

November 13, 2013

TO: Temporary Co-Chairpersons Senator William Dotzler and Representative Mary Ann Hanusa and Members of the 2013 Iowa Skilled Worker and Job Creation Fund Study Committee

FROM: Jack Ewing, Legal Counsel, Legal Services Division, Legislative Services Agency

RE: Background Memorandum

I. INTRODUCTION

The purpose of this memorandum is to provide basic background information on the Iowa Skilled Worker and Job Creation Fund for use by committee members for the meeting to be held on Tuesday, November 19, 2013, in Room 116 of the State Capitol Building in Des Moines. The memorandum provides information on the establishment of the fund, the various workforce training programs receiving moneys therefrom, and Iowa's skilled worker shortage. References to the Iowa Code are to the 2014 Iowa Code.

II. IOWA SKILLED WORKER AND JOB CREATION FUND—ESTABLISHMENT

In 2013, the 85th General Assembly enacted House File 604, which established the Iowa Skilled Worker and Job Creation Fund in new Iowa Code section 8.75 as a separate fund in the state treasury.¹ The 85th General Assembly also enacted House File 638, which established a standing limited appropriation of \$66 million in wagering tax receipts from the Rebuild Iowa Infrastructure Fund to the Iowa Skilled Worker and Job Creation Fund.² House File 604 appropriates the \$66 million for FY 2013-2014 to the Department of Education (DE) and the community colleges, the College Student Aid Commission (CSAC), the Department of Human Services (DHS), the Economic Development Authority (EDA), the Department of Workforce Development (DWD), the Board of Regents (BOR), and Regents universities for programs relating to workforce training.³ House File 604 also provides for appropriations for the same programs for FY 2014-2015 at generally 50 percent of the amounts appropriated for the prior fiscal year.⁴ Programs receiving appropriations from the fund are detailed below.

III. COMMUNITY COLLEGES

¹ 2013 Iowa Acts, ch. 141, §31.

² 2013 Iowa Acts, ch. 142, §30.

³ 2013 Iowa Acts, ch. 141, §30.

⁴ 2013 Iowa Acts, ch. 141, §54.

A. Workforce Training and Economic Development Funds. House File 604 appropriates \$15.3 million to DE for deposit in the Workforce Training and Economic Development Funds for community colleges.⁵ House File 604 also transfers administration of the funds from EDA to DE and allocates \$100,000 from the appropriation to DE for that purpose.⁶ In 2003, a Workforce Training and Economic Development Fund was created for each community college to be used for workforce training projects.⁷ Moneys are allocated to the funds using the same distribution formula used for the allocation of state general aid to the community colleges.⁸ Seventy percent of the moneys in the funds are to be used on projects in the areas of advanced manufacturing; information technology and insurance; alternative and renewable energy; and life sciences which include the areas of biotechnology, health care technology, and nursing care technology.⁹ Eligible uses for moneys from the funds are Accelerated Career Education (ACE) projects; Iowa Jobs Training projects; career academies; programs and courses that provide vocational and technical training, and programs for in-service training and retraining; Pathways for Academic Career and Employment (PACE) Programs; Gap Tuition Assistance Programs; entrepreneurial education, small business assistance, and business incubators; and the National Career Readiness Certificate and the Skills Certification System.¹⁰ Community colleges must adopt a two-year workforce training and economic development fund plan outlining the community college's proposed use of the moneys, update the plan annually, prepare an annual progress report on the plan's implementation, and annually submit the plan and progress report to DE.¹¹

B. Adult Education and Literacy Programs. House File 604 provides for adult education and literacy programs in new Iowa Code section 260C.50.¹² House File 604 appropriates \$5.5 million to DE for distribution to community colleges for implementation of adult education and literacy programs.¹³ The moneys will be distributed using the same distribution formula used for allocation of state general aid to the community colleges. House File 604 allocates \$150,000 from the appropriation to DE for implementation of the programs.¹⁴ Adult education and literacy programs are defined as adult basic education, adult education leading to a high school equivalency diploma, English as a second language instruction, workplace and family literacy instruction, or integrated basic education and technical skills instruction. The programs will assist adults and youths 16 years of age and older who are not in school in obtaining the knowledge and skills necessary for further education, work, and community involvement. The department and the community colleges are directed to jointly implement such programs, while the state board, in consultation with the community colleges, prescribes standards for the programs.¹⁵

House File 604 allocates \$1.5 million from the appropriation to DE for distribution as grants to community colleges for adult basic education programs for students requiring instruction in English as a second language. Criteria for the grants are to be based on need for instruction in English as a second language in the region served by each community college as determined

⁵ 2013 Iowa Acts, ch. 141, §30.

⁶ 2013 Iowa Acts, ch. 141, §§30, 33, 35, 36, 38, 39.

⁷ 2003 Iowa Acts, 1st Ex, ch. 2, §76; Iowa Code §260C.18A; Iowa Admin. Code 261-9.

⁸ Iowa Code §260C.18A(3).

⁹ Iowa Code §260C.18A(2).

¹⁰ Iowa Code §260C.18A(2).

¹¹ Iowa Code §260C.18A(4).

¹² 2013 Iowa Acts, ch. 141, §40.

¹³ 2013 Iowa Acts, ch. 141, §30.

¹⁴ 2013 Iowa Acts, ch. 141, §30.

¹⁵ 2013 Iowa Acts, ch. 141, §40.

by factors including data from the latest federal decennial census and outreach efforts to determine regional needs.¹⁶

House File 604 also allocates \$210,000 from the appropriation for transfer to DHS for a pilot project, discussed in Part IV below.¹⁷

C. ACE Programs. House File 604 appropriates \$6 million to DE for vertical infrastructure capital projects at community colleges that are authorized under the ACE Program Act. As a condition of receiving such moneys, an entity must testify regarding the expenditure of the moneys upon the request of the Joint Appropriations Subcommittee on Economic Development.¹⁸ Enacted in 1999, the Act permits an employer, a community college, any employee of an employer who represents a program job, and, if a bargaining agreement is in place, a representative of the employee bargaining unit, to come together to develop an employee training program, known as an ACE Program.¹⁹ Tax credits are available to employers for participating in qualifying programs.²⁰ Any agreement entered into by a community college must specify the funding sources that will be used to pay for the program costs.²¹ The employer must agree to interview graduating participants in the program and provide future hiring preferences.²² The employer and community college must certify to EDA that the program job credits from withholding are in accordance with the program agreement and provide any other information required by EDA.²³ The authority administers the statewide allocation of program job credits from withholding and provides information about ACE Programs to the authority board and the General Assembly as part of its annual reporting requirements.²⁴

D. PACE Program. House File 604 appropriates \$5 million to DE for deposit in the PACE Fund for the PACE Program.²⁵ Enacted in 2011, the program provides funding to community colleges for the development of projects to implement a simplified, streamlined, and comprehensive process to enable participants in target populations to acquire effective academic and employment training to secure gainful, quality, in-state employment.²⁶ Target populations for the program are low-skilled persons, persons at or below 250 percent of the federal poverty level, unemployed persons, underemployed persons, and dislocated workers.²⁷ Projects are to be developed in coordination with EDA, DE, DWD, regional advisory boards, and community partners.²⁸ The PACE Fund is created in the state treasury to contain moneys appropriated for the PACE Program.²⁹ Grants from the fund are limited to \$5 million per fiscal year. The moneys are to be distributed to community colleges using the same formula used for allocation of state general aid to the community colleges.³⁰ A community college may use moneys for the program to employ pathway navigators to provide assistance to students

¹⁶ 2013 Iowa Acts, ch. 141, §30.

¹⁷ 2013 Iowa Acts, ch. 141, §30.

¹⁸ 2013 Iowa Acts, ch. 141, §30.

¹⁹ 1999 Iowa Acts, ch. 179; Iowa Code ch. 260G; Iowa Admin. Code 261-20, 283-19, 701-46.7.

²⁰ Iowa Code §§260G.4A, 260G.4B.

²¹ Iowa Code §260G.3(2), (3).

²² Iowa Code §260G.3(6).

²³ Iowa Code §260G.4A(3), (4).

²⁴ Iowa Code §260G.4C.

²⁵ 2013 Iowa Acts, ch. 141, §30.

²⁶ 2011 Iowa Acts, ch. 132, §§71-78; Iowa Code ch. 260H; Iowa Admin. Code 281-25.

²⁷ Iowa Code §260H.3.

²⁸ Iowa Code §260H.2.

²⁹ 2013 Iowa Acts, ch. 141, §42.

³⁰ 2013 Iowa Acts, ch. 141, §42.

applying for or enrolled in eligible PACE projects, and to provide staff and support for the development and implementation of regional industry sector partnerships within the region served by the community college.³¹

E. Gap Tuition Assistance Program. House File 604 appropriates \$2 million to DE for deposit in the Gap Tuition Assistance Fund for the Gap Tuition Assistance Program.³² Enacted in 2011, the program provides funding to community colleges for need-based tuition assistance to applicants to enable completion of continuing education certificate training programs for in-demand occupations.³³ The department and a steering committee provide oversight, evaluation, and reporting efforts for the program.³⁴ The costs of providing direct staff support services for a certificate program are eligible for coverage by tuition assistance under the program.³⁵

F. Statewide Work-Based Learning Intermediary Network Program. House File 604 appropriates \$1.5 million to DE for deposit in the Statewide Work-Based Learning Intermediary Network Fund for the Statewide Work-Based Learning Intermediary Network Program.³⁶ Enacted in 2005, the program prepares students for the workforce by connecting business and the education system and offering relevant, work-based learning activities to students and teachers.³⁷ The program establishes a statewide network of 15 regional work-based learning intermediary networks, which consist of the community college regions.³⁸ The statewide network is designed and implemented by a steering committee.³⁹ Each regional network must establish an advisory council to provide advice and assistance to the regional network.⁴⁰ The regional networks must match the moneys received from the fund in an amount equal to 25 percent of the amount received.⁴¹ House File 604 makes various changes to the program, including modifying the purposes of the program, the duties and structure of the regional advisory councils, and the formula for distributing moneys for regional networks; requiring regional networks to submit annual work-based learning plans to DE; requiring regional networks to submit annual reports to DE on their implementation of the program; and requiring DE to adopt rules for the administration of the program.⁴²

House File 604 allocates \$50,000 from the appropriation to DE for expenses associated with the activities of the Secondary Career and Technical Programming Task Force established by the Act.⁴³ The task force is to review and recommend changes to the state's secondary career and technical programs and submit an interim report by January 15, 2014, and a final report with its findings and recommendations by November 1, 2015, to the State Board of Education, the Governor, and the General Assembly.⁴⁴

³¹ 2013 Iowa Acts, ch. 141, §§46, 47.

³² 2013 Iowa Acts, ch. 141, §30.

³³ 2011 Iowa Acts, ch. 132, §§79-89; Iowa Code ch. 260I; Iowa Admin. Code 281-25;

<https://www.educateiowa.gov/adult-career-community-college/community-colleges/gap-tuition-assistance-program>
(last visited October 25, 2013).

³⁴ Iowa Code §260I.10.

³⁵ 2013 Iowa Acts, ch. 141, §49.

³⁶ 2013 Iowa Acts, ch. 141, §30.

³⁷ 2005 Iowa Acts, ch. 154, §1; Iowa Code §256.40.

³⁸ Iowa Code §256.40(4).

³⁹ Iowa Code §256.40(3).

⁴⁰ Iowa Code §256.40(5).

⁴¹ Iowa Code §256.40(9).

⁴² 2013 Iowa Acts, ch. 141, §34.

⁴³ 2013 Iowa Acts, ch. 141, §30.

⁴⁴ 2013 Iowa Acts, ch. 141, §52.

G. Skilled Workforce Shortage Tuition Grant Program (Kibbie Grants). House File 604 appropriates \$5 million to CSAC to provide Skilled Workforce Shortage Tuition Grants.⁴⁵ Enacted in 2012, the program provides grants to students who have financial need and who are enrolled in a career-technical or career option program to pursue an associate's degree or other training at a community college in an industry identified as having a shortage of skilled workers by the community college or DWD.⁴⁶ The commission must submit an annual report to the Governor and General Assembly on the number of students receiving grants and the industries for which they were admitted to a program.⁴⁷

IV. DEPARTMENT OF HUMAN SERVICES

International Resources Pilot Project. House File 604 allocates \$210,000 from the adult education and literacy programs appropriation to DE for transfer to DHS to administer a pilot project to provide access to international resources to lowans and new lowans to provide economic and leadership development resulting in Iowa being a more inclusive and welcoming place to live, work, and raise a family. The pilot project is to provide supplemental support services for international refugees to improve learning, literacy, cultural competencies, and assimilation in 10 locations within Polk County. The department is to utilize a request for proposals process to identify the entity best qualified to implement the pilot project.⁴⁸

V. ECONOMIC DEVELOPMENT AUTHORITY

A. Assistance Under the High Quality Jobs Program. House File 604 appropriates \$16.9 million to EDA for the purposes of providing assistance under the High Quality Jobs Program as described in Iowa Code section 15.335B. As a condition of receiving such moneys, an entity must testify regarding the expenditure of the moneys upon the request of the Joint Appropriations Subcommittee on Economic Development.⁴⁹ Enacted in 2012, Iowa Code section 15.335B provides for the following forms of assistance: project completion assistance to eligible businesses under the High Quality Jobs Program and program support of such assistance, economic development region financial assistance, financial assistance for business accelerators, depositing moneys in the Innovation and Commercialization Fund, financial assistance to businesses engaged in disaster recovery, and depositing moneys in the Entrepreneur Investment Awards Program Fund.⁵⁰

B. Main Street Iowa Program. House File 620 allocates \$1 million from the appropriation for the High Quality Jobs Program discussed in Division A above to EDA for purposes of providing infrastructure grants to mainstreet communities under the Main Street Iowa Program.⁵¹ As a condition of receiving such moneys, an entity must testify regarding the expenditure of the moneys upon the request of the Joint Appropriations Subcommittee on Economic Development.⁵² Enacted in 1985, the program provides training and technical assistance to communities to aid in revitalizing and preserving historic commercial districts using public and

⁴⁵ 2013 Iowa Acts, ch. 141, §30.

⁴⁶ 2012 Iowa Acts, ch. 1132, §20; Iowa Code §261.130; Iowa Admin. Code 283-23.1; <http://www.iowacollegeaid.gov/ScholarshipsGrants/kibbiegrant.html> (last visited October 25, 2013).

