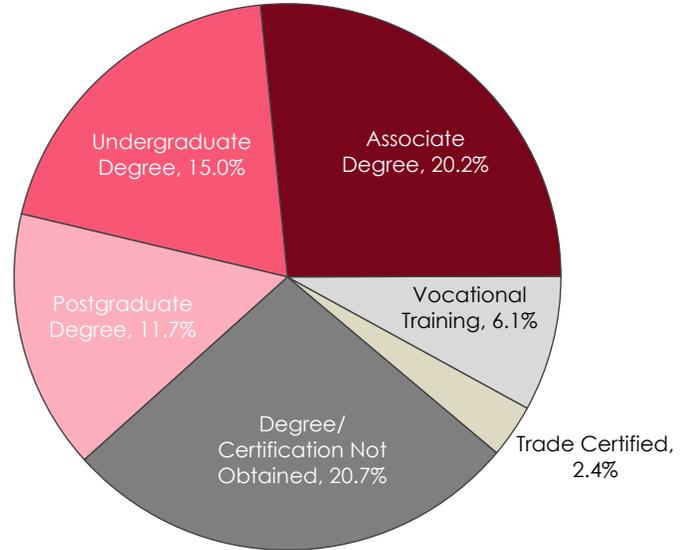


Figure 23
Educational Fields of Study

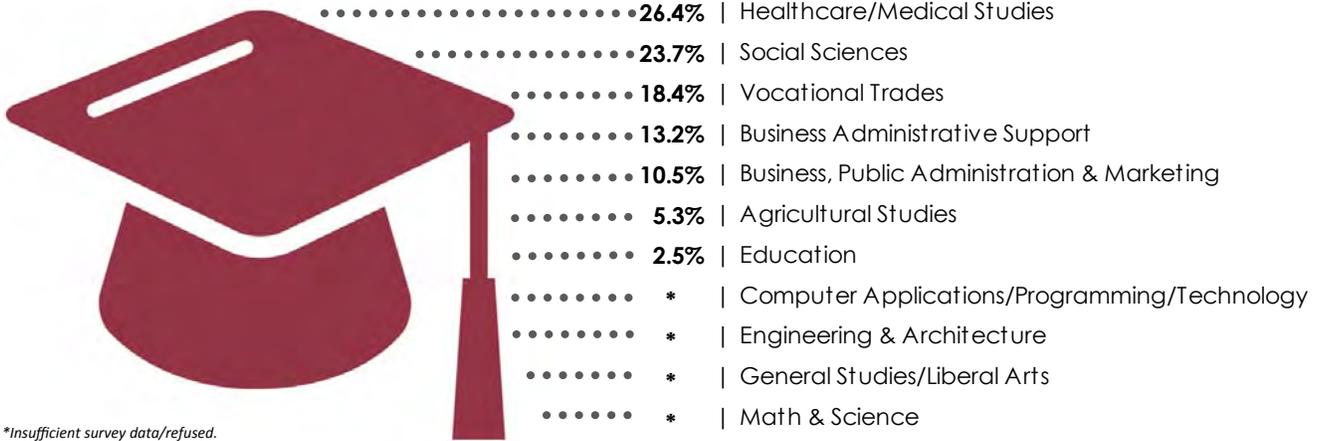


Figure 23 provides an overview of the educational fields of study for those who are employed and likely to change employment.

Over two-fifths (44.3%) of the employed and likely to change employment are currently receiving additional education/training or have plans to pursue additional education/training.

Those respondents that intend to seek further education/training desire to participate in on-the-job training (30.6%), start/finish college degree (16.7%), obtain continuing education units "CEU's" (13.9%), attend computer courses (11.1%), receive vocational training (8.3%), attend job preparedness classes (5.6%) and attain trade certification (2.8%).

Nearly one-third (32.9%) are likely to seek additional training/education in their specified areas of study within the next year. Financing (43.8%), lack of time (25.0%) and family reasons (12.5%) are the primary reported obstacles to obtaining their educational/training needs.

OCCUPATIONS & EXPERIENCES

Iowa Workforce Development 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 - **Appendix D**). **Figure 24** shows the largest concentration of estimated available labor is employed within the professional, paraprofessional & technical occupational category. The agricultural occupational category represents the smallest sector of workers likely to change employment. The calculations for estimated available labor are based on the total Estimated Number of Employed Likely to Change Employment for a position in Carroll (10,891) found in **Figure 17**.

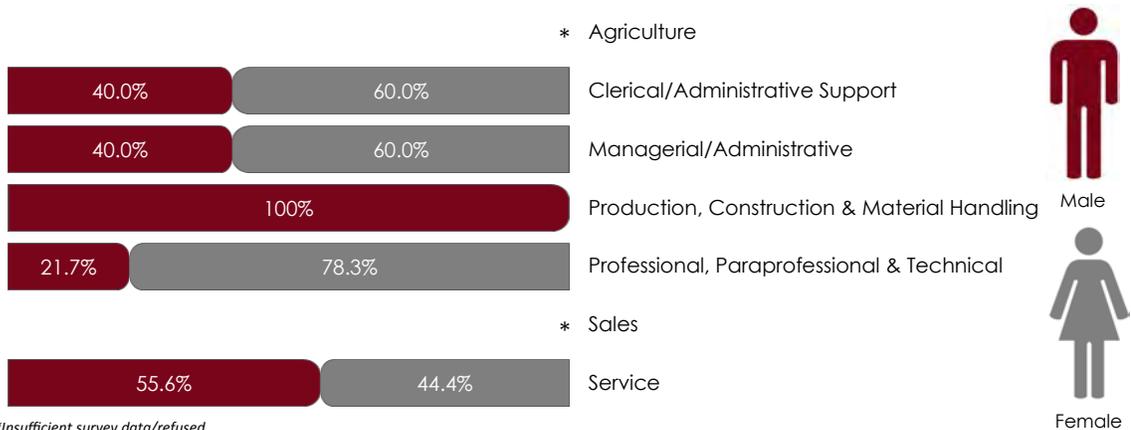
Figure 24
Estimated Workforce by Occupational Category

	% of Respondents Likely to Change by Occupational Category	Estimated Total	% of Respondents Likely to Change within Each Occupational Category
Professional, Paraprofessional & Technical	32.4%	3,529	27.7%
Clerical/Administrative Support	21.1%	2,298	34.1%
Production, Construction & Material Handling	21.1%	2,298	27.8%
Service	12.7%	1,383	30.0%
Managerial/Administrative	7.0%	762	15.6%
Sales	5.7%	621	30.8%
Agriculture	*	*	*
Total	100%	10,891	-

*Insufficient survey data/refused

Overall, the Carroll County Laborshed area has a higher percentage of males who are employed and likely to change employment than females (53.2% and 46.8%, respectively). **Figure 25** provides a comparison of those likely to change employment by gender per occupational category. The occupational categories encompass a wide variety of individual occupations in which workers in the Laborshed area are employed. In some cases, workers likely to change positions may be currently employed in jobs that do not make the most of their skills, work experiences, and/or education level. For a list of current or previous occupational titles and experiences in the Carroll County Laborshed area, contact the Carroll Area Development Corporation.

Figure 25
Occupational Categories by Gender



*Insufficient survey data/refused.

Figure 26 illustrates the percentage of respondents in each occupational category within each Laborshed zone.

The figure 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 Carroll.

Figure 27 details the occupational categories 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.

Those who are employed within the Carroll County Laborshed area who are likely to change employment are looking for a wide variety of employment opportunities. However, the majority of those who reside in

Zone 1 (Carroll) are looking for positions within the professional, paraprofessional & technical occupational category (approximately 1,570 people). Those who reside in Zone 2 are primarily looking for positions within the production, construction & material handling occupational category (approximately 1,874 people). Those that reside in Zone 3 are primarily looking for positions within the sales occupational category (approximately 496 people). Projections are based on zone totals obtained from **Figure 17**.

WAGE REQUIREMENTS

Figure 28 provides data concerning the employed respondents' current median wages and salaries by their likeliness to change employment. The actual wage levels required by prospective workers will vary between individuals, occupational categories, industries and economic cycles. Of those that indicated a type of compensation, slightly over three-fourths (75.9%) are hourly wage earners.

Figure 26
Occupational Categories Across the Zones

	Zone 1	Zone 2	Zone 3
Agriculture	*	*	*
Clerical/Administrative Support	20.0%	46.7%	33.3%
Managerial/Administrative	40.0%	20.0%	40.0%
Production, Construction & Material Handling	26.7%	60.0%	13.3%
Professional, Paraprofessional & Technical	52.2%	17.4%	30.4%
Sales	*	*	*
Service	11.1%	55.6%	33.3%

Equals 100% across the zones
*Insufficient survey data/refused

Figure 27
Desired Occupational Categories Within the Zones

	Zone 1	Zone 2	Zone 3
Agriculture	5.3%	8.3%	13.3%
Clerical/Administrative Support	15.8%	12.5%	6.7%
Managerial/Administrative	5.3%	12.5%	13.3%
Production, Construction & Material Handling	10.5%	29.2%	6.7%
Professional, Paraprofessional & Technical	52.6%	16.7%	20.0%
Sales	0.0%	4.1%	33.3%
Service	10.5%	16.7%	6.7%

Equals 100% within the zones

Figure 28
Comparison of Current Wage Data



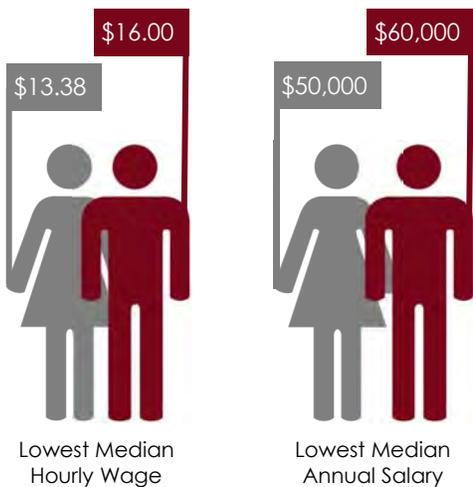
Figure 29 reflects those who are currently employed and likely to change employment and the estimated wage range required to attract 66 percent to 75 percent of the hourly wage applicants by occupational category. The wage threshold of all employed residents who are “very likely” or “somewhat likely” to change employment is estimated to be \$17.00 to \$18.25 per hour regardless of occupation. Salaried employees likely to change employment have a threshold of \$68,400 to \$70,000 per year.