⁴⁷ Iowa Code §261.130(8)(d).

⁴⁸ 2013 Iowa Acts, ch. 141, §30.

⁴⁹ 2013 Iowa Acts, ch. 141, §30.

⁵⁰ 2012 Iowa Acts, ch. 1126, §13; Iowa Admin. Code 261-68.5.

⁵¹ 2013 Iowa Acts, ch. 126, §16.

⁵² 2013 Iowa Acts, ch. 141, §30.

private local resources.⁵³ Participating communities are required to submit performance reports to EDA.⁵⁴

VI. DEPARTMENT OF WORKFORCE DEVELOPMENT

Project Iowa. House File 604 appropriates \$100,000 to DWD to develop a long-term sustained program to train unemployed and underemployed central Iowans with skills necessary to advance to higher-paying jobs with full benefits.⁵⁵ This program, Project Iowa,⁵⁶ is intended to be coordinated by A Mid-Iowa Organizing Strategy (AMOS), a nonprofit community organization.⁵⁷ As a condition of receiving such moneys, an entity must testify regarding the expenditure of the moneys upon the request of the Joint Appropriations Subcommittee on Economic Development.⁵⁸

VII. BOARD OF REGENTS

House File 604 appropriates \$3 million to BOR for capacity-building infrastructure in areas related to technology commercialization, marketing and business development efforts in areas related to technology commercialization, entrepreneurship, and business growth, and infrastructure projects and programs needed to assist in the implementation of activities for the commercialization of research. The moneys are to be allocated 35 percent to Iowa State University (ISU), 35 percent to the University of Iowa (UI), and 30 percent to the University of Northern Iowa (UNI). The institutions are required to provide a one-to-one match of additional moneys. As a condition of receiving such moneys, an entity must testify regarding the expenditure of the moneys upon the request of the Joint Appropriations Subcommittee on Economic Development. The board is required to submit an annual report to the Governor, the General Assembly, and the Legislative Services Agency (LSA) regarding the activities, projects, and programs funded with such moneys. The report must include metrics and criteria that allow for quantifying and evaluating the progress of the institutions with regard to their activities, projects, and programs in the areas of technology commercialization, entrepreneurship, regional development, and market research.⁵⁹

VIII. IOWA STATE UNIVERSITY

House File 604 appropriates \$2.2 million and authorizes 56.63 FTE positions for ISU for small business development centers, the Science and Technology Research Park, and the Institute for Physical Research and Technology. The university must direct expenditures for research toward projects that will provide economic stimulus for Iowa and provide emphasis to providing services to Iowa-based companies. As a condition of receiving such moneys, an entity must testify regarding the expenditure of the moneys upon the request of the Joint Appropriations Subcommittee on Economic Development.⁶⁰

⁵³ 1985 Iowa Acts, ch. 33, §301; Iowa Admin. Code 261-39;

<http://www.iowaeconomicdevelopment.com/IDRC/MainStreetIowa> (last visited October 25, 2013).

⁵⁴ Iowa Admin. Code 261-39.9.

⁵⁵ 2013 Iowa Acts, ch. 141, §30.

⁵⁶ <http://www.projectiowa.org>; <http://blogs.desmoinesregister.com/dmr/index.php/2013/06/24/project-iowa-celebrates-200000-in-job-training-assistance-from-state/article> (last visited October 25, 2013).

⁵⁷ <http://amosiowa.org> (last visited October 25, 2013).

⁵⁸ 2013 Iowa Acts, ch. 141, §30.

⁵⁹ 2013 Iowa Acts, ch. 141, §30.

⁶⁰ 2013 Iowa Acts, ch. 141, §30; https://www.legis.iowa.gov/DOCS/LSA/Fiscal_Topics/2012/FTKCO003.PDF (last visited October 25, 2013).

House File 604 allocates \$736,000 from the appropriation to ISU to fund small business development centers.⁶¹

House File 604 provides legislative intent that the Industrial Incentive Program focus on Iowa industrial sectors and seek contributions and in-kind donations from businesses, industrial foundations, and trade associations, and that moneys for the Institute for Physical Research and Technology Industrial Incentive Program be allocated only for projects which are matched by private sector moneys for directed contract research or for nondirected research. The ratios of matching funds that must be sought are specified.⁶²

The university must report annually to the Joint Appropriations Subcommittee on Economic Development and the LSA the total amount of private contributions, the proportion of contributions from small businesses and other businesses, and the proportion for directed contract research and nondirected research of benefit to Iowa businesses and industrial sectors.⁶³

IX. UNIVERSITY OF IOWA

House File 604 appropriates \$209,000 and authorizes 6.00 FTE positions for UI for the University of Iowa Research Park and for the Advanced Drug Development Program at the Oakdale Research Park, including salaries, support, maintenance, equipment, and miscellaneous purposes. The university must direct expenditures for research toward projects that will provide economic stimulus for Iowa and provide emphasis to providing services to Iowa-based companies.⁶⁴

House File 604 appropriates \$2 million and authorizes 8.00 FTE positions for UI to implement the Entrepreneurship and Economic Growth Initiative.⁶⁵

As a condition of receiving such moneys, an entity must testify regarding the expenditure of the moneys upon the request of the Joint Appropriations Subcommittee on Economic Development.⁶⁶

X. UNIVERSITY OF NORTHERN IOWA

House File 604 appropriates \$1.1 million and authorizes 9.75 FTE positions for UNI for the Metal Casting Institute, the MyEntreNet Internet application, and the Institute of Decision Making, including salaries, support, maintenance, and miscellaneous purposes. The university must direct expenditures for research toward projects that will provide economic stimulus for Iowa and provide emphasis to providing services to Iowa-based companies. As a condition of receiving such moneys, an entity must testify regarding the expenditure of the moneys upon the request of the Joint Appropriations Subcommittee on Economic Development.⁶⁷

⁶¹ 2013 Iowa Acts, ch. 141, §30.

⁶² 2013 Iowa Acts, ch. 141, §30.

⁶³ 2013 Iowa Acts, ch. 141, §30.

⁶⁴ 2013 Iowa Acts, ch. 141, §30; https://www.legis.iowa.gov/DOCS/LSA/Fiscal_Topics/2012/FTKCO002.PDF (last visited October 25, 2013).

⁶⁵ 2013 Iowa Acts, ch. 141, §30.

⁶⁶ 2013 Iowa Acts, ch. 141, §30.

⁶⁷ 2013 Iowa Acts, ch. 141, §30; https://www.legis.iowa.gov/DOCS/LSA/Fiscal_Topics/2012/FTKCO001.PDF (last visited October 25, 2013).

House File 604 allocates \$618,000 from the appropriation to UNI for support of entrepreneurs through the university's Regional Business Center and Economic Gardening Program.⁶⁸

XI. BACKGROUND MATERIAL ON IOWA SKILLED WORKER AND JOB CREATION FUND AND IOWA'S SKILLED WORKER SHORTAGE

- House File 604 (Divisions III and IV).
http://coolice.legis.iowa.gov/linc/85/external/HF604_Enrolled.pdf (last visited October 25, 2013).
- Economic Development Authority FY 2012 Annual Report.
<http://iowaeconomicdevelopment.com/Reports/FY12Report> (last visited October 25, 2013).
- Regents Innovation Fund FY 2012 Annual Report.
https://www.legis.iowa.gov/APPS/AR/DOCS/Published/7970c411-71ba-4bc6-9c02-2d530579c0a3/GA_GIVFandInnovreport011413x.pdf (last visited October 25, 2013).
- Iowa Workforce Development Annual Workforce Needs Survey and Regional Surveys, 2013. <http://www.iowaworkforce.org/lmi/labsur/vacancy.htm> (last visited October 25, 2013).
- Iowa Workforce Development 2010-2020 Career, Industry, and Population Report, October 2012. <http://iwin.iwd.state.ia.us/pubs/statewide/statewidecip.pdf> (last visited October 25, 2013).
- Skilled Iowa Initiative Report on Middle-Skill Job Shortage, July 2013.
<http://www.iowaworkforce.org/skillediowa/MiddleSkills2013.pdf> (last visited October 25, 2013).
- Lumina Foundation Information on Higher Education Rates and Goals for Iowa.
<http://www.luminafoundation.org/state/iowa/>;
http://www.luminafoundation.org/publications/state_data/Policy_Brief-Iowa.pdf (last visited October 25, 2013).

3959IC

⁶⁸ 2013 Iowa Acts, ch. 141, §30.

..... \$ 1,882,568
..... FTEs 62.87

7. TUITION AND TRANSPORTATION COSTS

For payment to local school boards for the tuition and transportation costs of students residing in the Iowa braille and sight saving school and the state school for the deaf pursuant to section 262.43 and for payment of certain clothing, prescription, and transportation costs for students at these schools pursuant to section 270.5:

..... \$ 5,882

8. LICENSED CLASSROOM TEACHERS

For distribution at the Iowa braille and sight saving school and the Iowa school for the deaf based upon the average yearly enrollment at each school as determined by the state board of regents:

..... \$ 41,025

Sec. 28. ENERGY COST-SAVINGS PROJECTS — FINANCING. For the fiscal year beginning July 1, 2014, and ending June 30, 2015, the state board of regents may use notes, bonds, or other evidences of indebtedness issued under section 262.48 to finance projects that will result in energy cost savings in an amount that will cause the state board to recover the cost of the projects within an average of six years.

Sec. 29. PRESCRIPTION DRUG COSTS. Notwithstanding section 270.7, the department of administrative services shall pay the state school for the deaf and the Iowa braille and sight saving school the moneys collected from the counties during the fiscal year beginning July 1, 2014, for expenses relating to prescription drug costs for students attending the state school for the deaf and the Iowa braille and sight saving school.

DIVISION III

WORKFORCE TRAINING PROGRAMS — APPROPRIATIONS FY 2013-2014

Sec. 30. There is appropriated from the Iowa skilled worker and job creation fund created in section 8.75 to the following departments, agencies, and institutions for the fiscal year beginning July 1, 2013, and ending June 30, 2014, the following amount, or so much thereof as is necessary, to be used for the purposes designated:

1. DEPARTMENT OF EDUCATION

a. For deposit in the workforce training and economic development funds created pursuant to section 260C.18A:

..... \$ 15,300,000

From the moneys appropriated in this paragraph, not

more than \$100,000 shall be used by the department for administration of the workforce training and economic development funds created pursuant to section 260C.18A.

b. For distribution to community colleges for the purposes of implementing adult education and literacy programs pursuant to section 260C.50:

..... \$ 5,500,000

(1) From the moneys appropriated in this paragraph, \$3,883,000 shall be allocated pursuant to the formula established in section 260C.18C.

(2) From the moneys appropriated in this paragraph, not more than \$150,000 shall be used by the department for implementation of adult education and literacy programs pursuant to section 260C.50.

(3) From the moneys appropriated in this paragraph, not more than \$1,467,000 shall be distributed as grants to community colleges for the purpose of adult basic education programs for students requiring instruction in English as a second language. The department shall establish an application process and criteria to award grants pursuant to this subparagraph to community colleges. The criteria shall be based on need for instruction in English as a second language in the region served by each community college as determined by factors including data from the latest federal decennial census and outreach efforts to determine regional needs.

(4) From the moneys appropriated in this paragraph, \$210,000 shall be transferred to the department of human services for purposes of administering a pilot project to provide access to international resources to Iowans and new Iowans to provide economic and leadership development resulting in Iowa being a more inclusive and welcoming place to live, work, and raise a family. The pilot project shall provide supplemental support services for international refugees to improve learning, literacy, cultural competencies, and assimilation in 10 locations within a county with a population over 350,000 as determined by the 2010 federal decennial census. The department of human services shall utilize a request for proposals process to identify the entity best qualified to implement the pilot project. The request for proposals shall specify that a qualified entity must be utilizing more than 100 interpreters and translators fluent in over 50 languages and dialects to help medical clinics, government agencies, nonprofit organizations, businesses,

and individuals overcome language barriers so that limited English proficient individuals can receive essential services; working with the United States department of state, the United States agency for international development, and a family foundation center for international visitors that facilitates visits from international leaders to build personal and lasting connections between Iowans and professionals from around the world; partnering with business and industry, foundations, and accredited postsecondary educational institutions and other entities located in the state to offer monthly public forums by leading experts and engage youth in global leadership conferences; and leading the state in providing resources to immigrants and refugees through a multilingual guide to the state, a comprehensive resource website, and emergency interpretation services.

c. For accelerated career education program capital projects at community colleges that are authorized under chapter 260G and that meet the definition of the term "vertical infrastructure" in section 8.57, subsection 5, paragraph "c":
..... \$ 6,000,000

As a condition of receiving moneys appropriated under this paragraph, an entity shall testify upon the request of the joint appropriations subcommittee on economic development regarding the expenditure of such moneys.

d. For deposit in the pathways for academic career and employment fund established pursuant to section 260H.2, subsection 2:
..... \$ 5,000,000

e. For deposit in the gap tuition assistance fund established pursuant to section 260I.2, subsection 2:
..... \$ 2,000,000

f. For deposit in the statewide work-based learning intermediary network fund created pursuant to section 256.40, subsection 1:
..... \$ 1,500,000

From the moneys appropriated in this paragraph, not more than \$50,000 shall be used by the department for expenses associated with the activities of the secondary career and technical programming task force convened pursuant to this Act.

2. ECONOMIC DEVELOPMENT AUTHORITY

For the purposes of providing assistance under the high quality jobs program as described in section 15.335B:
..... \$ 16,900,000

As a condition of receiving moneys appropriated in this subsection, an entity shall testify upon the request of the joint appropriations subcommittee on economic development regarding the expenditure of such moneys.

3. REGENTS INSTITUTIONS

a. To the state board of regents for capacity building infrastructure in areas related to technology commercialization, marketing and business development efforts in areas related to technology commercialization, entrepreneurship, and business growth, and infrastructure projects and programs needed to assist in implementation of activities under chapter 262B:

..... \$ 3,000,000

Of the moneys appropriated pursuant to this paragraph, 35 percent shall be allocated for Iowa state university, 35 percent shall be allocated for the university of Iowa, and 30 percent shall be allocated for the university of northern Iowa.

(1) The institutions shall provide a one-to-one match of additional moneys for the activities funded with moneys appropriated under this paragraph.