Figure 29
Wage Threshold by Occupational Category

	Wage Threshold	
	Hourly Wage	
Agriculture	*	
Clerical/Administrative Support	\$ 15.00	- \$ 16.50
Managerial/Administrative	*	
Production, Construction & Material Handling	\$ 17.58	- \$ 18.00
Professional, Paraprofessional & Technical	\$ 21.30	- \$ 24.00
Sales	*	
Service	\$ 13.00	- \$ 14.50

* Insufficient survey data/refused

Figure 30
Lowest Wages Considered by Gender



Another comparison to consider is the employed respondents’ lowest wages considered based on gender. **Figure 30** provides the lowest wages considered between the genders.

In many Laborshed areas, there is a discrepancy between the lowest wages considered by males and females. This holds true in the Carroll County Laborshed area when looking at hourly wage rates of those who are likely to change employment without regard to specific industry. The lowest median hourly wage that females would consider is 16.4 percent less than that of males. Likewise, the median salary females would consider is 16.7 percent less than that of males. Some of the disparity may be explained by the differences in the occupational and industrial categories of the respondents.

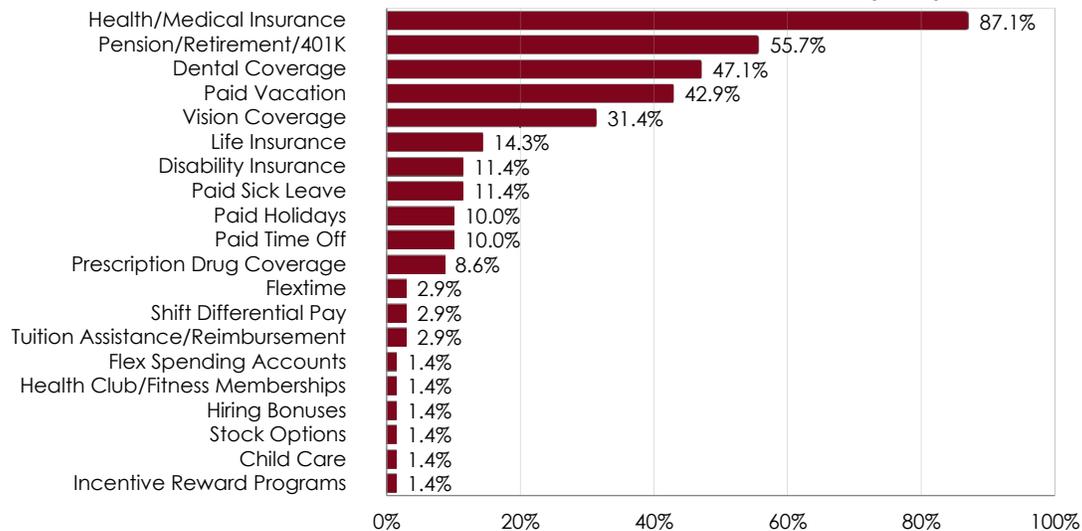
EMPLOYMENT BENEFITS

The Laborshed survey provides the respondents an opportunity to identify employment benefits that would influence their decision to change employment. Desired benefits are shown in **Figure 31**, on the next page. 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 may not have select health/medical as an influential benefit option.

When contemplating a change in employment, over two-fifths (44.8%) of those surveyed would prefer to look for offers where the employer covers all the premium costs of health/medical insurance while the majority (50.0%) would be willing to share the cost of the premium for health/medical insurance with their employer. Over three-fourths (76.4%) of those who are employed and likely to change employment state they are currently sharing the premium costs of health/medical insurance with their employer.

Figure 31

Benefits Desired by Respondents



FLEXIBILITY & ADAPTABILITY IN THE WORKPLACE

Laborshed area residents are very receptive to various work environments. Most respondents (85.5%) would prefer to work in team environments—groups of individuals coming together to accomplish a common goal; 67.9 percent are willing to work in an environment that offers cross-training opportunities—training to do more than one job; and over one-third (35.1%) 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 26.3 percent of the employed that are likely to change employment.

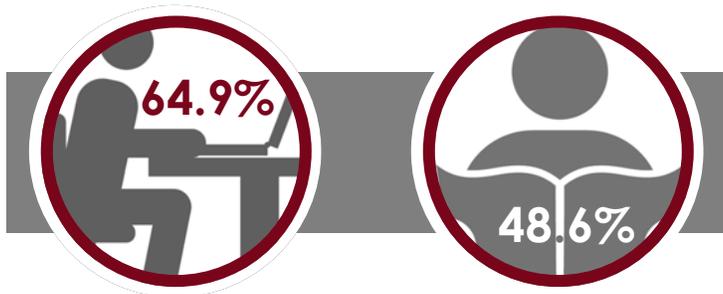


JOB SEARCH

Among the employed and likely to change employment 22.4 percent stated that they are actively seeking new employment. In addition, 82.4 percent of those are seeking full-time employment followed by 11.8 percent who are seeking part-time employment.

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. There are 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 in the Carroll County Laborshed area. The most frequently identified job search resources are identified in **Figure 32**, on the next page.

The most popular newspaper sources include the *Daily Times Herald - Carroll*, *The Des Moines Register* and *Harlan Tribune*. The internet is host to many sources for employment opportunities. The most commonly used sites to look for employment opportunities in the Carroll County Laborshed area are www.careerbuilder.com, www.indeed.com and www.monster.com. The type of industry in which the individual is seeking to be employed may determine the sources used. Businesses wanting more detailed advertising sources may contact the Carroll Area Development Corporation.



www.careerbuilder.com
www.indeed.com
www.monster.com

Daily Times Herald - Carroll
 The Des Moines Register
 Harlan Tribune

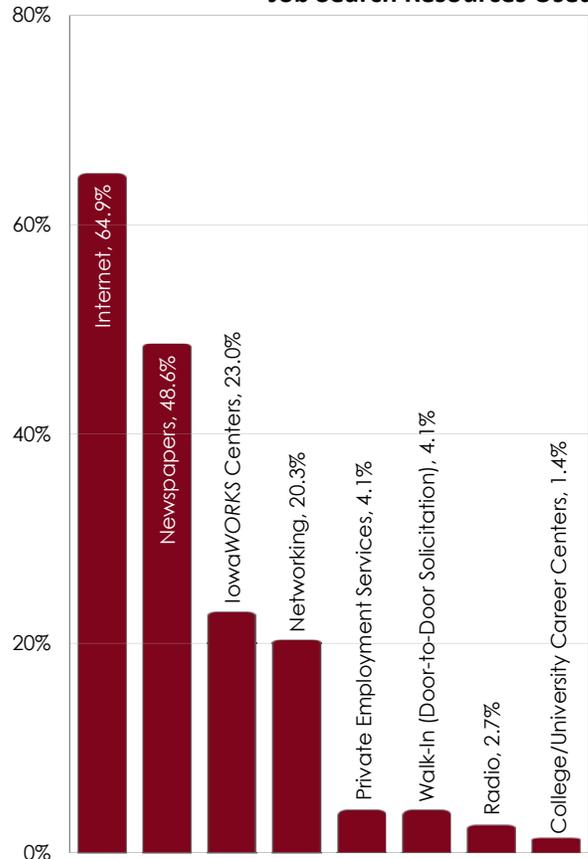
COMMUTING

Commuting data collected by the Laborshed survey assists developers and employers in understanding how employed residents likely to change employment can/could commute within or out of the area. Overall, the employed and likely to change employment would commute an average of 23 miles one-way for employment opportunities. Those who live in Zone 1 are willing to commute an average of 22 miles one-way, while residents in Zone 2 are willing to commute an average of 21 miles one-way. Zone 3 residents are willing to commute an average of 28 miles one-way for the right employment opportunity. To provide a comparison, those employed and likely to change employment are currently commuting 9 miles one-way and those currently employed but *unlikely* to change employment, commute an average of 8 miles one-way to work.

Respondents were also asked how much time (in minutes) they would be willing to spend commuting. Overall, the employed and likely to change employment would be willing to commute an average of 29 minutes one-way to work. Those who live in Zone 1 would be willing to spend an average of 29 minutes commuting, while residents in Zone 2 would be willing to spend an average of 28 minutes and Zone 3 residents would be willing to spend an average of 32 minutes commuting one-way for employment. To provide a comparison, those employed and likely to change employment are currently spending 13 minutes commuting one-way and those currently employed but *unlikely* to change employment, are commuting an average of 12 minutes 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, page 29).

Figure 32
 Job Search Resources Used



Employed and Likely to Change Employment Average Miles/Minutes Willing to Commute One-Way by Zone of Residence



UNDEREMPLOYED

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 35 or more hours per week 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, elements of each of these categories exist in this Laborshed area.

It is important to note that underemployment applies only to respondents that indicated they were employed and likely to change employment. Respondents are not considered underemployed if they are unlikely to accept new employment opportunities that could improve their situation.

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 the survey responses of those that are employed and likely to change employment working 34 hours or less per week and desiring more hours. The survey data shows that underemployment due to inadequate hours is estimated to be 1.5 percent within the Laborshed area (**Figure 33**).



The calculation for estimated underemployed desiring more hours is based on the total Estimated Number of Employed Likely to Change Employment for a position in Carroll (10,891) found in **Figure 17**.

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. Iowa Workforce Development’s Laborshed survey of the area 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. Explanations may relate to a previously held job that required more skill and education, acquired job training and education at their current job, current job requirements are below their level of training and education and/or received greater pay at a previous job. Respondents select all descriptors that apply 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. Iowa Workforce Development (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 occupation, skills unused at their current position, age, employment type, education, years in current position and the type of job they would consider to see if they are consistent with the person’s underemployment.

Figure 34 shows that 2.7 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 *Percent Underemployed* and for the *Estimated Underemployed* figures. The calculation for *Estimated Underemployed* is based on the total Estimated Number of Employed Likely to Change Employment for a position in Carroll (10,891) found in **Figure 17**.

Figure 34
Underemployed - Mismatch of Skills



UNDEREMPLOYED DUE TO LOW INCOME

A total of 3.0 percent of respondents answering the household income question fall below the 2016 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 \$24,300). However, only 0.5 percent of respondents are considered underemployed due to low income within the Laborshed area. To be considered underemployed due to low income, in addition to their household income falling below the poverty level, the respondent must be employed, likely to change employment and be working 35 or more hours per week. **Figure 35** provides an estimate of the number of people in the Laborshed area who meet this criteria. The calculation for estimated underemployment due to low income is based on the total Estimated Number of Employed Likely to Change Employment for a position in Carroll (10,891) found in **Figure 17**. Those who are underemployed working less than 35 hours per week, who would like more hours, are captured within the inadequate hours estimates (**Figure 33**).

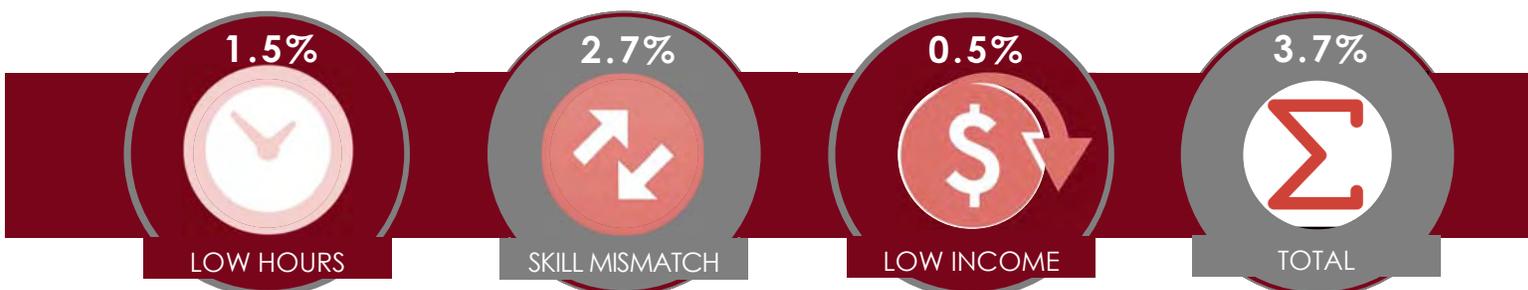
Figure 35
Underemployed - Low Income



TOTAL ESTIMATED UNDEREMPLOYED

All three measures of underemployment result in an estimated total underemployment rate of 3.7 percent in the Laborshed area (**Figure 36**). 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. For example, a person underemployed due to inadequate hours and mismatch of skills is only counted once.

Figure 36
Underemployed - Estimated Total



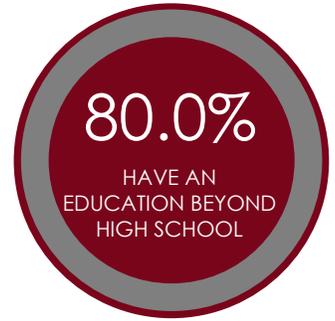
Over half (53.3%) of those who are considered to be underemployed in the Carroll County Laborshed area are female. Those who are underemployed have an average age of 42 years old.

Four-fifths (80.0%) of the respondents who are underemployed have an education beyond high school.

Additionally, the majority of the underemployed are currently employed within the professional, paraprofessional & technical; clerical; or production, construction & material handling occupational categories and are primarily seeking employment opportunities within the professional, paraprofessional & technical; production, construction & material handling; or service occupational categories.

Zone 1 contains 40.0 percent of those who are underemployed, Zone 2 contains 40.0 percent and Zone 3 contains 20.0 percent in the Carroll County Laborshed area.

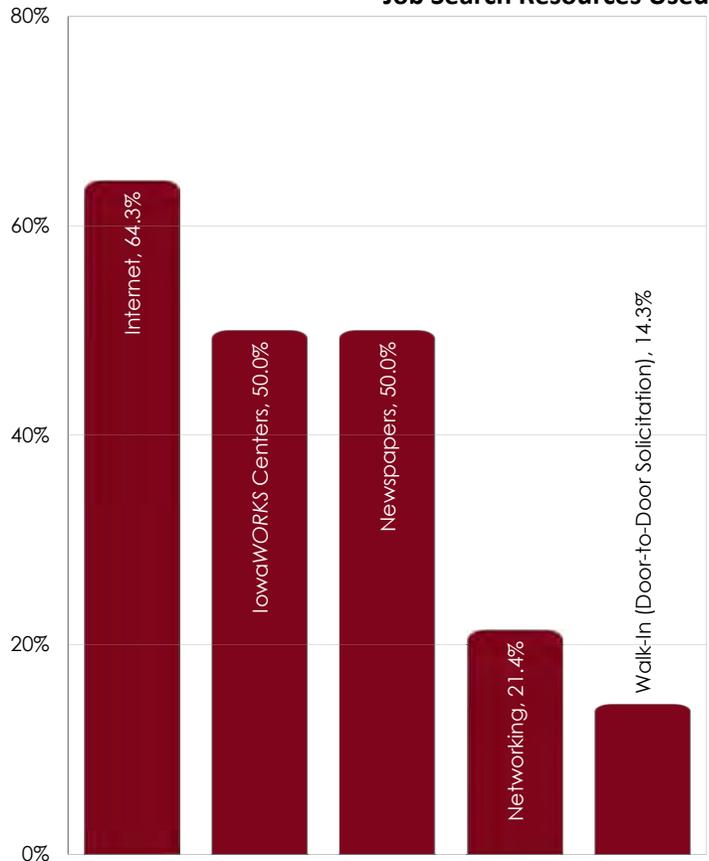
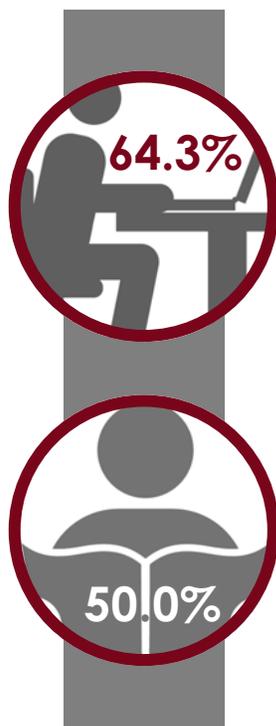
Overall, the underemployed are willing to commute an average of 20 miles one-way for the right employment opportunity.



The wage threshold needed to attract 66 percent to 75 percent of the underemployed is \$14.48 to \$16.50 per hour with a lowest median considered wage of \$10.00 per hour.

Figure 37 details the preferred job search resources the underemployed use when looking for employment opportunities.

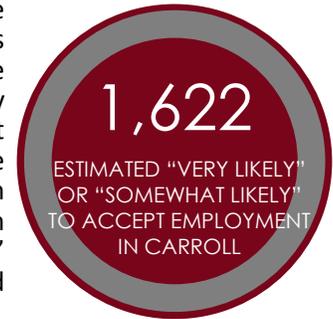
Figure 37
Job Search Resources Used



NOT EMPLOYED

The Bureau of Labor Statistics (BLS) defines unemployed persons as individuals who are currently not employed but are actively seeking employment. Using only this definition overlooks sources of potential labor, specifically homemakers and retirees who, though currently not employed, would consider entering or re-entering the workforce if the right opportunity arose. Iowa Workforce Development (IWD) uses an alternative definition of “not employed” for its Laborshed studies which includes the unemployed, homemakers and retirees as subsets of the category. The survey asks respondents to identify whether they are unemployed, a homemaker 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 estimated labor force in the Laborshed area. Of the respondents surveyed, 17.8 percent reported that they are “not employed”. By questioning these respondents about their likeliness to re-enter or accept a job offer, the survey identified 44.9 percent who would be “very likely” or “somewhat likely” to accept employment. In addition, respondents likely to accept employment in Carroll are calculated using a logistic regression model weighted by variables such as education level, gender, age, miles willing to travel and wages. This model provides an estimated total of 1,622 “not employed” individuals who are “likely to accept” employment in Carroll. Aggregated totals for the “not employed” may be achieved by combining the data from **Figures 38, 43 and 44**.



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, homemakers and retired respondents.

UNEMPLOYED AND LIKELY TO ACCEPT EMPLOYMENT

Of those who responded as being unemployed, 63.6 percent are “very likely” or “somewhat likely” to accept employment if the right opportunity arose. **Figure 38** shows that the unemployed who are likely to accept employment in Carroll reside across all three zones of the Laborshed area. Respondents likely 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 “likely to accept” by zone. The totals are based on the Total Adjusted Labor Force estimates found in **Figure 1** (approximately 421 unemployed persons).

Figure 38

Unemployed - Likely to Accept Employment

	Total Adjusted Labor Force by Zone	Overall Estimated Total Likely to Change/Accept by Zone*	Estimated Number of Unemployed Likely to Accept by Zone*
Zone 1	6,370	3,361	109
Zone 2	16,793	7,433	260
Zone 3	25,435	1,719	52
Total	48,598	12,513	421

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

The current method used by the Bureau of Labor Statistics to determine the unemployment rate excludes discouraged workers. These are individuals who have stopped actively seeking employment due to the perception that there are no jobs available or that they do not qualify for those that are available. The Laborshed unemployed percent includes anyone who stated they were unemployed and then incorporates all counties within the Laborshed area, whereas the unemployment rate only takes into consideration individual counties.

DEMOGRAPHICS OF THE UNEMPLOYED

The average age of this group is 39 years old. The unemployed respondents are distributed amongst all of the age range groups, 18 to 24 (42.9%), 25 to 34 (9.5%), 35 to 44 (4.8%), 45 to 54 (4.8%) and 55 to 64 (38.0%). The gender breakdown of those unemployed is 66.7 percent male and 33.3 percent female.



33.3% | 66.7%

EDUCATION & TRAINING

Nearly three-fifths (57.1%) of respondents that identified themselves as unemployed and likely to accept employment in the Carroll County Laborshed area have some post high school education. Of those, 9.5 percent are trade certified, 9.5 percent have vocational training, 9.5 percent have an associate degree and 9.5 percent have an undergraduate degree.

WORK EXPERIENCE & ENVIRONMENT

Over three-fifths (61.9%) of respondents that are unemployed and likely to accept employment reported that they became unemployed within the last year. The majority (76.2%) held full-time positions, 14.3 percent held part-time positions in their previous employment and 9.5 percent were seasonally employed. These individuals have diverse work experiences; the majority held positions within the production, construction & material handling; service; agricultural; clerical; professional, paraprofessional & technical; or sales occupational categories.

A variety of explanations were given as to why the respondents are unemployed at this time. The most frequently mentioned responses are shown in **Figure 39**.

Figure 39
Reasons for Being Unemployed



Over two-fifths (44.4%) of the respondents who are unemployed and likely to accept employment are seeking/have sought services to gain employment. Of those, all are utilizing the local IowaWORKS Centers to assist in seeking job offers and plan to seek positions within the production, construction & material handling; service; professional, paraprofessional & technical; agricultural; clerical; and managerial occupational categories.

These respondents can accommodate a variety of work environments. The majority (89.5%) would prefer employment opportunities that provide job team work environments; 76.2 percent of the respondents expressed an interest in cross-training; and 63.2 percent would be interested in job sharing positions—two people sharing one full-time position.