(2) The state board of regents shall annually submit a report by January 15 of each year to the governor, the general assembly, and the legislative services agency regarding the activities, projects, and programs funded with moneys allocated under this paragraph. The report shall be provided in an electronic format and shall include a list of metrics and criteria mutually agreed to in advance by the board of regents and the economic development authority. The metrics and criteria shall allow the governor's office and the general assembly to quantify and evaluate the progress of the board of regents institutions with regard to their activities, projects, and programs in the areas of technology commercialization, entrepreneurship, regional development, and market research.

b. To Iowa state university of science and technology for small business development centers, the science and technology research park, and the institute for physical research and technology, and for not more than the following full-time equivalent positions:

..... \$ 2,424,302
..... FTEs 56.63

(1) Of the moneys appropriated in this paragraph, Iowa state university of science and technology shall allocate at least \$735,728 for purposes of funding small business development

centers. Iowa state university of science and technology may allocate moneys appropriated in this paragraph to the various small business development centers in any manner necessary to achieve the purposes of this paragraph.

(2) Iowa state university of science and technology shall do all of the following:

(a) Direct expenditures for research toward projects that will provide economic stimulus for Iowa.

(b) Provide emphasis to providing services to Iowa-based companies.

(3) It is the intent of the general assembly that the industrial incentive program focus on Iowa industrial sectors and seek contributions and in-kind donations from businesses, industrial foundations, and trade associations, and that moneys for the institute for physical research and technology industrial incentive program shall be allocated only for projects which are matched by private sector moneys for directed contract research or for nondirected research. The match required of small businesses as defined in section 15.102, subsection 10, for directed contract research or for nondirected research shall be \$1 for each \$3 of state funds. The match required for other businesses for directed contract research or for nondirected research shall be \$1 for each \$1 of state funds. The match required of industrial foundations or trade associations shall be \$1 for each \$1 of state funds.

Iowa state university of science and technology shall report annually to the joint appropriations subcommittee on economic development and the legislative services agency the total amount of private contributions, the proportion of contributions from small businesses and other businesses, and the proportion for directed contract research and nondirected research of benefit to Iowa businesses and industrial sectors.

c. To the state university of Iowa for the state university of Iowa research park and for the advanced drug development program at the Oakdale research park, including salaries, support, maintenance, equipment, miscellaneous purposes, and for not more than the following full-time equivalent positions:

.....	\$	209,279
.....	FTEs	6.00

The state university of Iowa shall do all of the following:

(1) Direct expenditures for research toward projects that will provide economic stimulus for Iowa.

(2) Provide emphasis to providing services to Iowa-based

companies.

d. To the state university of Iowa for the purpose of implementing the entrepreneurship and economic growth initiative, and for not more than the following full-time equivalent positions:

.....	\$	2,000,000
.....	FTEs	8.00

e. To the university of northern Iowa for the metal casting institute, the MyEntreNet internet application, and the institute of decision making, including salaries, support, maintenance, miscellaneous purposes, and for not more than the following full-time equivalent positions:

.....	\$	1,066,419
.....	FTEs	9.75

(1) Of the moneys appropriated pursuant to this paragraph, the university of northern Iowa shall allocate at least \$617,639 for purposes of support of entrepreneurs through the university's regional business center and economic gardening program.

(2) The university of northern Iowa shall do all of the following:

(a) Direct expenditures for research toward projects that will provide economic stimulus for Iowa.

(b) Provide emphasis to providing services to Iowa-based companies.

f. As a condition of receiving moneys appropriated in this subsection, an entity shall testify upon the request of the joint appropriations subcommittee on economic development regarding the expenditure of such moneys.

4. COLLEGE STUDENT AID COMMISSION

For purposes of providing skilled workforce shortage tuition grants in accordance with section 261.130:

.....	\$	5,000,000
-------	----	-----------

5. DEPARTMENT OF WORKFORCE DEVELOPMENT

To develop a long-term sustained program to train unemployed and underemployed central Iowans with skills necessary to advance to higher-paying jobs with full benefits:

.....	\$	100,000
-------	----	---------

As a condition of receiving moneys appropriated under this subsection, an entity shall testify upon the request of the joint appropriations subcommittee on economic development regarding the expenditure of such moneys.

6. Notwithstanding section 8.33, moneys appropriated

in this section of this Act that remain unencumbered or unobligated at the close of the fiscal year shall not revert but shall remain available for expenditure for the purposes designated until the close of the succeeding fiscal year.

Sec. 31. NEW SECTION. 8.75 Iowa skilled worker and job creation fund.

1. An Iowa skilled worker and job creation fund is created in the state treasury. The fund shall consist of appropriations made to the fund, moneys transferred to the fund, and moneys deposited in the fund as provided by law.

2. The Iowa skilled worker and job creation fund shall be separate from the general fund of the state and the balance in the Iowa skilled worker and job creation fund shall not be considered part of the balance of the general fund of the state. However, the Iowa skilled worker and job creation fund shall be considered a special account for the purposes of section 8.53, relating to generally accepted accounting principles. Moneys in the fund may be used for cash flow purposes during a fiscal year provided that any moneys so allocated are returned to the fund by the end of that fiscal year. Notwithstanding section 8.33, moneys in the fund at the end of each fiscal year shall not revert to any other fund but shall remain in the fund for expenditure in subsequent fiscal years.

Sec. 32. Section 15.343, subsection 2, paragraphs a and d, Code 2013, are amended by striking the paragraphs.

Sec. 33. Section 256.9, Code 2013, is amended by adding the following new subsection:

NEW SUBSECTION. 63. Administer the workforce training and economic development funds created pursuant to section 260C.18A.

Sec. 34. Section 256.40, Code 2013, is amended to read as follows:

256.40 Statewide work-based learning intermediary network — fund — steering committee — regional networks.

1. A statewide work-based learning intermediary network program is established in the department and shall be administered by the department. A separate, statewide work-based learning intermediary network fund is created in the state treasury under the control of the department. The fund shall consist of all moneys deposited in the fund, including any moneys appropriated by the general assembly and any other moneys available to and obtained or accepted by the department

from federal or private sources for purposes of the program. Notwithstanding section 8.33, moneys in the fund at the end of a fiscal year shall not revert to the general fund of the state. Notwithstanding section 12C.7, subsection 2, interest or earnings on moneys in the fund shall be credited to the fund.

2. The purpose of the program shall be to ~~build a seamless career, future workforce, and economic development system in Iowa to accomplish all of the following~~ prepare students for the workforce by connecting business and the education system and offering relevant, work-based learning activities to students and teachers. The program shall:

a. Better prepare students to make informed postsecondary education and career decisions.

b. Provide communication and coordination in order to build and sustain relationships between employers and local youth, the education system, and the community at large.

c. Connect students to local career opportunities, creating economic capital for the region using a skilled and available workforce.

~~d. Facilitate the sharing of best practices statewide by business and education leaders.~~

~~e. d.~~ Provide a one-stop contact point for information useful to both educators and employers, including ~~a state-level clearinghouse for~~ information on internships, job shadowing experiences, and other workplace learning opportunities for students that are linked to the state's economic goals students, particularly related to science, technology, engineering, or mathematics occupations, occupations related to critical infrastructure and commercial and residential construction, or targeted industries as defined in section 15.102.

~~f. Implement services for all students, staff, and districts within the region and integrate workplace skills into the curriculum.~~

e. Integrate services provided through the program with other career exploration-related activities such as the student core curriculum plan and the career information and decision-making system developed and administered under section 279.61, where appropriate.

f. Facilitate the attainment of portable credentials of value to employers such as the national career readiness certificate, where appropriate.

g. Develop work-based capacity with employers.

~~*h.* Improve the skills of Iowa's future workforce.~~

~~*i.*~~ *h.* Provide core services, which may include student job shadowing, student internships, and teacher or student tours.

3. The department shall establish and facilitate a steering committee comprised of representatives from the department of workforce development, the economic development authority, the community colleges, the institutions under the control of the state board of regents, accredited private institutions, area education agencies, school districts, and the workplace learning connection. The steering committee shall be responsible for the development and implementation of the statewide work-based learning intermediary network.

4. The steering committee shall develop a design for a statewide network comprised of fifteen regional work-based learning intermediary networks. The design shall include network specifications, strategic functions, and desired outcomes. The steering committee shall recommend program parameters and reporting requirements to the department.

5. Each regional network shall establish an advisory council to ~~develop and implement~~ provide advice and assistance to the regional network. The advisory council shall include representatives of business and industry, including construction trade industry professionals, and shall meet at least annually.

6. Each regional network or consortium of networks shall annually submit a work-based learning plan to the department. Each plan shall include provisions to provide core services referred to in subsection 2, paragraph "h", to all school districts within the region and for the integration of job shadowing and other work-based learning activities into secondary career and technical education programs.

~~6.~~ 7. a. Funds Moneys deposited in the statewide work-based learning intermediary network fund created in subsection 1 shall be distributed annually to each region for the implementation of the statewide work-based learning intermediary network ~~based upon the distribution of the kindergarten through grade twelve student enrollments in each region. The amount shall not exceed three dollars per student~~ upon approval by the department of the region's work-based learning plan submitted pursuant to subsection 6.

b. If the balance in the statewide work-based learning intermediary network fund on July 1 of a fiscal year is one

million five hundred thousand dollars or less, the department shall distribute moneys in the fund to regions or consortium of regions on a competitive basis. If the balance in the statewide work-based learning intermediary network fund on July 1 of a fiscal year is greater than one million five hundred thousand dollars, the department shall distribute one hundred thousand dollars to each region and distribute the remaining moneys pursuant to the formula established in section 260C.18C.

~~7.~~ 8. The department shall provide oversight of the statewide work-based learning intermediary network ~~and shall annually evaluate the statewide and regional network progress toward the outcomes identified by the steering committee pursuant to subsection 4.~~ The department shall require each region to submit an annual report on its ongoing implementation of the statewide work-based learning intermediary network program to the department.

~~8.~~ 9. Each regional network shall match the ~~funds~~ moneys received pursuant to subsection ~~6~~ 7 with financial resources equal to at least twenty-five percent of the amount of the ~~funds~~ moneys received pursuant to subsection ~~6~~ 7. The financial resources used to provide the match may include private donations, in-kind contributions, or public ~~funds~~ moneys other than the ~~funds~~ moneys received pursuant to subsection ~~6~~ 7.

10. The state board of education shall adopt rules under chapter 17A for the administration of this section.

Sec. 35. Section 260C.18A, subsection 1, paragraph b, Code 2013, is amended to read as follows:

b. Moneys in the funds shall consist of any moneys appropriated by the general assembly and any other moneys available to and obtained or accepted by the ~~economic development authority~~ department from federal sources or private sources for placement in the funds. Notwithstanding section 8.33, moneys in the funds at the end of each fiscal year shall not revert to any other fund but shall remain in the funds for expenditure in subsequent fiscal years.

Sec. 36. Section 260C.18A, subsection 2, paragraph c, Code 2013, is amended to read as follows:

c. For the development and implementation of career academies designed to provide new career preparation opportunities for high school students that are formally linked with postsecondary career and technical education programs. For purposes of this section, "career academy"

means a program of study that combines a minimum of two years of secondary education with an associate degree, or the equivalent, career preparatory program in a nonduplicative, sequential course of study that is standards based, integrates academic and technical instruction, utilizes work-based and worksite learning where appropriate and available, utilizes an individual career planning process with parent involvement, and leads to an associate degree or postsecondary diploma or certificate in a career field that prepares an individual for entry and advancement in a high-skill and reward career field and further education. ~~The economic development authority state board~~, in conjunction with the ~~state board of education and the~~ division of community colleges and workforce preparation of the department of education, shall adopt administrative rules for the development and implementation of such career academies pursuant to section 256.11, subsection 5, paragraph "h", section 260C.1, and Tit. II of Pub. L. No. 105-332, Carl D. Perkins Vocational and Technical Education Act of 1998.

Sec. 37. Section 260C.18A, subsection 2, paragraph e, Code 2013, is amended by striking the paragraph.

Sec. 38. Section 260C.18A, subsection 3, Code 2013, is amended to read as follows:

3. ~~The economic development authority~~ department shall allocate the moneys appropriated pursuant to this section to the community college workforce training and economic development funds utilizing the same distribution formula used for the allocation of state general aid to the community colleges.

Sec. 39. Section 260C.18A, subsection 4, paragraph d, Code 2013, is amended to read as follows:

d. Annually submit the two-year plan and progress report to the ~~economic development authority~~ department in a manner prescribed by rules adopted by the department pursuant to chapter 17A.

Sec. 40. NEW SECTION. 260C.50 **Adult education and literacy programs.**

1. For purposes of this section, "*adult education and literacy programs*" means adult basic education, adult education leading to a high school equivalency diploma under chapter 259A, English as a second language instruction, workplace and family literacy instruction, or integrated basic education and technical skills instruction.

2. The department and the community colleges shall jointly implement adult education and literacy programs to assist adults and youths sixteen years of age and older who are not in school in obtaining the knowledge and skills necessary for further education, work, and community involvement.

3. The state board, in consultation with the community colleges, shall prescribe standards for adult education and literacy programs including but not limited to contextualized and integrated instruction, assessments, instructor qualification and professional development, data collection and reporting, and performance benchmarks.

4. The state board, in consultation with the community colleges, shall adopt rules pursuant to chapter 17A to administer this section.

Sec. 41. Section 260F.6, subsection 2, Code 2013, is amended to read as follows:

2. To provide funds for the present payment of the costs of a training program by the business, the community college may provide to the business an advance of the moneys to be used to pay for the program costs as provided in the agreement. To receive the funds for this advance from the job training fund established in subsection 1, the community college shall submit an application to the economic development authority. The amount of the advance shall not exceed ~~twenty-five~~ fifty thousand dollars for any business site, or ~~fifty~~ one hundred thousand dollars within a three-fiscal-year period for any business site. If the project involves a consortium of businesses, the maximum award per project shall not exceed ~~fifty~~ one hundred thousand dollars. Participation in a consortium does not affect a business site's eligibility for individual project assistance. Prior to approval a business shall agree to match program amounts in accordance with criteria established by the authority.

Sec. 42. Section 260H.2, Code 2013, is amended to read as follows:

260H.2 Pathways for academic career and employment program — fund.