Over three-fifths (61.9%) 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 76.2 percent of those who are unemployed and likely to accept employment, while temporary employment would be a consideration for 60.0 percent of those looking to re-enter the workforce.

Two-fifths (40.0%) of those who are unemployed likely to accept employment would consider starting their own business. Keep in mind that not all of those who stated they had an interest will actually pursue an entrepreneurial venture. What this does show, however, is that a certain level of entrepreneurial ambition is present in the area.

WAGES & BENEFITS

Wage levels, hours available and employee benefits are important factors for unemployed individuals. The estimated wage threshold for the unemployed and likely to accept employment is \$12.20 to \$13.00 per hour. This threshold illustrates the wage required to attract 66 to 75 percent of applicants. The lowest median hourly wage that respondents that are unemployed and likely to accept employment are willing to accept is \$10.00 per hour. At their prior employment, they received a median hourly wage of \$10.50 per hour. In addition to salary/wages and hours, some of the unemployed and likely to accept employment could be influenced by certain benefits. Those benefits most frequently mentioned are identified in **Figure 40**.

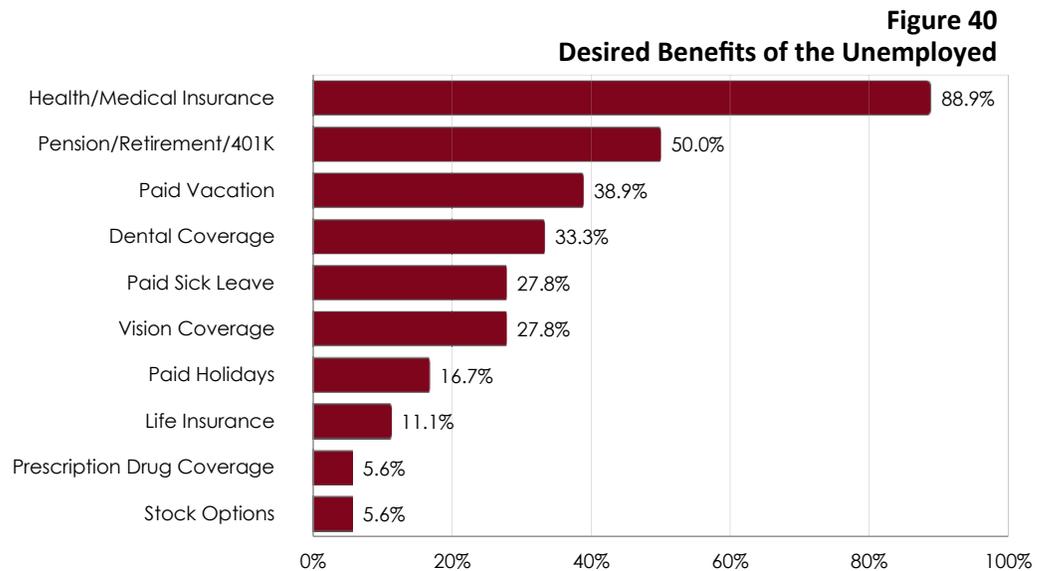
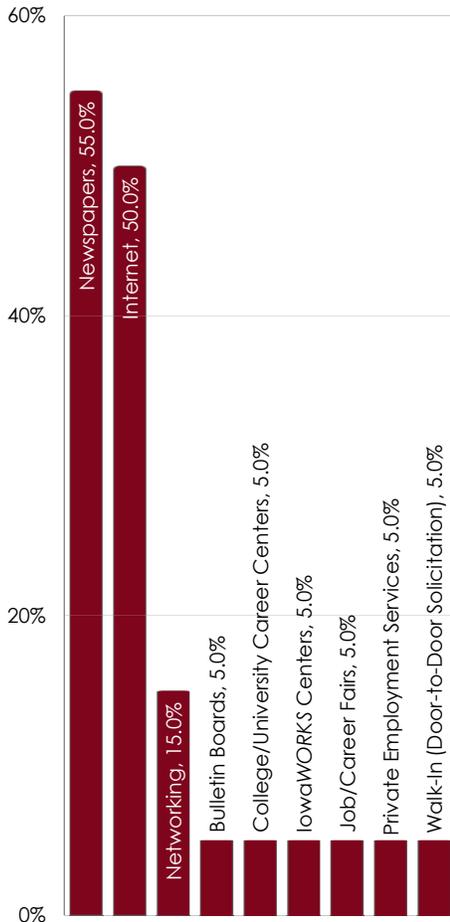


Figure 41
Job Search Resources Used



JOB SEARCH

Among the unemployed and likely to accept employment 66.7 percent stated that they are actively seeking new employment. In addition, 64.3 percent of those are seeking full-time employment.

The most frequently identified job search resources used by the unemployed and likely to accept employment are identified in **Figure 41**. To provide businesses and community leaders with a more in-depth focus on advertising sources currently being used by the unemployed and likely to accept employment, the *Denison Bulletin Review* and *Storm Lake Pilot-Tribune* are the primary print sources, viewed by those seeking employment in the Carroll County Laborshed area.

COMMUTING

The average number of miles that the unemployed and likely to accept employment are willing to travel one-way to work is 21 miles. Zone 2 respondents are willing to commute an average of 17 miles one-way to work and Zone 3 respondents are willing to commute an average of 24 miles one-way to work.

Due to insufficient survey data the average miles that those residing in Zone 1 are willing to travel one-way for employment cannot be reported.

Unemployed and Likely to Accept Employment
Average Miles Willing to Commute One-Way by Zone of Residence



**Insufficient survey data/refused*

HOMEMAKERS AND LIKELY TO ACCEPT EMPLOYMENT

Of those who responded as homemakers, 14.3 percent are “very or somewhat likely” to accept employment if presented with the right opportunity. Among these, none stated that they are actively seeking new employment. **Figure 42** shows that the Carroll County Laborshed area is estimated to contain 637 individuals who are homemakers that are likely to accept employment in Carroll. 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.

Figure 42

Homemakers - Likely to Accept Employment

	Total Adjusted Labor Force by Zone	Overall Estimated Total Likely to Change/Accept by Zone*	Estimated Number of Homemakers Likely to Accept by Zone*
Zone 1	6,370	3,361	139
Zone 2	16,793	7,433	446
Zone 3	25,435	1,719	52
Total	48,598	12,513	637

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

Respondents likely 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 “likely to change” by zone. The totals are based on the Total Adjusted Labor Force estimates found in **Figure 1**.

For more information regarding homemakers, please contact the Carroll Area Development Corporation.

RETIRED AND LIKELY TO ACCEPT EMPLOYMENT

Retired individuals (18-64 years of age) represent an underutilized and knowledgeable pool of workers in some Laborshed areas. In the Carroll County Laborshed area, 36.4 percent of respondents identified themselves as retired likely to accept employment. Among these, none stated that they are actively seeking new employment. **Figure 43** illustrates those who are retired and likely to re-enter the workforce in Carroll, reside throughout the survey zones (approximately 564).

Figure 43

Retired (18-64) - Likely to Accept Employment

	Total Adjusted Labor Force by Zone	Overall Estimated Total Likely to Change/Accept by Zone*	Estimated Number of Retired Likely to Accept by Zone*
Zone 1	6,370	3,361	128
Zone 2	16,793	7,433	309
Zone 3	25,435	1,719	127
Total	48,598	12,513	564

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

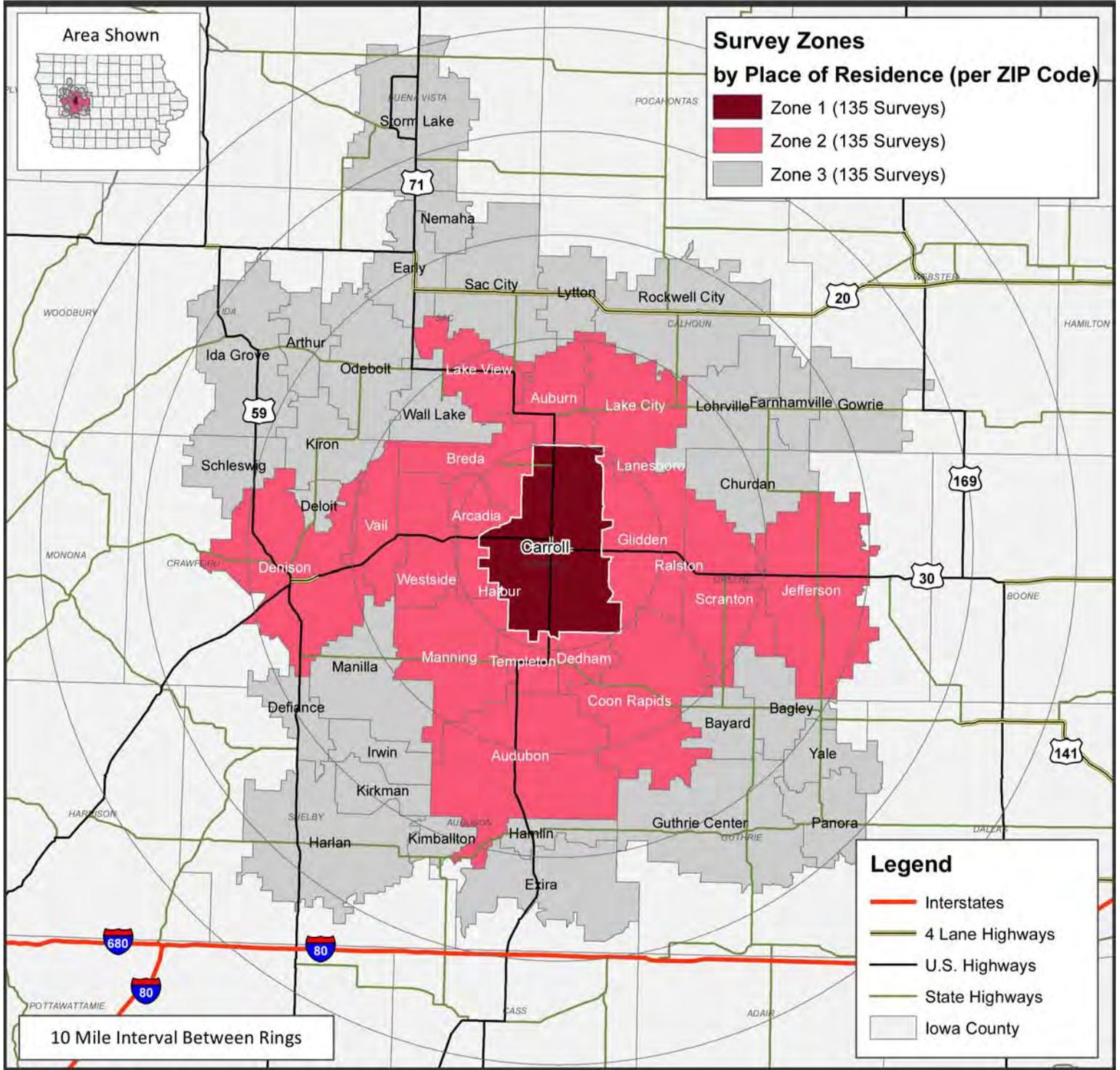
Respondents likely to accept employment by zone are calculated using a regression model weighted by multiple variables such as education level, gender, age, miles willing to travel and wages. This model provides an estimate for the total number of individuals “likely to change” by zone. The totals are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

For more information regarding retirees, please contact the Carroll Area Development Corporation.

LABORSHED AND COMMUTING MAPS

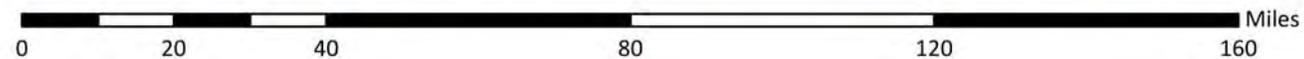
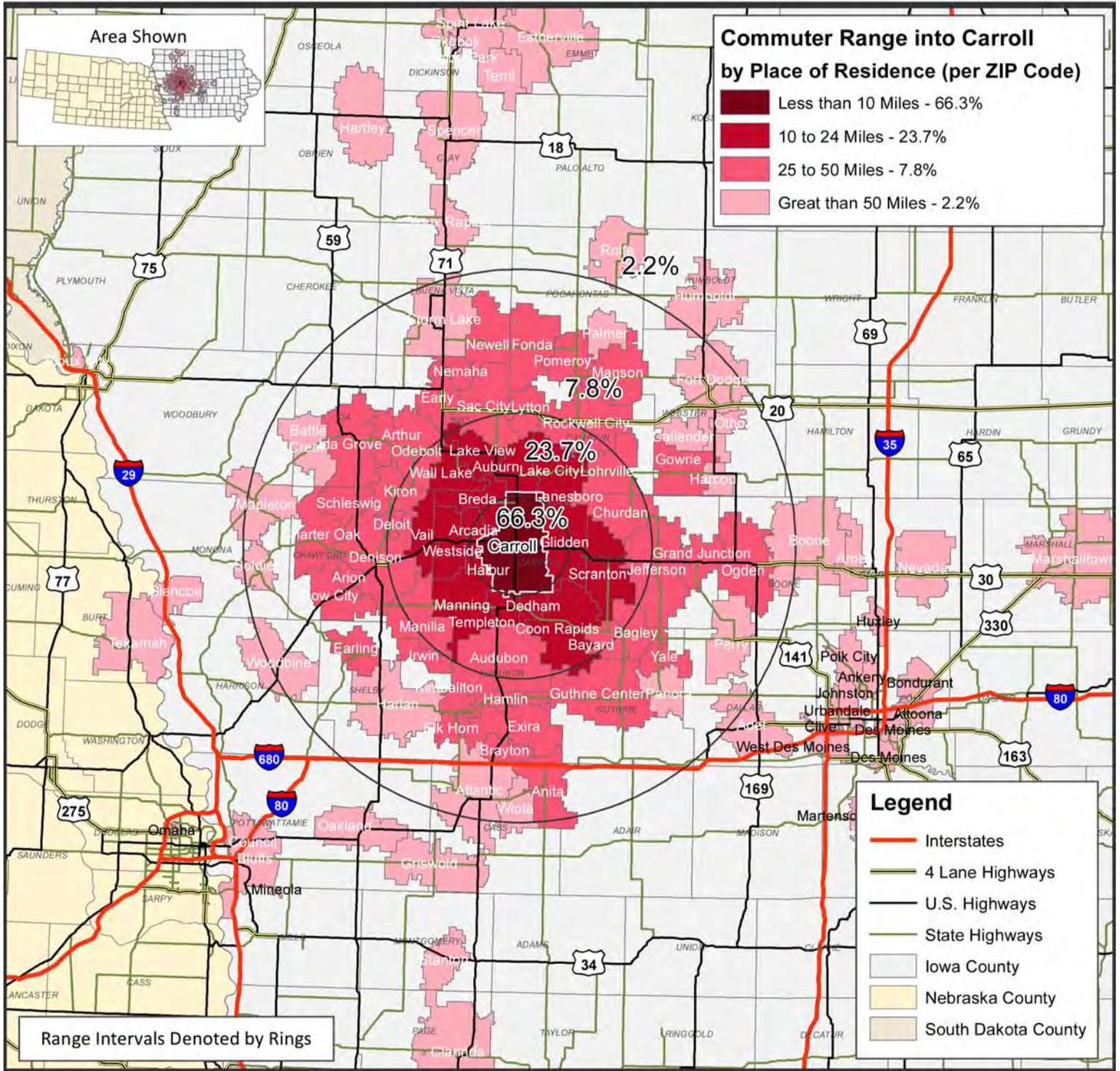
SURVEY ZONES BY ZIP CODE

CARROLL COUNTY LABORSHED AREA



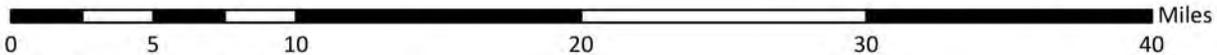
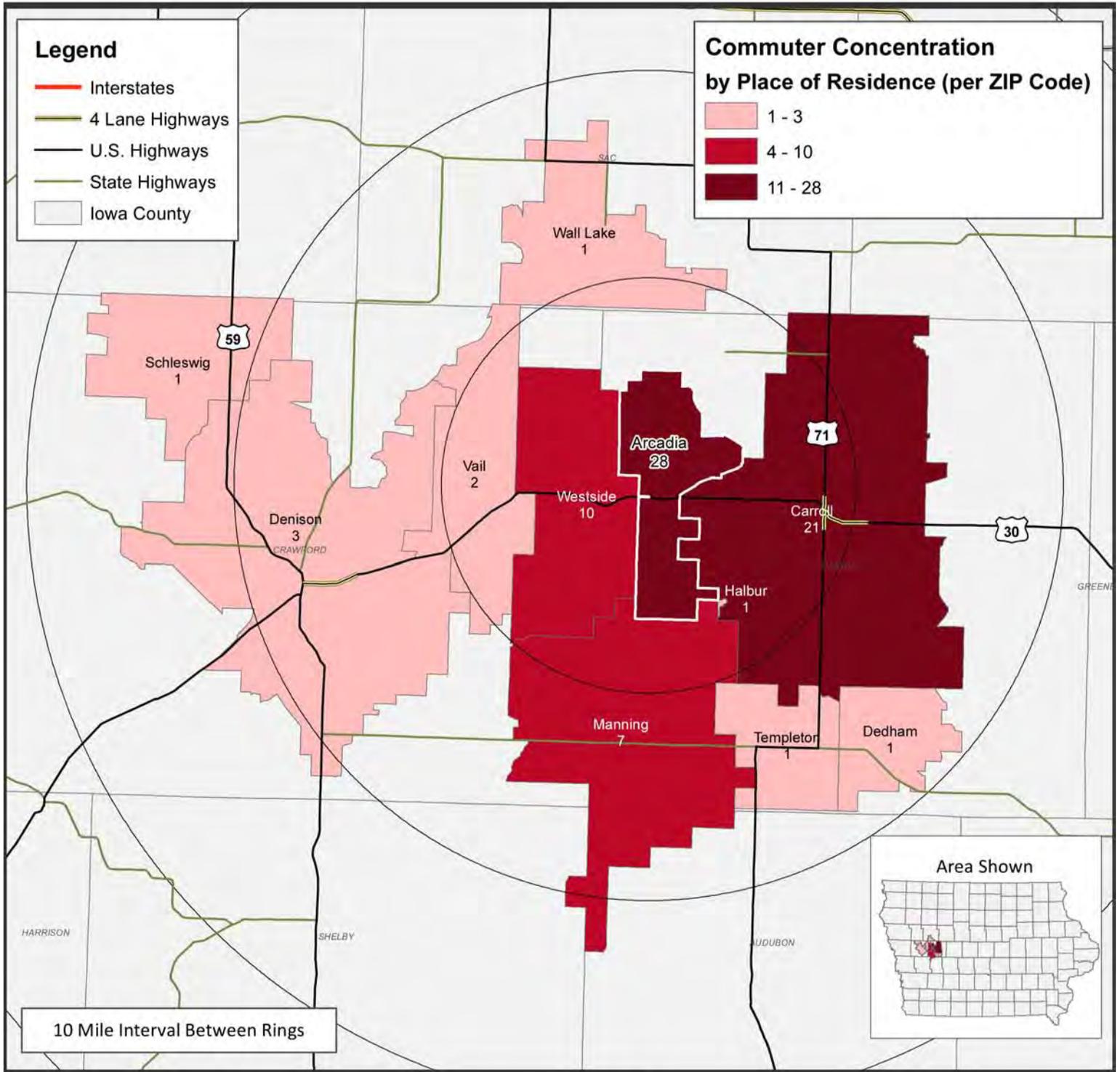
The total survey sample size for the Laborshed area is 405. This sample is distributed among the three zones delineated in the above map.