1. A pathways for academic career and employment program is established to provide funding to community colleges for the development of projects in coordination with the economic development authority, the department of education, the department of workforce development, regional advisory boards established pursuant to section 84A.4, and community partners

to implement a simplified, streamlined, and comprehensive process, along with customized support services, to enable eligible participants to acquire effective academic and employment training to secure gainful, quality, in-state employment.

2. a. A pathways for academic career and employment fund is created for the community colleges in the state treasury to be administered by the department of education. The moneys in the pathways for academic career and employment fund are appropriated to the department of education for the pathways for academic career and employment program.

b. The aggregate total of grants awarded from the pathways for academic career and employment fund during a fiscal year shall not be more than five million dollars.

c. Moneys in the fund shall be allocated pursuant to the formula established in section 260C.18C. Notwithstanding section 8.33, moneys in the fund at the close of the fiscal year shall not revert to the general fund of the state but shall remain available for expenditure for the purpose designated for subsequent fiscal years. Notwithstanding section 12C.7, subsection 2, interest or earnings on moneys in the fund shall be credited to the fund.

Sec. 43. Section 260H.3, subsection 1, paragraph b, Code 2013, is amended to read as follows:

b. Persons earning incomes at or below two hundred fifty percent of the federal poverty level as defined by the most recently revised poverty income guidelines published by the United States department of health and human services.

Sec. 44. Section 260H.4, subsection 2, paragraph b, Code 2013, is amended by adding the following new subparagraph:

NEW SUBPARAGRAPH. (5) Any other industry designated as in-demand by a regional advisory board established pursuant to section 84A.4.

Sec. 45. Section 260H.4, subsection 2, paragraph c, Code 2013, is amended by striking the paragraph.

Sec. 46. NEW SECTION. 260H.7A Pathway navigators.

1. A community college may use moneys for the pathways for academic career and employment program to employ pathway navigators to assist students applying for or enrolled in eligible pathways for academic career and employment projects.

2. Pathway navigators shall provide services and support to aid students in selecting pathways for academic career and employment projects that will result in gainful, quality,

in-state employment and to ensuring students are successful once enrolled in pathways for academic career and employment projects. Services the pathway navigators may provide include but are not limited to the following:

a. Interviewing and selecting students for enrollment in pathways for academic career and employment projects.

b. Assessing students' skills, interests, and previous academic and work experience for purposes of placement in pathways for academic career and employment projects.

c. Working with students to develop academic and career plans and to adjust such plans as needed.

d. Assisting students in applying for and receiving resources for financial aid and other forms of tuition assistance.

e. Assisting students with the admissions process, remedial education, academic credit transfer, meeting assessment requirements, course registration, and other procedures necessary for successful completion of pathways for academic career and employment projects.

f. Assisting in identifying and resolving obstacles to students' successful completion of pathways for academic career and employment projects.

g. Connecting students with useful college resources or outside support services such as access to child care, transportation, and tutorial assistance, as needed.

h. Maintaining ongoing contact with students enrolled in pathways for academic career and employment projects and ensuring students are making satisfactory progress toward the successful completion of projects.

i. Providing support to students transitioning from remedial education, short-term training, and classroom experience to employment.

j. Coordinating activities with community-based organizations that serve as key recruiters for pathways for academic career and employment projects and assisting students throughout the recruitment process.

k. Coordinating adult basic education services.

Sec. 47. NEW SECTION. 260H.7B Regional industry sector partnerships.

1. A community college may use moneys for the pathways for academic career and employment program to provide staff and support for the development and implementation of regional industry sector partnerships within the region served by the

community college.

2. Regional, industry sector partnerships may include but are not limited to the following activities:

a. Bringing together representatives from industry sectors, government, education, local workforce boards, community-based organizations, labor, economic development organizations, and other stakeholders within the regional labor market to determine how pathways for academic career and employment projects should address workforce skills gaps, occupational shortages, and wage gaps.

b. Integrating pathways for academic career and employment projects and other existing supply-side strategies with workforce needs within the region served by the community college.

c. Developing pathways for academic career and employment projects that focus on the workforce skills, from entry level to advanced, required by industry sectors within the region served by the community college.

d. Structuring pathways so that instruction and learning of workforce skills are aligned with industry-recognized standards where such standards exist.

Sec. 48. Section 260I.4, subsection 6, Code 2013, is amended to read as follows:

6. Eligibility for tuition assistance under this chapter shall be limited to persons earning incomes at or below two hundred fifty percent of the federal poverty level as defined by the most recently revised poverty income guidelines published by the United States department of health and human services.

Sec. 49. Section 260I.5, Code 2013, is amended by adding the following new subsection:

NEW SUBSECTION. 5. Costs of providing direct staff support services including but not limited to marketing, outreach, application, interview, and assessment processes. Eligible costs for this purpose shall be limited to twenty percent of any allocation of moneys to the two smallest community colleges, ten percent of any allocation of moneys to the two largest community colleges, and fifteen percent of any allocation of moneys to the remaining eleven community colleges. Community college size shall be determined based on the most recent three-year rolling average full-time equivalent enrollment.

Sec. 50. Section 423F.3, subsection 3, Code 2013, is amended

by adding the following new paragraph:

NEW PARAGRAPH. *0c.* The board of directors may use funds received under the operation of this chapter for a joint infrastructure project with one or more school districts or one or more school districts and a community college established under chapter 260C, for which buildings or facilities are constructed or leased for the purpose of offering classes under a district-to-community college sharing agreement or concurrent enrollment program that meets the requirements for funding under section 257.11, subsection 3. If the board intends to use funds received under the operation of this chapter for such a joint infrastructure project, the board shall adopt a revenue purpose statement or amend an existing revenue purpose statement, subject to approval of the electors, stating the proposed use of the funds.

Sec. 51. Section 423F.3, subsection 3, paragraph c, Code 2013, is amended to read as follows:

c. The board secretary shall notify the county commissioner of elections of the intent to take ~~the~~ an issue to the voters pursuant to paragraph "b" or "0c". The county commissioner of elections shall publish the notices required by law for special or general elections, and the election shall be held on a date specified in section 39.2, subsection 4, paragraph "c". A majority of those voting on the question must favor approval of the revenue purpose statement. If the proposal is not approved, the school district shall not submit the same or new revenue purpose statement to the electors for a period of six months from the date of the previous election.

Sec. 52. SECONDARY CAREER AND TECHNICAL PROGRAMMING TASK FORCE.

1. The director of the department of education, or the director's designee, shall convene a task force that includes secondary and postsecondary education stakeholders, including representatives from business, industry, construction trade industry professionals, and labor, to review current secondary career and technical programming offered by community colleges and make recommendations for programming that reduces skill shortages, enhances the state's economic growth, and ensures that all students statewide have access to high quality globally competitive career and technical education programs.

2. The task force shall review appropriate provisions of the Iowa Code, including but not limited to Code chapter 258, relating to vocational education, and section 256.11,

subsection 5, paragraph "h", relating to vocational service area requirements in the core curriculum standards for grades nine through 12, and related provisions of the Iowa administrative code. The task force shall consider measures to ensure rigorous standards, consistency in program quality statewide, alignment with postsecondary programs leading to middle-skill occupations with family-sustaining wages, curricula that align workforce skills with industry-recognized standards where such standards exist, responsiveness to labor market needs, robust business and industry participation, including participation on advisory committees, and efficient statewide delivery of programming. The task force shall also review the definition of "career academy" for purposes of Code sections 260C.18A and 261E.10, and review and recommend core components of career academies and regional centers.

3. The task force shall recommend specific changes in policy or statute to ensure that all students statewide have access to high-quality, globally competitive career and technical education programs. The task force shall submit an interim progress report by January 15, 2014, and a final report with its findings and recommendations by November 1, 2015, to the state board of education, the governor, and the general assembly.

Sec. 53. BOARD OF REGENTS REPORT. By January 15, 2014, the state board of regents shall submit a report on the progress of regents institutions in meeting the strategic plan for technology transfer and economic development to the secretary of the senate, the chief clerk of the house of representatives, and the legislative services agency.

DIVISION IV

WORKFORCE TRAINING PROGRAMS — APPROPRIATIONS FY 2014-2015

Sec. 54. There is appropriated from the Iowa skilled worker and job creation fund created in section 8.75 to the following departments, agencies, and institutions for the fiscal year beginning July 1, 2014, and ending June 30, 2015, the following amount, or so much thereof as is necessary, to be used for the purposes designated:

1. DEPARTMENT OF EDUCATION

a. For deposit in the workforce training and economic development funds created pursuant to section 260C.18A:

..... \$ 7,650,000

From the moneys appropriated in this paragraph, not more than \$50,000 shall be used by the department for administration

of the workforce training and economic development funds created pursuant to section 260C.18A.

b. For distribution to community colleges for the purposes of implementing adult education and literacy programs pursuant to section 260C.50:

..... \$ 2,750,000

(1) From the moneys appropriated in this paragraph, \$1,941,500 shall be allocated pursuant to the formula established in section 260C.18C.

(2) From the moneys appropriated in this paragraph, not more than \$75,000 shall be used by the department for implementation of adult education and literacy programs pursuant to section 260C.50.

(3) From the moneys appropriated in this paragraph, not more than \$733,500 shall be distributed as grants to community colleges for the purpose of adult basic education programs for students requiring instruction in English as a second language. The department shall establish an application process and criteria to award grants pursuant to this subparagraph to community colleges. The criteria shall be based on need for instruction in English as a second language in the region served by each community college as determined by factors including data from the latest federal decennial census and outreach efforts to determine regional needs.

(4) From the moneys appropriated in this paragraph, \$105,000 shall be transferred to the department of human services for purposes of administering a pilot project to provide access to international resources to Iowans and new Iowans to provide economic and leadership development resulting in Iowa being a more inclusive and welcoming place to live, work, and raise a family. The pilot project shall provide supplemental support services for international refugees to improve learning, literacy, cultural competencies, and assimilation in 10 locations within a county with a population over 350,000 as determined by the 2010 federal decennial census. The department of human services shall utilize a request for proposals process to identify the entity best qualified to implement the pilot project. The request for proposals shall specify that a qualified entity must be utilizing more than 100 interpreters and translators fluent in over 50 languages and dialects to help medical clinics, government agencies, nonprofit organizations, businesses, and individuals overcome language barriers so that limited

English proficient individuals can receive essential services; working with the United States department of state, the United States agency for international development, and a family foundation center for international visitors that facilitates visits from international leaders to build personal and lasting connections between Iowans and professionals from around the world; partnering with business and industry, foundations, and accredited postsecondary educational institutions and other entities located in the state to offer monthly public forums by leading experts and engage youth in global leadership conferences; and leading the state in providing resources to immigrants and refugees through a multilingual guide to the state, a comprehensive resource website, and emergency interpretation services.

c. For accelerated career education program capital projects at community colleges that are authorized under chapter 260G and that meet the definition of the term "vertical infrastructure" in section 8.57, subsection 5, paragraph "c":
..... \$ 3,000,000

As a condition of receiving moneys appropriated under this paragraph, an entity shall testify upon the request of the joint appropriations subcommittee on economic development regarding the expenditure of such moneys.

d. For deposit in the pathways for academic career and employment fund established pursuant to section 260H.2, subsection 2:
..... \$ 2,500,000

e. For deposit in the gap tuition assistance fund established pursuant to section 260I.2, subsection 2:
..... \$ 1,000,000

f. For deposit in the statewide work-based learning intermediary network fund created pursuant to section 256.40, subsection 1:
..... \$ 750,000

From the moneys appropriated in this paragraph, not more than \$25,000 shall be used by the department for expenses associated with the activities of the secondary career and technical programming task force convened pursuant to this Act.

2. ECONOMIC DEVELOPMENT AUTHORITY

For the purposes of providing assistance under the high quality jobs program as described in section 15.335B:
..... \$ 8,450,000
As a condition of receiving moneys appropriated in this

subsection, an entity shall testify upon the request of the joint appropriations subcommittee on economic development regarding the expenditure of such moneys.

3. REGENTS INSTITUTIONS

a. To the state board of regents for capacity building infrastructure in areas related to technology commercialization, marketing and business development efforts in areas related to technology commercialization, entrepreneurship, and business growth, and infrastructure projects and programs needed to assist in implementation of activities under chapter 262B:

..... \$ 1,500,000

Of the moneys appropriated pursuant to this paragraph, 35 percent shall be allocated for Iowa state university, 35 percent shall be allocated for the university of Iowa, and 30 percent shall be allocated for the university of northern Iowa.

(1) The institutions shall provide a one-to-one match of additional moneys for the activities funded with moneys appropriated under this paragraph.

(2) The state board of regents shall annually submit a report by January 15 of each year to the governor, the general assembly, and the legislative services agency regarding the activities, projects, and programs funded with moneys allocated under this paragraph. The report shall be provided in an electronic format and shall include a list of metrics and criteria mutually agreed to in advance by the board of regents and the economic development authority. The metrics and criteria shall allow the governor's office and the general assembly to quantify and evaluate the progress of the board of regents institutions with regard to their activities, projects, and programs in the areas of technology commercialization, entrepreneurship, regional development, and market research.

b. To Iowa state university of science and technology for small business development centers, the science and technology research park, and the institute for physical research and technology, and for not more than the following full-time equivalent positions:

..... \$ 1,212,151
..... FTEs 56.63

(1) Of the moneys appropriated in this paragraph, Iowa state university of science and technology shall allocate at least \$367,864 for purposes of funding small business development centers. Iowa state university of science and technology may

allocate moneys appropriated in this paragraph to the various small business development centers in any manner necessary to achieve the purposes of this paragraph.

(2) Iowa state university of science and technology shall do all of the following:

(a) Direct expenditures for research toward projects that will provide economic stimulus for Iowa.

(b) Provide emphasis to providing services to Iowa-based companies.

(3) It is the intent of the general assembly that the industrial incentive program focus on Iowa industrial sectors and seek contributions and in-kind donations from businesses, industrial foundations, and trade associations, and that moneys for the institute for physical research and technology industrial incentive program shall be allocated only for projects which are matched by private sector moneys for directed contract research or for nondirected research. The match required of small businesses as defined in section 15.102, subsection 10, for directed contract research or for nondirected research shall be \$1 for each \$3 of state funds. The match required for other businesses for directed contract research or for nondirected research shall be \$1 for each \$1 of state funds. The match required of industrial foundations or trade associations shall be \$1 for each \$1 of state funds.