INTO CARROLL



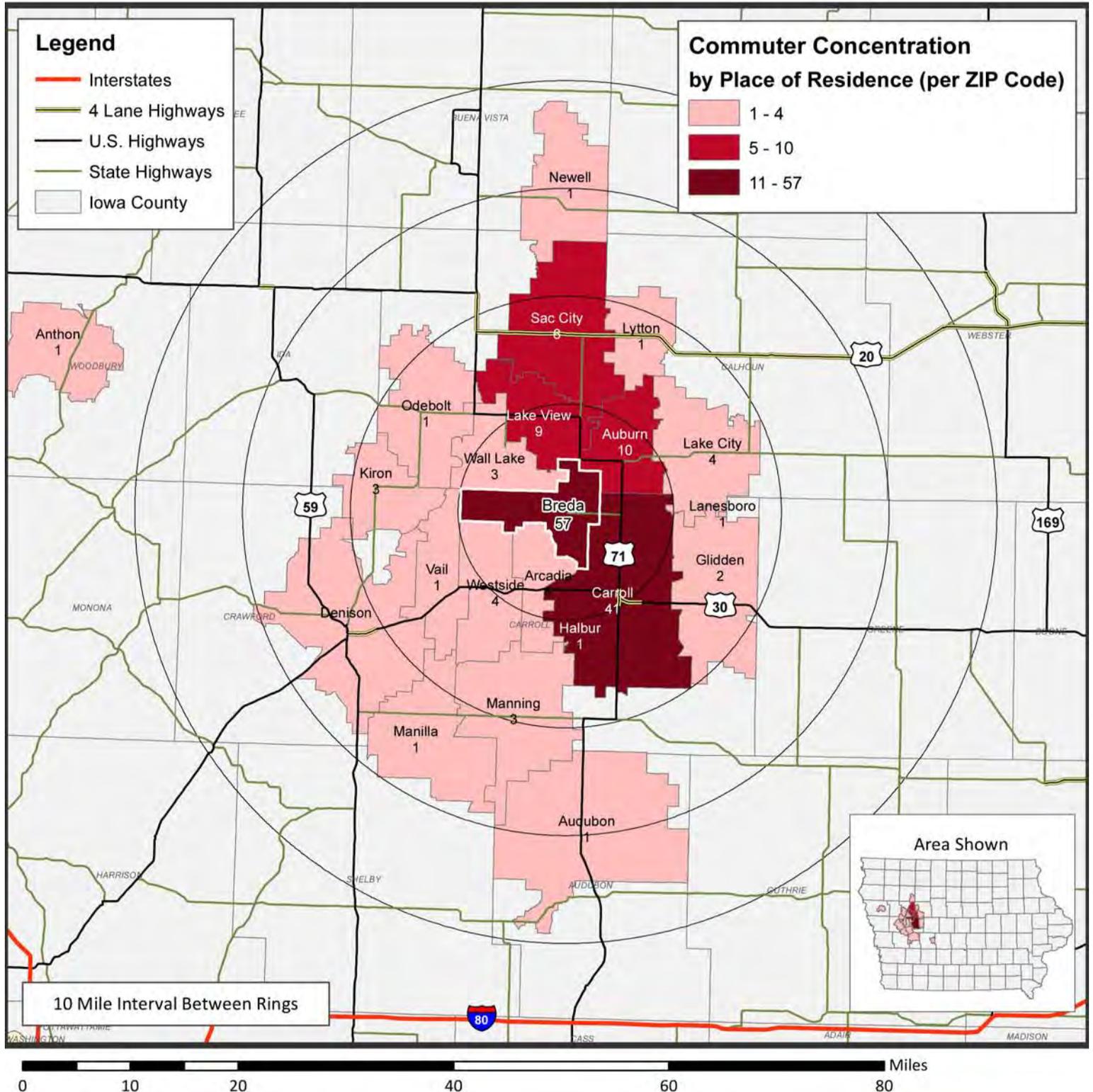
All ZIP codes at a distance greater than 120 miles from the node were removed from this analysis.

INTO ARCADIA

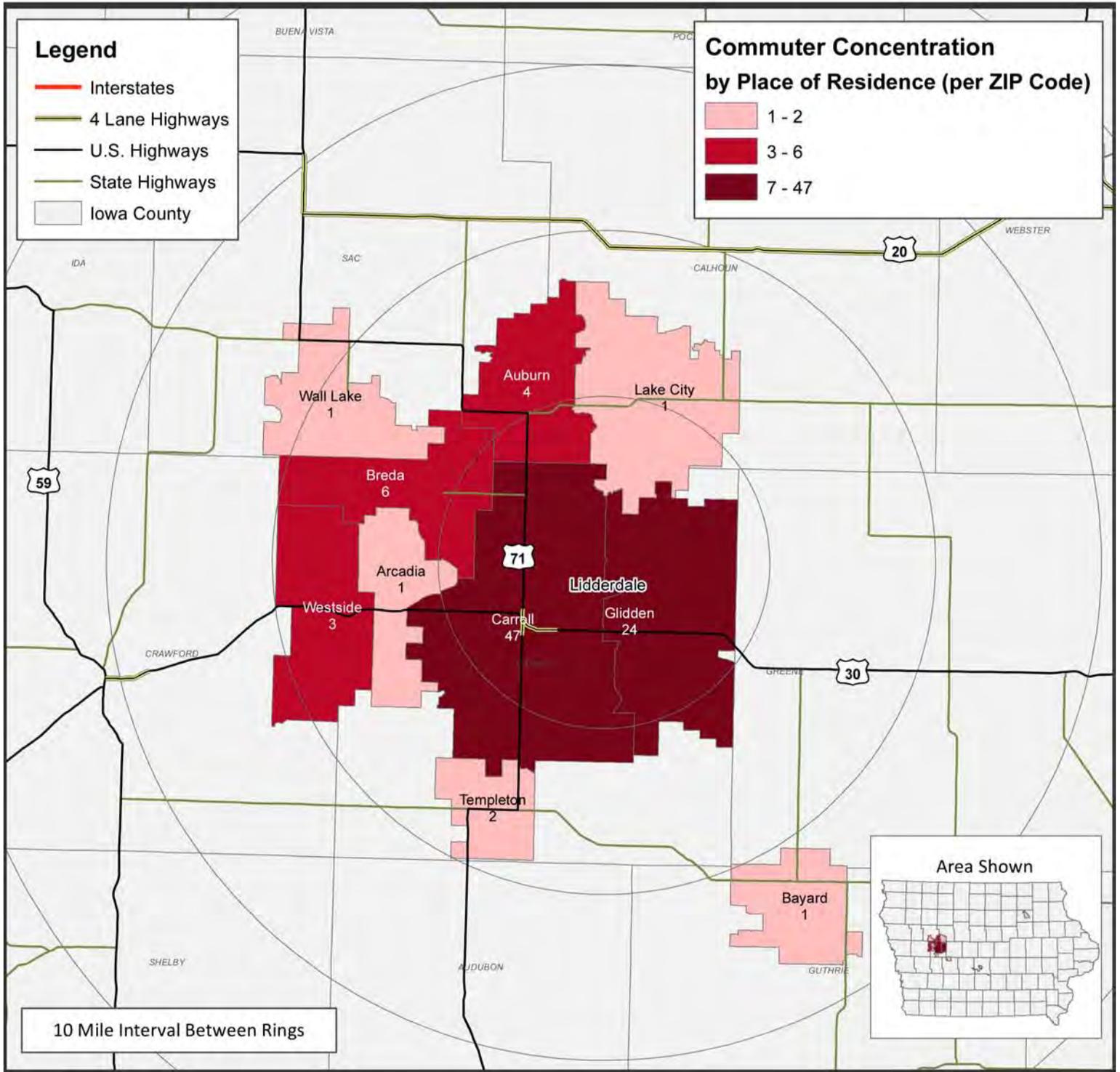


COMMUTER CONCENTRATION

INTO BREDA

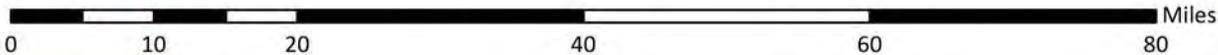
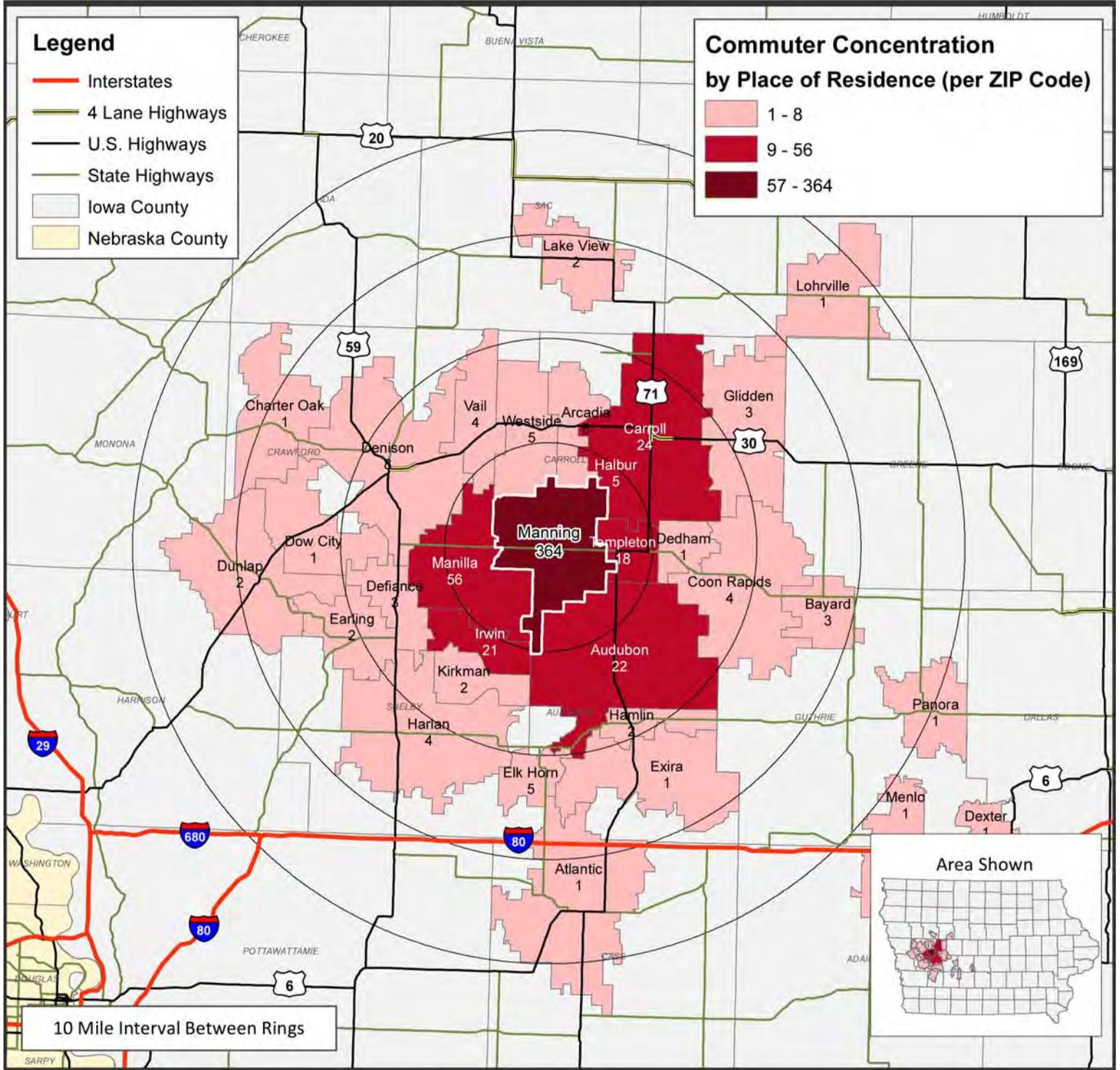


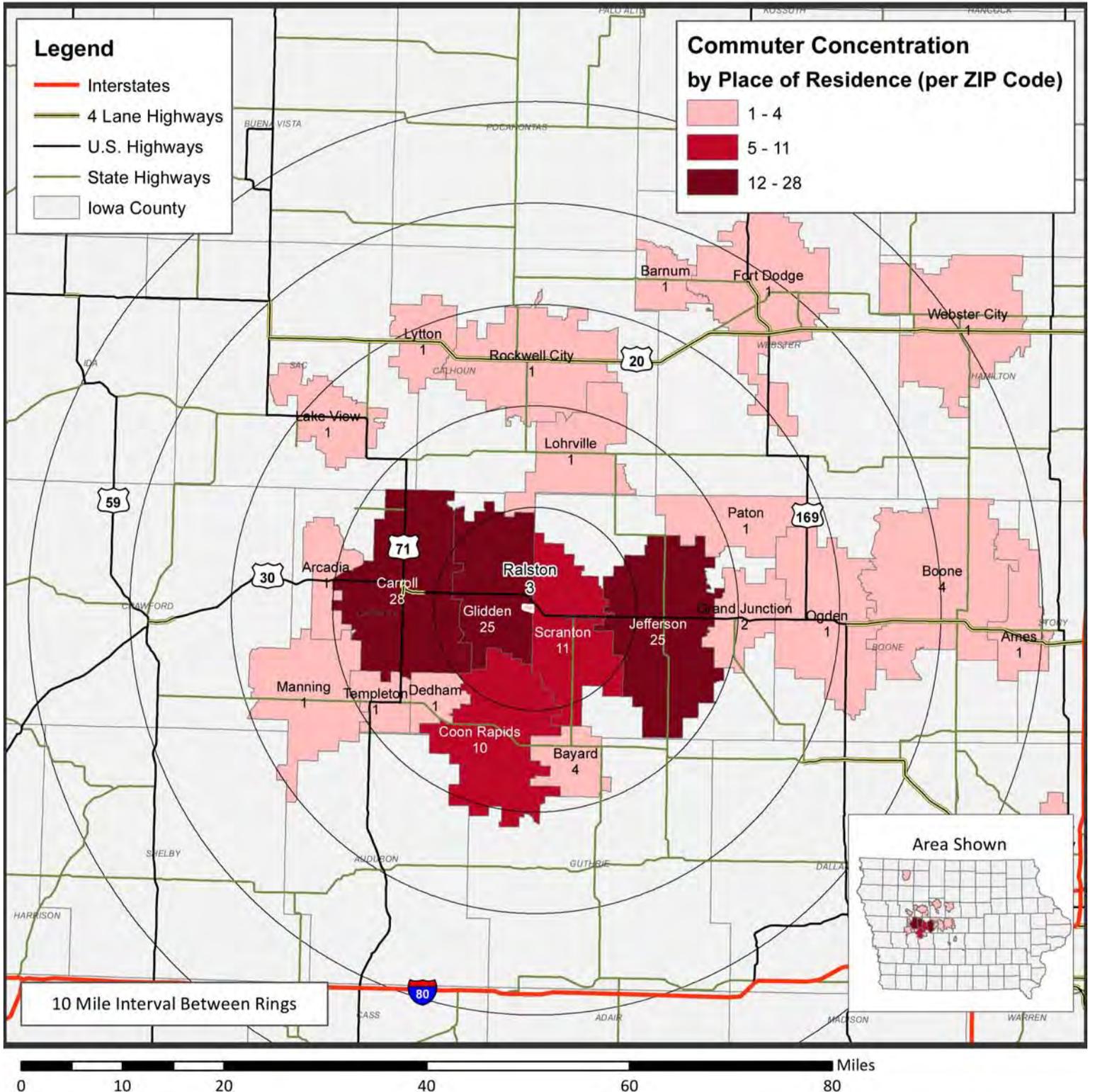
INTO LIDDERDALE



COMMUTER CONCENTRATION

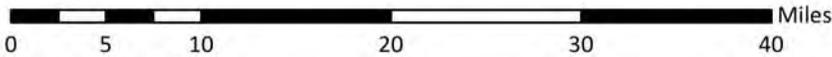
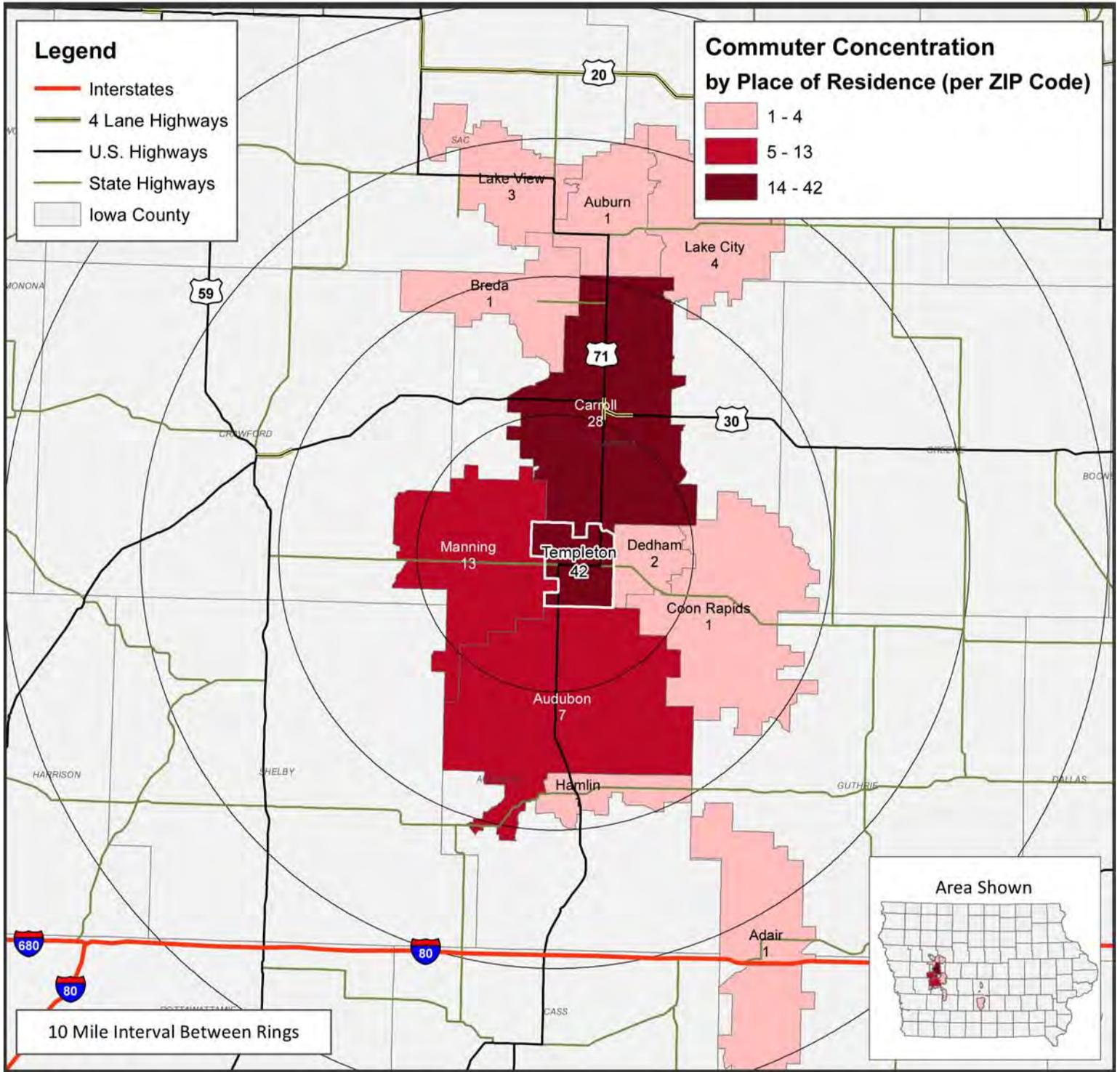
INTO MANNING





COMMUTER CONCENTRATION

INTO TEMPLETON



APPENDICES

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 Economic Development Authority (IEDA) 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, IWD would assume the responsibilities for conducting Laborshed studies for Iowa communities. Institute for Decision Making staff worked with members of IWD to train them in IDM’s Laborshed process and methodology. Beginning in July, 2001, IWD assumed all responsibilities for scheduling and conducting all future Laborshed projects in Iowa.

Finding highly skilled labor is the number-one driver for nearly every site-selection decision (*Area Development*, Q4/Fall 2013). Previously faced with historically low unemployment rates—and the incorrect assumption that economic growth cannot occur within the state because the communities in Iowa had reached full employment—local economic development officials throughout Iowa needed access to obtain timely and tailored data to help define their available labor force and its characteristics. In today’s economy, employers desire a higher skilled and/or educated worker. Often employers 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.

The discrepancy between the assumptions and the reality of these employment measures 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 estimated 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.

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 the labor force statistics for the nation, while state and sub-state data are computed through a cooperative agreement between the BLS and the state workforce agencies. The Bureau of Labor Statistics is responsible for the concepts, definitions, technical procedures, validation and publication of the estimates. **Appendix C** reviews the methodology currently in place.

In order to obtain current and accurate labor force information for the Laborshed area, IWD contracted vendor, SmartLead, to administer a random household telephone survey to individuals residing within the Laborshed boundaries during April 2016. The proportion of individuals who rely on cellphones for their telephone service continues to increase. Therefore, IWD requires that the sample of telephone numbers that the survey vendor uses to conduct the interviews include a percentage of cellphone numbers. This requirement serves as an attempt to improve the overall demographic composition of the sample (in terms of age, race/ethnicity, education and wealth). The content of the survey was designed by Institute for Decision Making (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 interval of +/- 5 percent of the 405 responses analyzed in this report. The filtering of variables to provide further analysis may decrease the representation of the entire population (405) which will, in turn, increase the confidence interval. For instance, only respondents that indicated they were employed will be asked questions related to their current employment, reducing the sample size.