Iowa state university of science and technology shall report annually to the joint appropriations subcommittee on economic development and the legislative services agency the total amount of private contributions, the proportion of contributions from small businesses and other businesses, and the proportion for directed contract research and nondirected research of benefit to Iowa businesses and industrial sectors.

c. To the state university of Iowa for the state university of Iowa research park and for the advanced drug development program at the Oakdale research park, including salaries, support, maintenance, equipment, miscellaneous purposes, and for not more than the following full-time equivalent positions:

.....	\$	104,640
.....	FTEs	6.00

The state university of Iowa shall do all of the following:

(1) Direct expenditures for research toward projects that will provide economic stimulus for Iowa.

(2) Provide emphasis to providing services to Iowa-based companies.

d. To the state university of Iowa for the purpose of implementing the entrepreneurship and economic growth initiative, and for not more than the following full-time equivalent positions:

..... \$ 1,000,000
..... FTEs 8.00

e. To the university of northern Iowa for the metal casting institute, the MyEntreNet internet application, and the institute of decision making, including salaries, support, maintenance, miscellaneous purposes, and for not more than the following full-time equivalent positions:

..... \$ 533,209
..... FTEs 9.75

(1) Of the moneys appropriated pursuant to this paragraph, the university of northern Iowa shall allocate at least \$308,819 for purposes of support of entrepreneurs through the university's regional business center and economic gardening program.

(2) The university of northern Iowa shall do all of the following:

(a) Direct expenditures for research toward projects that will provide economic stimulus for Iowa.

(b) Provide emphasis to providing services to Iowa-based companies.

f. As a condition of receiving moneys appropriated in this subsection, an entity shall testify upon the request of the joint appropriations subcommittee on economic development regarding the expenditure of such moneys.

4. COLLEGE STUDENT AID COMMISSION

For purposes of providing skilled workforce shortage tuition grants in accordance with section 261.130:

..... \$ 2,500,000

5. DEPARTMENT OF WORKFORCE DEVELOPMENT

To develop a long-term sustained program to train unemployed and underemployed central Iowans with skills necessary to advance to higher-paying jobs with full benefits:

..... \$ 50,000

As a condition of receiving moneys appropriated under this subsection, an entity shall testify upon the request of the joint appropriations subcommittee on economic development regarding the expenditure of such moneys.

6. Notwithstanding section 8.33, moneys appropriated in this section of this Act that remain unencumbered or

unobligated at the close of the fiscal year shall not revert but shall remain available for expenditure for the purposes designated until the close of the succeeding fiscal year.

KRAIG PAULSEN
Speaker of the House

PAM JOCHUM
President of the Senate

I hereby certify that this bill originated in the House and is known as House File 604, Eighty-fifth General Assembly.

CARMINE BOAL
Chief Clerk of the House

Approved _____, 2013

TERRY E. BRANSTAD
Governor

[Agencies](#)[Online Services](#)[IEDA](#)[Advanced Search](#)

- [Share](#)
- [Add to Favorites](#)
- [Go to Profile](#)
- [Log In](#)
- [Media Center](#)
- [About Us](#)

- [LinkedIn](#)
- [Twitter](#)
- [YouTube](#)
- [Email](#)
- [RSS](#)
- [Facebook](#)

- [Why Iowa...](#)
- [I want to...](#)
- [Industries](#)
- [Programs](#)
- [Resources](#)

Fiscal Year 2012 Annual Report

The Iowa Economic Development Authority (IEDA) was created in 2011 to replace the Iowa Department of Economic Development as part of the complete overhaul of Iowa's economic development delivery model.

Our mission is to strengthen economic and community vitality by building partnerships and leveraging resources to make Iowa the choice for people and business. Through our two main divisions – business development and community development – IEDA administers several state and federal programs to meet its goals of assisting individuals, communities and businesses.

Overall Results

Iowa's economy is strong – in fact, over the past five years, our state's GDP growth rate has been 11.1% -- the 14th largest in the nation. Our robust state economy, coupled with the national recovery, has put Iowa in a great position to attract new companies and existing industry expansions to the state.

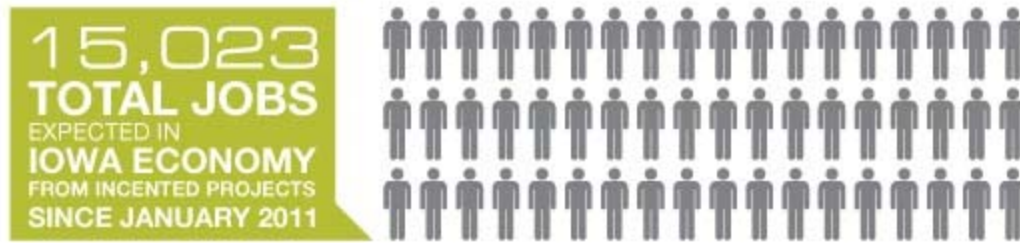
BREAKDOWN OF DIRECT ASSISTANCE AND TAX CREDITS



Since January 2011, the Iowa Economic Development Authority has assisted 143 projects using the programs and funds authorized by the Iowa Legislature. From January 2011 through January 2013, the IEDA board had awarded direct financial assistance in the amount of \$32.3 million and tax credits equaling \$157.1 million. These incentives will bring projects to Iowa that are expected to result in 15,023 (direct, indirect and induced) jobs and \$5.5 billion in capital investment for Iowa's economy. These awards help companies of all sizes locating in communities around our state in the most rural counties to Iowa's largest cities.

TOTAL CAPITAL INVESTMENT FROM INCENTED PROJECTS

\$5,458,168,664



Financial Assistance Awards made July 2003 through June 2012

Each year, IEDA's contract compliance team compiles a report of the status of each business project awarded or under contract. The FY12 annual report measures status and progress of projects awarded since 2003 and tracked by the compliance team. Projects are categorized according to their status. Below is an explanation for each one and the accompanying spreadsheet listing details for each project.

Projects Awarded but not Reporting

Projects in this category can include those projects that have received an award by the IEDA board but at the time of the report were still in contract negotiations or were too new to be required to submit a report. These would encompass the most recent awards made prior to the annual report date cut-off of June 30, 2012.

[Projects Awarded Not Reporting - Too New](#)

Projects not Proceeding

This category encompasses projects that were awarded incentives but have selected not to move forward in receiving funding. This doesn't necessarily mean that the project won't take place. Projects in this category include those whose awards were declined, rescinded or terminated.

[Projects Not Proceeding - Contract Terminated](#)

[Projects Not Proceeding - Declined/Rescinded](#)

Projects under Contract

This category encompasses the projects that have been awarded incentives through IEDA programs, have signed contracts with the state and are in either the "performance" period or "maintenance" period. In most cases, projects are required to have met job, wage and capital investment obligations by their "Project Completion Date". Beyond the completion date, projects are required to maintain the obligated jobs and investment through the "Maintenance Date".

[Projects Under Contract - Performance Period](#)

[Projects Under Contract - Maintenance Period](#)

Projects in Default

Projects in this category were considered “in default” at the time of the annual report. The status of “in default” is a temporary one since businesses are allowed a contractually designated cure period to correct the default. Reasons for being considered “in default” range from not filing required reports to not creating the obligated jobs or investment required by the contract.

[Projects in Default](#)

Closed Projects

Projects in this category are considered “completed” by IEDA’s compliance team at the time of the annual report. Each has been evaluated to determine if the project met all the terms of the contract. If so, projects are categorized as successful and are under no additional obligation to report information to IEDA regarding the project. If a project was unable to meet all terms required in the contract, the IEDA compliance team determined the award “recapture” – consisting of paying back all or a portion of the direct assistance provided by the state or returning (or not claiming) some or all tax credits that had been awarded. These projects would be categorized as either “full recapture” or “partial recapture” of the award.

[Closed Projects - Successful](#)

[Closed Projects - Full Recapture](#)

[Closed Projects - Partial Recapture](#)

Considerations

- *Various business assistance programs have been in effect during the time period covered in this report. A listing of the abbreviations used and their accompanying program name can be found in the resources below, as well as definitions of column headings used in the spreadsheets.*
- *Program requirements have changed over the time period covered as well, either due to legislative or administrative rule changes or internal contracting and policy modifications. For example, some programs when originally created did not have job requirements, but later were changed to include job obligations.*
- *This report is created annually in an effort to aggregate and summarize the business projects receiving incentives through IEDA programs. In reality, each project is unique with its own story, and is treated accordingly. A comprehensive file is maintained for each project and a detailed review is completed for each as part of the compliance process.*

IEDA is proud of the part we play in working to grow Iowa’s economy. We welcome the opportunity to discuss this report in its entirety, or by individual projects.

Resources



[Annual Report Column Heading Definitions](#)

Annual report column heading and definition

[Boards & Commissions](#)

[Brag Wall](#)

[Events Calendar](#)

[News](#)

[Reports](#)

[2012 Annual Report](#)

[50 States Comparison](#)

NEWS [View All](#)

[IEDA's State Energy Office Awarded \\$1.03 million federal award to promote solar adoption in Iowa](#)

[Cover of next Iowa Travel Guide to be determined by Facebook fans](#)

[Branstad and Reynolds to Present Iowa Nonprofit Summit Awards](#)

[Five Award Recipients to be...](#)

EVENTS [View All](#)

Nov

13

[Vision Iowa Board Meeting](#)

Nov

21

[Technology & Commercialization Committee](#)

Nov

21

[City Development Board Meeting](#)

- [Why Iowa...](#)
- [Agronomic Ecosystem](#)
- [Business Climate](#)
- [Cost of Business](#)
- [Economy](#)
- [Education](#)
- [Clusters](#)
- [Innovation](#)
- [Quality of Life](#)
- [Transportation](#)
- [Workforce](#)

- [I want to...](#)
- [Compare States](#)
- [Expand/Relocate](#)
- [Export](#)
- [Start a New Business](#)

- [Industries](#)
- [Advanced Manufacturing](#)
- [Biosciences](#)
- [Financial Services](#)

- [Programs](#)
- [Business Development](#)
- [Community Development](#)
- [Energy](#)
- [International Business Assistance](#)
- [Innovation](#)

- [Resources](#)
- [Boards & Commissions](#)
- [Brag Wall](#)
- [Events Calendar](#)
- [News](#)
- [Reports](#)
- [50 States Comparison](#)

- [LinkedIn](#)
- [Twitter](#)
- [YouTube](#)
- [Email](#)
- [RSS](#)
- [Facebook](#)

[View Mobile Site](#)

[Privacy Policy](#)

[Contact Us](#)

© 2013, Iowa Economic Development.

[Website design and development by Spindustry Digital, Des Moines, Iowa](#)

*Governing Iowa's public
universities and special schools*

University of Iowa
Iowa State University
University of Northern Iowa
Iowa School for the Deaf
Iowa Braille and Sight Saving School
Lakeside Lab Regents Resource Center
Quad-Cities Graduate Center
Southwest Iowa Regents Resource Center
Tri-State Graduate Center



**BOARD OF
REGENTS**
STATE OF IOWA

Craig A. Lang, President, *Brooklyn*
Bruce L. Rastetter, Pro Tem, *Alden*
Nicole C. Carroll, *Carroll*
Robert N. Downer, *Iowa City*
Jack B. Evans, *Cedar Rapids*
Ruth R. Harkin, *Cumming*
David W. Miles, *Dallas Center*
Katie S. Mulholland, *Marion*
Hannah M. Walsh, *Spirit Lake*

Robert Donley, *Executive Director*

January 14, 2013

The Honorable Terry E. Branstad
Governor's Office

Michael E. Marshall
Secretary of the Senate

Charles Smithson
Chief Clerk of the House

Holly Lyons, Division Director
Legislative Services Agency

Debi Durham, Director
Department of Economic Development

Re: Grow Iowa Values Fund and Regent Innovation Fund

Pursuant to Iowa Code §15G.111(5.c) and 2012 Iowa Acts Chapter 1136 §17, the enclosed annual report includes information from the University of Iowa, Iowa State University, and the University of Northern Iowa, and the allocations to private universities for the Grow Iowa Values Funds and the Regent Innovation Fund.

If there are any questions concerning this report, please do not hesitate to contact us.

Sincerely,

Robert Donley

H:\BF\Legislative\2013 Session\responses\GA_GIVFandInnovreport011413.doc

Enclosures

cc: Ron Robinson
Legislative Liaisons
Legislative Log

University of Iowa - as of December 31, 2012

Grow Iowa Values Fund Appropriations

Board of Regents approved September 2011

1	Proof of Concept Funding	\$230,000
2	Entrepreneurial Education and Business Support Programs	\$135,000
3	Infrastructure Investment for Growing Startup Companies	\$211,000

FY 2012 GIVF

Appropriation \$576,000

University of Iowa	Project	List of all FY 2012 Revenue Sources	Revenue Dollars for FY 2012	Amount of FY 2012 State Appropriations Expended as of 12/31/2012
	Proof of Concept Funding	FY 2012 State Appropriations (GIVF)	\$230,000	\$230,000
		FY 2012 Matching Funds (Other)	\$230,000	\$230,000
Description of Project		Proof of concept funding will be used to move highly promising, but very early stage, technology from faculty inventors that has commercialization and licensing potential.		
Anticipated End Results	Exciting discoveries from University research are, by definition, very early stage and require sustainable sources of funding to take nascent intellectual property to the point where private investment is viable. The funds are used to support the development of innovations with commercial potential, with the result that more UI technology reaches the marketplace as the foundation for new Iowa companies and/or the growth of existing Iowa companies. The funding is intended to support a wide-range of stages in technology development, from initial concept (prior to intellectual property disclosure), to proof of concept, to licensing and commercialization. GIVF fills this critical void and has enabled UI to take advantage of our growing technology pipeline, nurture companies with desired outcome of create new companies and jobs for the State of Iowa.			
Results achieved to Date/Plans	The request for proposals for the GIVF Seed Grant Program using FY12 funds was announced in September 2011. Through a competitive review process, 18 applications were reviewed with awards going to 7 faculty commercialization ideas being funded. Total funds awarded for this competition was \$250,000.			
University of Iowa	Project	List of all FY 2012 Revenue Sources	Revenue Dollars for FY 2012	Amount of FY 2012 State Appropriations Expended as of 12/31/2012
	Entrepreneurial Education and Business Support Programs	FY 2012 State Appropriations (GIVF)	\$135,000	\$135,000
		FY 2012 Matching Funds (Other)	\$135,000	\$135,000
Description of Project		To support comprehensive student and faculty entrepreneurial education and business programs to help create and sustain University startup companies.		
Anticipated End Results	The John Pappajohn Entrepreneurial Center (JPEC) offers one of the most comprehensive entrepreneurial education and business support programs in the nation. Featured programs supporting economic development include providing business consulting services to small companies located across Iowa through its student field study program; hosting/sponsoring elevator pitch and business plan competitions to support innovation and new venture creation; supporting the creation and launch of student-based business through the Bedell Entrepreneurship Learning Laboratory; and delivering entrepreneurial education through academic courses across campus and online, workshops/seminars, and high school teacher training/curriculum.			
Results achieved to Date/Plans	1) Employed a Project Manager to work with UI faculty / staff / students in the areas of strategic business planning, market research, operations and financial feasibility. Project manager also identified and managed projects for existing Iowa-based companies to work with UI student consulting teams, administers business plan competitions, and provide strategic business development technical assistance. 2) Expansion of Iowa Medical Innovation Group (IMIG) initiative to complete four commercialization projects. IMIG is a highly successful interdisciplinary program involving students from Medicine, Engineering, Business and Law, who are focused on identifying new opportunities for medical devices and technologies. Twenty-two potential projects were identified and currently four projects are being developed further by a group of thirty-two students. 3) JPEC hosted four innovation competitions with 139 aspiring entrepreneurs presenting their new business opportunities. Additionally, JPEC students provided business consulting services to 21 companies in Iowa.			