To ensure that an even distribution of respondents is achieved, an equal number of calls are completed to three separate survey zones (see **Survey Zones by ZIP Code – Carroll County Laborshed area** map). The three zones created are classified as Zone 1) Carroll, Zone 2) ZIP codes adjacent or near Zone 1 that have a moderate number of residents working in Carroll or are within 20 miles of Carroll and Zone 3) the ZIP codes in outlying areas with a low concentration of residents working in Carroll. This distribution of surveys is an attempt to avoid a clustering of respondents in Carroll 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.

The level of commuters into Carroll for work is determined through an employer survey. IWD mailed a ZIP code reporting form to all employers in Carroll County with five or more employees. Employers were asked to provide counts of their employees by their residential ZIP code. This established a commuting pattern for each employment center and provided concentration levels of residents per ZIP code that travel into Carroll for work. A total of 422 employers in Carroll County were sent ZIP code reporting forms. IWD received replies from 233 of these employers for a response rate of 55.2%

For the household telephone survey, respondents are asked questions to determine their gender, age, education level, place of residence and current employment status. Employed respondents are also asked to identify the location of their employer, employer type, occupation, years of employment in their occupation, type of employment, 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, if they were actively seeking new 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 while working 35 or more hours per week.

Respondents in the 18-64 age range self-identifying as either unemployed, a homemaker or retired were asked a series of questions to determine what job characteristics and benefits were most important to 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 were 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.

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 of Methods*, Chapter 1, p. 5). The Bureau of Labor Statistics (BLS) defines employed persons in the following two ways:

1. Did any work at all as paid employees, for their own business or profession or on their own farm, or worked 15 hours or more as unpaid workers in a family-operated enterprise (*BLS Handbook of Methods*, 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, childcare 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 (*BLS Handbook of Methods*, Chapter 1, p. 5).

Each employed person is counted only once, even if he or she holds more than one job. Included in the total are employed citizens of foreign countries who are residing in the United States, but who are not living on the premises of an embassy. Excluded are persons whose only activity consisted of work around their own home (such as housework, painting, repairing, and so forth) or volunteer work for religious, charitable, and similar organizations (*BLS Handbook of Methods*, 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 of Methods*, Chapter 1, p. 5). The unemployed are grouped into four classifications: 1) *job losers*, (both temporarily and permanently laid off); 2) *job leavers*, quit/terminated and looking for work; 3) *reentrants* to the job market after an extended absence; and 4) *new entrants* that have never worked (*BLS Handbook of Methods*, 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 of Methods*, 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 Iowa Workforce Development.

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:

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

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 about 72,000 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 72,000 households, only about 60,000 are generally available for testing. The 60,000 households generate information on approximately 110,000 individuals (*BLS Handbook of Methods*, 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 of Methods*, 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 of Methods*, 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 0.2 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 of Methods*, 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 Current Population Survey (CPS) produces reliable national unemployment estimates; however due to the small sample size of the CPS survey, BLS applies a Time Series Model to increase reliability. The regression techniques used in the model are based on historical and current relationships found within each state's economy. The primary components of the state estimation models are the results from state residents' responses to the household survey (CPS), the current estimate of nonfarm jobs in the state via Current Employment Statistics (CES) and the number of individuals filing claims for Unemployment Insurance (UI). Iowa's Labor Market Area consists of nine metropolitan areas, 15 micropolitan areas and 62 small labor market areas. For further definition of counties included in micropolitan statistical areas, visit: <https://iwd-lmi.maps.arcgis.com/apps/webappviewer/index.html?id=d3b0f39e8bcb4300820372314c31b551> and for counties included in metropolitan statistical areas (MSA), visit: <https://iwd-lmi.maps.arcgis.com/apps/webappviewer/index.html?id=2b2c3d336ad941438d18685a780b5147>

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 CPS estimates caused by small sample size. The time series combines historical relationships in the monthly CPS estimates along with UI and CES data. Each State has two models designed for it that measure the employment to work ratio and the unemployment rate (*BLS Handbook of Methods*, 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 of Methods*, Chapter 4, p. 38).

The sub-state unemployment estimates are calculated by using the *BLS Handbook of Methods* 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 of Methods*, 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 of Methods*, Chapter 4, p. 39).

The 754 sample 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 of Methods*, 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

OCCUPATIONAL EMPLOYMENT STATISTICS (OES) CATEGORY STRUCTURE

MANAGERIAL/ADMINISTRATIVE OCCUPATIONS

- Administrative Services
- General Operations Managers
- Human Resources Occupations
- Training & Development Occupations

PROFESSIONAL, PARAPROFESSIONAL & TECHNICAL OCCUPATIONS

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

SALES OCCUPATIONS

- Market Research Analysts
- Purchasing Agents
- Sales Agents
- Sales Representatives
- Salespersons
- Wholesale & Retail Buyers

CLERICAL/ADMINISTRATIVE SUPPORT OCCUPATIONS

- Electronic Data Processing
- Office Clerks
- Office Support Workers
- Secretarial

SERVICE OCCUPATIONS

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

AGRICULTURAL OCCUPATIONS

- Agricultural Equipment Operators
- Agricultural Workers
- Farmers & Ranchers
- Farmworkers & Laborers

PRODUCTION, CONSTRUCTION, OPERATING, MAINTENANCE & MATERIAL HANDLING OCCUPATIONS

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

LABOR MARKET INFORMATION WEB RESOURCES

LABOR MARKET INFORMATION DIVISION:

Labor Market Information Division (IWD): *Iowa's premier source for labor market information.*

- <https://www.iowalmi.gov>

Laborshed Studies: *Current local, regional and statewide Laborshed executive summaries.*

- <https://www.iowaworkforcedevelopment.gov/laborshed-studies>

Workforce Needs Assessment: *Data regarding level of employment and job vacancies as reported by employers.*

- <https://www.iowaworkforcedevelopment.gov/iowa-workforce-needs-assessment>

Current Employment Statistics (CES): *Detailed industry data on employment, hours and earnings of nonfarm workers.*

- <https://www.iowaworkforcedevelopment.gov/current-employment-statistics> (Iowa)
- <http://www.bls.gov/ces/home.htm> (National)

Iowa Industry Projections: *Expected job growth and decline by industry, both long-term and short-term.*

- <https://www.iowaworkforcedevelopment.gov/industry-projections>

Iowa Licensed Occupations: *Occupations in Iowa that require license, certificate or commission issued at the state level.*

- <https://www.iowaworkforcedevelopment.gov/iowa-licensed-occupations>

Iowa Occupational Projections: *Expected job growth or decline by major occupational categories.*

- <https://www.iowaworkforcedevelopment.gov/occupational-projections>

Labor Force, Employment & Unemployment Summaries: *Current and historical data by city, county and statewide.*

- <https://www.iowaworkforcedevelopment.gov/local-area-unemployment-statistics>

Occupational Employment Statistics (OES) Wage Survey and Iowa Wage Survey: *Employment and wage estimates.*

- <https://www.iowaworkforcedevelopment.gov/occupational-employment-and-wages> (Iowa)
- <http://www.bls.gov/oes/home.htm> (National)

Quarterly Census of Employment and Wages (QCEW): *Data on industry employment, wages and number of establishments.*

- <https://www.iowaworkforcedevelopment.gov/quarterly-census-employment-and-wages> (Iowa)
- <http://www.bls.gov/cew/home.htm> (National)

ADDITIONAL INFORMATION:

IowaWORKS: *IWD's one-stop resource for Iowa businesses to find workforce information and solutions.*

- <https://www.iowaworkforcedevelopment.gov/iowaworks-centers>

Local Employment Dynamics (LED): *Data on employment and earnings by industry and for various demographic groups.*

- <http://lehd.did.census.gov>

O*NET On-line (Occupational Information Network): *An interactive application for exploring and searching occupations.*

- <http://www.onetonline.org>

OnTheMap: *An online interface for creating workforce related maps, demographic profiles and reports.*

- <http://onthemap.ces.census.gov>

Skilled Iowa: *An initiative aimed at certifying Iowa residents in foundational workplace skills by earning an NCRC credential.*

- <http://www.skillediowa.org>

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INDEX OF FIGURES

ESTIMATING TOTAL LABOR FORCE

Figure 1	Estimated Total Labor Force - Carroll County Laborshed Area	3
Figure 2	Concentration of Those within the Carroll County Laborshed Area Likely to Change/Accept Employment in Carroll	5

EMPLOYED

Figure 3	Employment Status of Survey Respondents (Estimated Total)	6
Figure 4	Type of Employment	6
Figure 5	Education Level	6
Figure 6	Educational Fields of Study	7
Figure 7	Where the Employed are Working (Estimated Total)	7
Figure 8	Estimated Workforce by Occupational Category	8
Figure 9	Occupational Categories by Gender	8
Figure 10	Percentage within Occupational Categories Across the Zones	8
Figure 11	Median Wages & Salaries by Industry	9
Figure 12	Median Wages & Salaries by Occupational Category	9
Figure 13	Current Benefits of the Full-Time Employed	10
Figure 14	Health/Medical Insurance Premium Coverage by Industry	10

EMPLOYED AND LIKELY TO CHANGE EMPLOYMENT

Figure 15	Primary Reasons for Changing Jobs	12
Figure 16	Reasons Not to Change Employment	12
Figure 17	Employed - Likely to Change Employment	13
Figure 18	Top Business-Types for Potential Start-Ups	13
Figure 19	Age Range Distribution	13
Figure 20	Estimated Totals by Zone & Gender	13
Figure 21	Education Level of Employed and Likely to Change	14
Figure 22	Education Level of Employed and Unlikely to Change	14
Figure 23	Educational Fields of Study	14
Figure 24	Estimated Workforce by Occupational Category	15
Figure 25	Occupational Categories by Gender	15
Figure 26	Occupational Categories Across the Zones	16
Figure 27	Desired Occupational Categories Within the Zones	16
Figure 28	Comparison of Current Wage Data	16
Figure 29	Wage Threshold by Occupational Category	17
Figure 30	Lowest Wages Considered by Gender	17
Figure 31	Benefits Desired by Respondents	18
Figure 32	Job Search Resources Used	19
Figure 33	Underemployed - Inadequate Hours Worked	20
Figure 34	Underemployed - Mismatch of Skills	21
Figure 35	Underemployed - Low Income	21
Figure 36	Underemployed - Estimated Total	21
Figure 37	Job Search Resources Used	22

NOT EMPLOYED

Figure 38	Unemployed - Likely to Accept Employment	23
Figure 39	Reasons for Being Unemployed	24
Figure 40	Desired Benefits of the Unemployed	25
Figure 41	Job Search Resources Used	25
Figure 42	Homemakers - Likely to Accept Employment	26
Figure 43	Retired (18-64) - Likely to Accept Employment	26

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