University of Iowa - as of December 31, 2012

Grow Iowa Values Fund Appropriations

Board of Regents approved September 2011	FY 2012 GIVF	
1 Proof of Concept Funding	<u>Appropriation</u>	\$576,000
2 Entrepreneurial Education and Business Support Programs	\$230,000	
3 Infrastructure Investment for Growing Startup Companies	\$135,000	
	\$211,000	

University of Iowa	Project	List of all FY 2012 Revenue Sources	Revenue Dollars for FY 2012	Amount of FY 2012 State Appropriations Expended as of 12/31/2012
	Infrastructure Investment for Growing Startup Companies	FY 2012 State Appropriations (GIVF)	\$211,000	\$211,000
		FY 2012 Matching Funds (Other)	\$211,000	\$211,000
Description of Project	To support incremental infrastructure investment needed to support growing numbers of University startup and technology-based companies, including space and technical assistance.			
Anticipated End Results	The requested funds would continue to invest in technology development infrastructure to strengthen and accelerate commercialization and support critical economic development support functions associated with the UI Research Park, BioVentures Center, Technology Innovation Center and ICE. We will create an innovative, joint venture partnership between the UI, regional economic development leaders and the private sector to expand and develop a new non-laboratory based Incubation Center at the University of Iowa Research Park (UIRP) on the Oakdale Research Campus.			
Results achieved to Date/Plans	1) Request for Qualifications issued to explore developer/partner model for master planning, infrastructure investment, and marketing of the UIRP. 2) Partnership between the UIRP, Iowa City Community School District and Kirkwood Community Center for STEM/career academic center within the UIRP. 3) New position search is currently underway to assist faculty who are considering the creation of a new venture based on their research and innovations. This position will lead a menu of services to faculty as they navigate through early stage business planning and development activities. This includes linking faculty to UI resources, external funding opportunities and identifying industry experts and business mentors. 4) New company recruited to the UIRP and are constructing an 18,000 square ft. building. 5) Partnered with the City of Coralville on a RISE grant to develop critical park infrastructure.			

University of Iowa - as of December 31, 2012
 Innovation Fund Appropriations

Board of Regents approved September 2012

1 Proof of Concept Funding	\$525,000
2 Entrepreneurial Education and Business Support Programs	\$133,500
3 Infrastructure Investment for Growing Startup Companies	\$391,500

FY 2013 Innovation Fund

Appropriation \$1,050,000

University of Iowa	Project	List of all FY 2013 Revenue Sources	Revenue Dollars for FY 2013	Amount of FY 2013 State Appropriations Expended as of 12/31/2012
1	Proof of Concept Funding	FY 2013 State Appropriations (INNOV)	\$525,000	\$49,981
		FY 2013 Matching Funds (Other)	\$525,000	\$61,179
Description of Project	Proof of concept funding will be used to move highly promising, but very early stage, technology from faculty inventors that has commercialization and licensing potential.			
Anticipated End Results	Exciting discoveries from University research are, by definition, very early stage and require sustainable sources of funding to take nascent intellectual property to the point where private investment is viable. The funds are used to support the development of innovations with commercial potential, with the result that more UI technology reaches the marketplace as the foundation for new Iowa companies and/or the growth of existing Iowa companies. The funding is intended to support a wide-range of stages in technology development, from initial concept (prior to intellectual property disclosure), to proof of concept, to licensing and commercialization. Innovation Funds fills this critical void and has enabled UI to take advantage of our growing technology pipeline, nurture companies with desired outcome of create new companies and jobs for the State of Iowa.			
Results achieved to Date/Plans	<p>The Iowa Centers for Enterprise provided seed funding designed to expand the commercialization of UI technologies. The funding is intended to develop innovations with commercial potential and support a wide range of technology stages from initial concept, to proof of concept, to licensing and commercialization. All projects are intended to have a clear commercial potential for the state of Iowa, such as growth in Iowa companies, creation of a new Iowa company, or licensing to an existing Iowa company.</p> <p>Awards were made in two rounds between July and December 2012. Pre-proposals were submitted and reviewed by UIRF staff and student teams for the patent and commercial potential. This included financial and market analysis. PIs were mentored through the final project proposal process, and each proposal was reviewed by a committee of university and business members.</p> <p>In November 2012, funding was awarded to 9 faculty projects selected from 20 proposals. Of the 9 awards, 6 investigators went on to form new ventures within the year. In December, funding was awarded to 4 faculty projects selected from 8 proposals. Products being developed range from software, to medical devices and vaccines. Several are "platform" technologies that plan on developing multiple related products and services. Two of the ventures received \$150,000 royalty based loans from the Iowa State Demonstration Funds using UIRF awards as matching funds. Other ventures will apply as appropriate.</p> <p>Commercialization projects have stated milestones that are monitored by the UIRF. The goal is to prepare each project for additional investment through SBIRs, grants and private equity.</p>			
University of Iowa	Project	List of all FY 2012 Revenue Sources	Revenue Dollars for FY 2013	Amount of FY 2013 State Appropriations Expended as of 12/31/2012
2	Entrepreneurial Education and Business Support Programs	FY 2013 State Appropriations (INNOV)	\$133,500	\$1,000
		FY 2013 Matching Funds (Other)	\$133,500	\$68,879
Description of Project	To support comprehensive student and faculty entrepreneurial education and business programs to help create and sustain University startup companies.			
Anticipated End Results	The John Pappajohn Entrepreneurial Center (JPEC) offers one of the most comprehensive entrepreneurial education and business support programs in the nation. Featured programs supporting economic development include providing business consulting services to small companies located across Iowa through its student field study program; hosting/sponsoring elevator pitch and business plan competitions to support innovation and new venture creation; supporting the creation and launch of student-based business through the Bedell Entrepreneurship Learning Laboratory; and delivering entrepreneurial education through academic courses across campus and online, workshops/seminars, and high school teacher training/curriculum.			

University of Iowa - as of December 31, 2012
 Innovation Fund Appropriations

Board of Regents approved September 2012	<u>FY 2013 Innovation Fund</u>	\$1,050,000
1 Proof of Concept Funding	<u>Appropriation</u>	
2 Entrepreneurial Education and Business Support Programs	\$525,000	
3 Infrastructure Investment for Growing Startup Companies	\$133,500	
	\$391,500	

Results achieved to Date/Plans	In order to support and encourage student, faculty and staff entrepreneurs, JPEC and the Iowa Centers for enterprise sponsored a series of Elevator Pitch Competitions in the fall of 2012. These were launched with a workshop, supported through several group mentoring sessions as well as one-on-one advising and culminated with two competitions that awarded a total of \$47,000 in startup seed grants (\$30,000 to 16 companies from this funding and \$17,000 in matching private support to an additional 9 student companies). In addition, \$3,500 in seed funding was awarded to 5 student businesses in the Bedell Entrepreneurship Learning Laboratory and \$750 was awarded to the best idea identified at the Iowa City Startup Weekend. In the spring of 2013, JPEC will continue the development of the entrepreneurs who participated in the fall Elevator Pitch Competitions through mentoring as well as by sponsoring Business Model and Business Plan Competitions. Additional seed awards will be available for Bedell Lab students. A Graduate Student / Faculty Technology Entrepreneur Boot Camp will be developed.			
University of Iowa	Project	List of all FY 2013 Revenue Sources	Revenue Dollars for FY 2013	Amount of FY 2013 State Appropriations Expended as of 12/31/2012
3	Infrastructure Investment for Growing Startup Companies	FY 2013 State Appropriations (INNOV)	\$391,500	\$186,426
		FY 2013 Matching Funds (Other)	\$391,500	\$224,483
Description of Project	To support incremental infrastructure investment needed to support growing numbers of University startup and technology-based companies, including space and technical assistance.			
Anticipated End Results	The requested funds would continue to invest in technology development infrastructure to strengthen and accelerate commercialization and support critical economic development support functions associated with the UI Research Park, BioVentures Center, Technology Innovation Center and ICE. We will create an innovative, joint venture partnership between the UI, regional economic development leaders and the private sector to expand and develop a new non-laboratory based Incubation Center at the University of Iowa Research Park (UIRP) on the Oakdale Research Campus.			
Results achieved to Date/Plans	<p>The Regents Innovation Funds has been used to assist several new University startup and technology-based companies by assisting them in technology development infrastructure to strengthen and accelerate commercialization. The funding has been used to obtain FDA consulting for several faculty projects, legal fees for incorporation, website launch assistance, and to acquire market analysis reports to enhance business planning. New companies that have benefited from this support include: Emmyon, Memcine, Iowa Approach, and NanoMedTriX.</p> <p>Future support will include the purchase of laboratory equipment, full installation of a 3D prototyping printer (partners with the College of Engineering and College of Liberal Arts) and subsidized laboratory rent for Memcine, Inc. as they move into the BioVentures Center (January 2013).</p> <p>In addition, the UI Research Foundation (UIRF) and the UI Research Park (UIRP) have met with several Iowa based service providers to provide one-on-one counseling to our new and existing companies to assist them with HR issues, legal advice, accounting and R&D tax service and marketing support. These workshops will begin mid January 2013.</p> <p>The UIRP and UIRF will hold a Proof of Concept competition for existing incubator tenants in January 2013. The incubator companies will have a chance to submit their proof of concept ideas to a judging panel. They will be judged on their proof of concept, business plan, marketing plan and etc. Awardees of this competition will receive funding to further support their ideas and will be encouraged to continue to meet with our internal economic development team for consultation.</p>			

Grow Iowa Values Fund Appropriations

Board of Regents approved August 2010

- 1 Commercialization Infrastructure and Campus-Wide Entrepreneurial Cult
- 2 Commercialization Program

FY 2011 GIVF Appropriation

\$1,459,200

\$500,000

\$959,200

Iowa State University	Project	List of all FY 2011 Revenue Sources	Revenue Dollars for FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
1	Commercialization Infrastructure and Campus-Wide Entrepreneurial C	FY 2011 State Appropriations (GIVF)	\$500,000	\$382,246
		FY 2011 Matching Funds (General Fund)	\$335,741	
		FY 2011 Matching Funds (In-Kind)	\$200,000	
		FY 2011 Matching Funds (Other)	\$0	
Description of Project	See individual projects			
Anticipated End Results				
Results achieved to Date				
Plans				
Iowa State University	Project	List of all FY 2011 Revenue Sources	Revenue Dollars for FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
2	Commercialization Program	FY 2011 State Appropriations (GIVF)	\$959,200	\$421,482
		FY 2011 Matching Funds (General Fund)	\$532,331	
		FY 2011 Matching Funds (Federal Support)		
		FY 2011 Matching Funds (Cash)		
		FY 2011 Matching Funds (In-Kind)	\$134,011	
Description of Project	See individual projects			
Anticipated End Results				
Results achieved to Date				
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator			\$200,000	\$82,246
Description of Project	Pappajohn Center for Entrepreneurship			
Anticipated End Results				
Results achieved to Date	Grow Iowa Values Funds provide student and staff support to assist individuals starting and growing businesses. The funds also support on campus entrepreneurship activities to provide students educational and experiential opportunities in entrepreneurship, including participation in a national student entrepreneurship conference, and supporting coordinating experienced entrepreneurs as student mentors.			
Plans				

Grow Iowa Values Fund Appropriations

	Board of Regents approved August 2010	FY 2011 GIVF Appropriation	\$1,459,200
1	Commercialization Infrastructure and Campus-Wide Entrepreneurial Cult	\$500,000	
2	Commercialization Program	\$959,200	

Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator			\$200,000	\$200,000
Description of Project	ISU Research Park			
Anticipated End Results				
Results achieved to Date	<p>Grow Iowa Values Funds support efforts to provide support and assistance to companies at the Research Park or prospective Research Park companies. The companies assisted include;</p> <ol style="list-style-type: none"> 1. Working with technology startup companies and faculty and students considering forming new companies. 2. Assisting technology companies secure the resources they need to be successful and grow. 3. Working with state and local economic development officials to recruit existing technology companies to Iowa. 			
Plans				
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator			\$100,000	\$100,000
Description of Project	Vice President for Research			
Anticipated End Results				
Results achieved to Date	<p>Grow Iowa Values Funds support the technology transfer and economic development mission of the Office of the Vice President for Research and Economic Development (VPRED). Specifically, these funds are used to support the Industry Relations effort including salary support and operating budget. The Grow Iowa Values Fund commercialization program is administered in the VPRED office as well as efforts to coordinate industry relations and other tech transfer activities across campus.</p>			
Plans				
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator	Diane Janvrin	\$40,590	\$36,521	\$11,736
Description of Project	Market Research for Prioritizing Market Segments for Product Development			
Anticipated End Results	Provide WebFilings management with a broad understanding of potential markets for their product and an in-depth analysis of a single market segment.			
Results achieved to Date	<p>WebFilings is an Iowa based startup company that has developed a cloud-based software application to assist publicly traded companies with developing reports for the Securities and Exchange Commission (SEC). We were asked to identify up to twelve industry segments where significant and perpetual reporting requirements exist for regulators, customers or stakeholders. Based on discussions with WebFilings management, we were then directed to conduct an in-depth market analysis of one market segment.</p> <p>We identified seven industry segments that may be able to use WebFilings' software application and presented our initial (Phase I) results to WebFilings management. After meeting to discuss our results on November 2, 2010, WebFilings management directed us to concentrate on one market segment. During late November and early December, we conducted 17 interviews with chief financial officers for firms in this market segment. The firms we interviewed ranged in revenues from less than \$50 million annual sales to greater than \$200 million annual sales. We analyzed the results of our interviews and submitted the final report on January 22, 2011.</p>			
Plans				

Grow Iowa Values Fund Appropriations

	Board of Regents approved August 2010	FY 2011 GIVF Appropriation	\$1,459,200
1	Commercialization Infrastructure and Campus-Wide Entrepreneurial Cult	\$500,000	
2	Commercialization Program	\$959,200	

Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator	Hui Hu	\$78,305	\$78,305	\$18,911
Description of Project	Development of Advanced Flow Diagnostic Techniques to Characterize Next Generation Fuel Nozzles			
Anticipated End Results	The goal of this research project is to develop advanced diagnostics to quantify spray characteristics and to elucidate important processes in spray flows, such as the breakup of liquid jets and sheets, atomization and evaporation of fuel droplets, and air/fuel mixing in order to assist GECD in developing next generation fuel nozzles for maximized energy efficiency while minimizing pollutant emissions, and maintaining the operability requirements.			
Results achieved to Date	<p>Following progresses have been made on this GIVF project since the proposed project was awarded:</p> <ol style="list-style-type: none"> 1). The system design of the experimental rig needed to carry out the proposed research work has been finished. Some of the hardware parts and test models are being manufactured. 2). The theoretical framework of the proposed advanced flow diagnostic techniques has been finished. The high-energy laser system, high-speed imaging system and associated the optics and optic-mechanic devices have already been allocated for this GIVF project. 3). A comprehensive literature review of previous research work related to this GIVF research project has already been finished. 4). A GECD fuel injector/atomizer nozzle has been already been received for the preliminary measurements. 5). A research team has been formed to conduct the proposed research. The team members include: Dr. Hu Hu-the PI; Dr. Zifeng Yang- Post-doctoral Research Associate; and Mr. Daniel Dvorak - a Graduate Research Assistance. 6). A comprehensive experimental study has been conducted, and PIV measurements of the spray flows have already been performed. 7). The measurement results of the PIV study of the spray flows are being processed and analyzed. 8). A conference paper entitled "Laser Based Measurement of a Counter-swirling Airblast Nozzle Spray Flow" has been submitted to 42th AIAA Fluid Dynamics Conference to be held on 25-28 June 2012 at New Orleans, Louisiana. 			
Plans				
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator	Patrick Halbur	\$83,000	\$83,000	\$46,715
Description of Project	Development of a Novel Genetic Test for Inherited Bovine Disease and Its Application to Embryos			
Anticipated End Results	Develop and commercialize a panel of molecular diagnostic assays for detection of genetic diseases and production traits sensitive enough to use on biopsies from bovine embryos. This will benefit the Iowa beef and dairy industries by decreasing costs associated with maintaining the pregnancies of genetically diseased animals and accelerating the selection of genetically superior seed stock Iowa cattle producers.			
Results achieved to Date	<p>Our original partner on this grant, Ames Center for Genetic Technologies (ACGT) went out of business in mid 2011. We are now working with a small biotech company called Radix BioSolutions. We have continued to advance the use of the Luminex platform for commercial diagnostic testing. Our embryo biopsy technique has been further adapted and validated to achieve acceptable pregnancy rates following post-biopsy testing and freezing. Embryos were flushed from seventy three cows resulting in recovery of 337 embryos of which 200 were biopsied and frozen. Twenty three frozen and biopsied female embryos were transferred into recipients. A 30% pregnancy rate was archived on the first group of 12. Testing for confirmation of pregnancy in the second group of 11 will be done in late January, 2012. Efforts are ongoing to continue to improve pregnancy rates.</p> <p>In collaboration with Radix Biosolutions we have now successfully adapted the Luminex platform to determine gender of biopsied fetuses. Probe design and test validation for genetic disorders including Complex Vertebral Malformation, Arthrogryposis Multiplex, Neuropathic Hydrocephalus has not progressed due to problems with acquisition of appropriate positive control materials from other researchers and private companies working in this area. Since the major benefit of the Luminex platform is in high throughput multiplexing diagnostic assays, we have redirected use of the Luminex platform to serological assays. Specifically, we are now focusing on an assay for anti-Mullerian Hormone (AMH) that appears to have good potential to predict the fertility and reproductive longevity of heifers prior to selection as breeding stock. If we are able to further develop and validate this assay it could have substantial economic benefit to the livestock industry. We are now investigating and comparing the use of an experimental AMH ELISA and a novel Luminex-based AMH serological assay to predict fertility (number of viable embryos) in heifers being flushed as a part of this project over the next 6 months.</p>			
Plans				

	Board of Regents approved August 2010	FY 2011 GIVF Appropriation	\$1,459,200
1	Commercialization Infrastructure and Campus-Wide Entrepreneurial Cult	\$500,000	
2	Commercialization Program	\$959,200	

Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator	Rick Sharp	\$99,883	\$75,314	\$38,826
Description of Project	Efficacy of a new delivery system for B-Hydroxy-B-Methylbutyrate			
Anticipated End Results				
Results achieved to Date	Since the last interim report (July 2011), we have completed our statistical analysis which revealed some promising results but which did not reach statistical significance. Further analysis showed that adding an additional eight research participants would improve the statistical power and help to increase our confidence in the findings. Consequently, we have requested additional funding from the company to test an additional eight participants. This testing will be conducted during spring and summer 2012. A manuscript is currently in preparation with an additional manuscript expected once the added participant testing is completed.			
Plans				
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator	Byron Brehm-Stecher (no update received)	\$106,961	\$91,046	\$53,752
Description of Project	Advances in food safety: fast fragment analysis for differentiation and tracking of foodborne pathogens			
Anticipated End Results	Develop improved DNA fragment-based analyses using an advanced capillary electrophoresis platform; to apply this approach to practical problems of pathogen ecology in layer hen and related agricultural environments of critical importance to Iowan agribusiness.			
Results achieved to Date	<p>The project is focused on use of AATI's FS-96 instrument for DNA fragment-based detection and characterization of pathogenic bacteria occurring in layer hen production facilities and other environments of critical importance to Iowan agribusiness. The project is being carried out in close consultation with an Iowan company that is a lead supplier of layer hens to world markets. Additional collaboration in support of this project's technology transfer goals includes partnership with Dr. Hongwei Xin, Director of Iowa State University's Egg Industry Center. In addition to the above list, important milestones for the project include:</p> <ul style="list-style-type: none"> • Took delivery of FS-96 instrument, valued at \$70,000. • Accepted Zongyu Zhang, FSHN PhD student – began work in my lab in May, 2011 <p>This project has served as an essential backdrop for high-visibility collaborative work between the Brehm-Stecher Rapid Microbial Detection and Control Laboratory and Advanced Analytical Technologies, Inc., Specifically:</p> <ul style="list-style-type: none"> • We have been invited by the editors of Journal of Visualized Experiments to co-author (with AATI) a video article on application of the FS-96 instrument for DNA-fragment-based analyses of Salmonella spp. Experiments for this paper are currently underway. • AATI personnel presented data from this project during the LabAutomation2011 meeting in late January 2011 in a session on high-throughput methods for the analysis of foods, chaired by Dr. Brehm-Stecher. • Dr. Brehm-Stecher was invited to speak at the "Advances In Biodetection & Biosensors" conference to be held in Hamburg, Germany (July, 2011). The conference was held within the greater European Lab Automation meeting. Visit was coordinated with Lutz Büchner, Director of European Operations for Advanced Analytical Technologies. Met with Lutz Büchner and Steve Lasky, CEO of Advanced Analytical Technologies, Inc. during this visit. My talk helped drive interest in AATI's technology, leading to increased traffic to their booth. This visit has enabled us to maximize exposure of our GIVF-funded work with the FS-96 system to potential AATI customers in Europe. 			
Plans				
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator	Sri Sritharan	\$109,000	\$106,784	\$28,471
Description of Project	Design Verification and cost evaluation of UHPC towers for enhancing Iowa's wind energy production			
Anticipated End Results				
Results achieved to Date	<p>Over the past few months we have been working closely with Clipper, one of our industry partners, to make the tower suitable for commercial use. With new information provided on tower loads and dimension limitations and the request from Clipper to keep the overall cost down with less emphasis on long term performance issues, the tower needed to be redesigned twice. One of the more significant changes that has been made is the transition from Ultra-High Performance Concrete (UHPC) to High Performance Concrete in the tower columns. This dramatically reduces the overall cost of the tower making it much more competitive with other design options available to Clipper. The design still consists of UHPC, but it is used in different components of the tower. In addition, a plan for connecting the tower to the turbine as well as the foundation has been established. A complete computer model of the tower has been developed, and is currently being used to analyze stresses within the tower under extreme and operational loads. After analyzing the results, scaled models will be created in the lab and tested to verify the proposed design.</p> <p>Due to the financial difficulties, Iowa Prestressed Concrete (IPC) has informed us they will not be able to provide the committed support for the project. This has caused delays in the project. We are now talking another pre-caster in Omaha, Nebraska. We hope to get the necessary support from them to make the experimental phase of the project completed.</p>			
Plans				

	Board of Regents approved August 2010	FY 2011 GIVF Appropriation	\$1,459,200
1	Commercialization Infrastructure and Campus-Wide Entrepreneurial Cult	\$500,000	
2	Commercialization Program	\$959,200	

Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 Allocation Expended as of 12/31/2011
Principal Investigator	Vasant Honavar (no update received)	\$109,243	\$109,243	\$22,934
Description of Project	Data mining tools for healthcare informatics			
Anticipated End Results	To demonstrate the feasibility of applying statistically based artificial intelligence algorithms for improving the quality of healthcare.			
Results achieved to Date	No funds have yet been spent on this project because the start of the project was delayed in part because of delay on the part of Collaborative Health Solutions (CHS) in gathering some of the patient data and making it available to the ISU team working on the project and in part because of the delay in obtaining an account number for the project. The account for the project was set up on June 28, 2011.			
Plans				
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator	Ayman Fayed	\$117,944	\$99,665	\$95,282
Description of Project	Battery life enhancement in portable and remotely deployed systems using spread-spectrum switching power regulators			
Anticipated End Results	The development of energy-efficient buck switching power regulators using innovative random spread-spectrum control schemes to convert their switching output noise into an analog/RF friendly noise spectrum. This will enable using them to directly power sensitive analog/RF modules in battery-operated portable electronic devices, hence eliminating energy inefficient linear regulators and/or expensive noise filtering. This new technology can result in significant reduction in system power consumption, which translates in extended battery life or reduced number of batteries needed by the system in both military and commercial applications.			
Results achieved to Date	In the past 6 months, we have and received and characterized the testchip we designed for achieving the same low-noise performance we previously accomplished but at light-load conditions. Measurement results demonstrated excellent low-noise performance even at very low-load current. This new controller along with our original high-load controller will enable our converter to achieve very low-noise performance with high efficiency across all load current extremes, which makes our proposed design a viable industry-quality product. The new results have been described in a new manuscript that is currently under review. Furthermore, 2 papers on using the proposed technology with RF and Analog types of loads have been published in the past 6 months. The papers have been well received by the industrial and academic communities and the PI has been invited to present the technology to several companies including National, Texas Instruments, Skyworks, and Micrel.			
Plans				
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator	Sanjeevi Sivansankar	\$120,075	\$107,433	\$38,181
Description of Project	Commercialization of an integrated single molecule atomic force microscope-fluorescence microscope for academic and industrial applications			
Anticipated End Results	The objective of this proposal is to build a highly integrated and modular single molecule Atomic Force Microscope-Fluorescence Microscope (smAFM-FM) for academic and industrial applications.			
Results achieved to Date	<p>Since award of the GIVF funding, we have made significant progress in four areas.</p> <ol style="list-style-type: none"> 1. We have refined the smAFM-FM instrument by introducing a feedback system that improves measurement accuracy. We have also built and tested an instrument module that permits simultaneous AFM-spectral measurements . We have upgraded to a closed-loop AFM to minimize mechanical drifts. 2. We have performed "proof of concept" simultaneous single molecule AFM-spectral measurements. In these experiments, we used smAFM-FM to measure the force dependent of optical properties of CdS/CdSe tetrapod, a technologically important semiconductor nanocrystal. We were able to demonstrate, for the first time in the world, that a single tetrapod changes its optical properties when subjected to an external force. 3. We have begun working with Novascan Technologies to integrate their VERTigo AFM platform on the single molecule fluorescence microscope. When this integration is complete, we will acquire data that will be used for generating sales and marketing material to commercialize the instrument 4. We have recently invented a novel technology, Single Molecule Probe-scanning Standing-wave Optical Nanometry (SiMPSON) for axial localization of a single fluorophore with sub-nanometer accuracy. In a conventional fluorescence microscope, resolution along the z-axis is limited to approximately 500 nm. SiMPSON is an easy to implement technique developed using GIVF funding that can be used to obtain sub-nanometer resolution. We have used SiMPSON to measure the orientation of DNA of different lengths, grafted on surfaces with different functionalities which is important for DNA microarrays and gene sequencing experiments. We have submitted a manuscript based on this work to Nature Methods (the top journal in this field) and are preparing an invention disclosure for ISURF. 			
Plans				

	Board of Regents approved August 2010	FY 2011 GIVF Appropriation	\$1,459,200
1	Commercialization Infrastructure and Campus-Wide Entrepreneurial Cult	\$500,000	
2	Commercialization Program	\$959,200	

Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 Allocation Expended as of 12/31/2011
Principal Investigator	Arun Somani / Suraj Kothari (no update received)	\$77,388	\$76,268	\$21,892
Description of Project	A programmable software pattern analyzer (PSPA); Critical safety improvement for transportation control systems			
Anticipated End Results	The project is aimed at developing the Programmable Software Pattern Analyzer (PSPA). The PSPA will be useful to discover underlying programming patterns and use those to validate mission-critical software. Specific applications are targeted at two areas of software: (a) the safety-critical control system software such as the flight control software, (b) operating systems at all levels from small systems for smart devices to large systems for cloud computing. The PSPA will offer the programming capability to perform thousands of program analysis instances in few seconds as opposed to several hours it currently takes to do a single instance.			
Results achieved to Date	A query-based programming environment for analyzing software patterns has been developed. To demonstrate the powerful software analysis capability being developed through this project, we did a case study to validate six versions of the Linux kernel for its safety properties. This is the first validation study of this kind that takes into account various complexities including multi-threading and interrupt processing. We have developed a graph-theoretic modeling capability which combined with the programmable analysis capability has enabled a complete validation of highly complex software. This type of validation, as cited in our original proposal, was considered intractable so far. This research is currently being documented through three journal papers. It also helped us in securing a four million dollar grant from DARPA.			
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator	Matt Frank	\$50,000	\$22,626	\$22,626
Description of Project	Innovative methods for the manufacturing of patient specific bone implants			
Anticipated End Results	To develop methods for bone implant manufacturing, provide pilot testing results, and move toward commercialization of a software product for surgery planning and rapid implant production.			
Results achieved to Date	This project officially ended in the summer of 2011; however, the above mentioned paper, award, and funding is directly attributed to the GIVF program. In addition to the items above, we have two notable accomplishments in moving toward commercialization. Second, we continued to move forward in forming a company. As of June 2011, FxRedux Solutions, LLC was filed with the State of Iowa and the IRS. Dr. Matt Frank will serve as a co-owner, along with 5 collaborators at the University of Iowa. As of January 1st, 2012, an Operating agreement is in place for the FxRedux Solutions LLC company.			
Plans				
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2011	Amount of FY 2011 State Appropriations Expended as of 12/31/2012
Principal Investigator	Peter Keeling (new project)	\$73,000	\$73,000	\$22,155
Description of Project	Furanics based biorenewable Chemical			
Anticipated End Results	Development of a method for the selective dehydration of glucose and starch to produce furan derivatives such as 5-hydroxymethylfurfural (HMF).			
Results achieved to Date	The proposed project will enable studies of scale-up batch-reactor issues and polysaccharide feedstock evaluation. The results will lead to a detailed business development plan and set-the-stage for second year studies of the techno-commercial potential. These are summarized in the following milestone statements and supporting milestones chart. 1. Comparison of glucose and starch versus fructose catalysis with solvent extraction per Dumesic methods. 2. Kinetics understood and optimized for the conversion of glucose to HMF in a batch reactor system. 3. Kinetics understood and optimized for the conversion of glucose to HMF in a flow reactor system. 4. Build the business development plan. 5. Demonstration of a solid acid catalyst for the conversion of monosaccharides and oligosaccharides to HMF. 6. Evaluation of techno-commercial potential by estimating costs of production in optimized system. 7. Build the business case for a \$10m investment in a pilot plant.			

Board of Regents approved September 2011

- 1 Commercialization Infrastructure and Campus-Wide Entrepreneurial Culture
- 2 Commercialization Program

FY 2012 GIVF Appropriation

\$76,000

\$500,000

\$576,000

Iowa State University	Project	List of all FY 2012 Revenue Sources	Revenue Dollars for FY 2012	Amount of FY 2012 State Appropriations Expended as of 12/31/2012
1	Commercialization Infrastructure and Campus-Wide Entrepreneurial Culture	FY 2012 State Appropriations (GIVF)	\$76,000	\$61,668
		FY 2012 Matching Funds (General Fund)	\$29,600	
		FY 2012 Matching Funds (In-Kind)		
		FY 2012 Matching Funds (Other)	\$26,000	
Description of Project	Infrastructure funds for programming in the ISU Research Park (\$26K), Pappajohn Center (\$25K and Industry Relations function (\$25K) in the VPRED office.			
Purpose	These funds are used to support the general operations of the Research Park, Pappajohn Center and Industry Relations function, including salary support, travel, hosting companies and providing services to entrepreneurs and small businesses located at the research park.			
Iowa State University	Project	List of all FY 2012 Revenue Sources	Revenue Dollars for FY 2012	Amount of FY 2012 State Appropriations Expended as of 12/31/2012
2	van	FY 2012 State Appropriations (GIVF)	\$500,000	\$171,641
		FY 2012 Matching Funds (General Fund)	\$120,920	
		FY 2012 Matching Funds (Federal Support)		
		FY 2012 Matching Funds (Cash)		
		FY 2012 Matching Funds (In-Kind)	\$105,074	
Principal Investigator	Peter Keeling		\$100,000	\$20,068
Description of Project	Catalytic Conversion Platform for Furan Derivatives			
Anticipated End Results	The general goal is to evaluate technologies for converting monosaccharides and oligosaccharides to HMF leading to understanding the separation requirements for pre-pilot scale-up.			
Results achieved to Date	<p>Research has focused on examining several purification strategies of 5-hydroxymethylfurfural (HMF) from the organic phase of the biphasic reactor system. Care was taken to only research purification strategies that were potentially feasible at an industrial production scale. After reviewing pertinent literature and examining the chemical properties of the HMF versus the organic extraction phase, humins, and other contaminants, the decision was made to focus on the three means of purification; distillation, adsorption onto a solid phase, and liquid-liquid extraction.</p> <p>We were able to achieve moderate success employing distillation and adsorption separation strategies. With HMF reactivity at high temperatures, the removal of a low boiling point organic extraction solvent proved to be the best distillation option. A scheme was devised for purification of HMF using adsorbent polar resins. This strategy must be developed further before it can become a practical process at scale. The third means of HMF purification was by liquid-liquid extraction with water from the post reaction organic extraction phase. HMF has high solubility in pure water. The salts and solvents used during the glucose to HMF dehydration reaction helps to facilitate the separation of the liquid phases and lower the solubility of HMF in the aqueous phase.</p> <p>All three purification strategies could be viable options at production scale. Other factors in the production process of HMF will undoubtedly dictate the direction of HMF separation research.</p>			

Board of Regents approved September 2011
 1 Commercialization Infrastructure and Campus-Wide Entrepreneurial Culture
 2 Commercialization Program

FY 2012 GIVF Appropriation **\$576,000**
 \$76,000
 \$500,000

Principal Investigator	Anumantha Kanthasamy	\$29,000	\$12,281
Description of Project	Small Molecule Non-receptor Tyrosine Kinase Inhibitors as Novel Neuroprotective Agents		
Anticipated End Results	We propose to develop an orally active neuroprotective drug for the treatment of Parkinson's disease in humans. The goals of this high impact exploratory study are to identify one or more novel RM108 derivatives that have low-nanomolar potency, minimal off-target effects, metabolically stable and drug-like properties to initiate future advanced preclinical studies.		
Results achieved to Date	<p>Review panel in July 2012 suggested that the Fyn kinase target for Parkinson's disease should be further validated by testing the lead Fyn kinase inhibitor RM108 in the Fyn kinase knockout mouse model. This will help us to determine any potential off target effect of our lead compound in animal models of PD.</p> <p>The results from this pilot study revealed that Fyn (-/-) knockout were significantly resistant to MPTP-induced neurotoxicity compared to Fyn (+/+) mice. Further, RM108 improved MPTP-induced a) motor deficits (Fig. b) restored dopamine depletion, and c) rescued TH neuronal loss in Fyn (+/+) mice. On the other hand, RM108 did not have any protective in MPTP-treated Fyn (-/-). In summary, results from this PCI funded pilot study revealed that RM108 may primarily mediates all its neuroprotective effect via Fyn kinase and not possibly via other closely related non-receptor kinases in MPTP animal PD model. These results also strongly support Fyn kinase as a valid therapeutic target in PD. Although RM108 interrupts disease mechanisms, rather than just treat disease symptoms, it's poor physical properties and clear. Experiments are in progress to synthesis additional analogs that would have low-nanomolar potency, minimal off-target effects, metabolically stable and drug-like properties to initiate preclinical studies.</p> <p>Commercialization: 1. A provisional patent application is currently being filed by the inventors. 2. PK Biosciences is in process of forming a scientific and business advisory board which will assist by reviewing and advising on primary development decisions as the company moves forward to discuss with VCs and pharmaceuticals.</p>		
Principal Investigator	Arunkumar Asaithambi	\$93,406	\$41,875
Description of Project	Identification and Characterization of Diabetes Drug Candidates for Type I Diabetes		
Anticipated End Results	Identifying lead candidates for type I diabetes treatment		
Results achieved to Date	<p>We have made good progress in our studies to identify potential drug candidates for type 1 diabetes. Our data so far have shown that drug candidates rationally designed against key drug targets slows down type 1 diabetes (T1D) in preliminary pre-clinical animal models. We see reduction in hyperglycemia, pancreatic beta cell death and weight loss in widely used acute T1D mouse models etc. Studies are currently being undertaken to characterize the efficacy of these screened candidates in another key FDA approved pre-clinical animal model. Further, preliminary specificity, selectivity and toxicity of these candidates are also being tested. These studies will complete the specific aims listed in the GIVF proposal.</p> <p>The goal of this GIVF project is to facilitate Signal Therapeutics to rise early stage funding and move these drug candidates towards commercialization. We are in active discussions with several early stage angels and VCs to obtain series A financing for Signal Therapeutics Inc. If successful, Signal will move towards further advancement of these drug candidates towards FDA application. We also have started communications with Juvenile Diabetes Research Foundation (JDRF) regarding possible collaboration.</p> <p>Overall, we are having a steady progress towards achieving our research and financial objectives.</p>		
Principal Investigator	Zhiyou Wen	\$50,000	\$43,315
Description of Project	Development and Optimization of a Pilot-Scale Revolving Algal Biofilm Photobioreactor		
Anticipated End Results	To develop a novel attached algal culture system (Revolving Algal Biofilm Photobioreactor, RABP) for facilitating algal biomass harvest during algal biofuel production process.		
Results achieved to Date	<p>This project is focused on developing a novel biofilm based photobioreactor (Revolving Algal Biofilm Photobioreactor, RABP) which can be widely adapted by the algae industry for producing fuels and high value products. The RABP reactor can facilitate algal biomass harvest by reducing the harvest cost, which is a major bottleneck in the commercialization of algal biofuel production. In the reporting period, we have performed a thorough lab-scale study optimize the RABP operational conditions, so the algal biomass production yield can be reached to maximum. First, we evaluated a total 64 types of materials in terms of their capability of attaching algal cells, and found that duct cotton is the best materials because this material can attach the highest amount of algal cells on its surface and its excellent durability. Then, using the duct cotton as the attaching materials, we optimized the rotation speed of the RABP system, the algal biomass harvest frequency, and the CO2 concentration used in the RABP system. Those optimization works lay the ground for developing a pilot scale RABP system for evaluating its commercial potential.</p> <p>In the development of the pilot-scale RABP system, we constructed a green house in the BioCentury Research Farm in the reporting period, so the RABP system can be accommodated in the greenhouse for a year round operation. The greenhouse was a high premium facility with all the utilities and temperature control by a geothermal unit. Four RABP systems was then fabricated and assembled in the greenhouse. So far we have tested the operation of these pilot RABP systems using water as testing medium. The result shows that the pilot scale RABP system can replicate the conditions used in the lab-scale study. In the remaining project period, we will test the real algal culture using the pilot scale RABP system.</p>		

Board of Regents approved September 2011

FY 2012 GIVF Appropriation

\$576,000

1 Commercialization Infrastructure and Campus-Wide Entrepreneurial Culture

\$76,000

2 Commercialization Program

\$500,000

Principal Investigator	Rick Sharp	\$99,844	\$24,521
Description of Project	Nutritional Intervention for Age-Related Muscular Function and Strength Losses		
Anticipated End Results	Examine the effectiveness of vitamin D plus hydroxyl-methylbutyrate dietary supplementation in promoting muscle strength and functionality improvements in older adults during 12 weeks of a strength		
Results achieved to Date	Our original proposal was to recruit and test 50 research participants (25 men, 25 women) above 60 yr of age from the central Iowa area. At present, we have completed 32 individuals. Because this research involves dietary supplementation, the interventions must be conducted double blind. Consequently, we must wait until all participants have completed the protocol before evaluating effectiveness. We continue to recruit participants using targeted mailings to households in Ames, Boone and Gilbert. We anticipate completing this data collection phase by May, 2013. At this time, we will be able to analyze results, publish papers and begin the Phase II project with full support from the NIH (Phase II has received preliminary approval from NIH).		
Principal Investigator	Tom McGee	\$92,074	\$29,582
Description of Project	Osteoceramic Bone Graft Pre-Clinical Evaluation for FDA Approval		
Anticipated End Results	Determine the effect of OsteoCeramics ceramic implant (OC-Ceramic) on bone regeneration in a rabbit tibial defect model through the use of plain radiography, pqCT, histology, and mechanical testing.		
Results achieved to Date	OC-Ceramic has potential for use as artificial off-the-shelf bone grafts to replace currently used materials and has advantages of being able to help guide bone growth and bone promote attachment to the implant to prevent mechanical failure seen with current implants. FDA approval will be required before the OC-Ceramic material can be used in humans. This GIVF project is directed at pre-clinical evaluation on rabbits performed at the Bone Healing Research Lab-Iowa Spine Research Center (BHRL/ISRC), Department of Orthopaedics and Rehabilitation, University of Iowa Carver College of Medicine. The evaluation includes two time points (6 and 8 weeks) in a rabbit tibial defect model. Preliminary results from the 6 week time point indicate that the OC-Ceramic material has better strength than control material (natural bone graft taken from the patient). Results from the 8 week time period are being tabulated, and it is anticipated that the results from these two time points will provide the evidence necessary to submit a proposal to the FDA for 510(K) approval. Because of the promising results obtained to date, a submission of a proposal to the FDA is planned for January 2013.		
Principal Investigator	Eliot Winer	\$35,000	\$0
Description of Project			
Anticipated End Results			
Results achieved to Date	This project was just recently funded and is being supported by both GIVF and RIF funds. No report was provided due to the recent implementation		

Iowa State University - as of December 31, 2012
 Innovation Fund Appropriations

Board of Regents approved September 2012

- 1 Commercialization Infrastructure and Campus-Wide Entrepreneurial Culture and SBDC
- 2 Commercialization Program
- 3 Infrastructure Projects and Programs

FY 2013 Innovation Fund Appropriation **\$1,050,000**

\$350,000
 \$500,000
 \$200,000

Iowa State University	Project	List of all FY 2013 Revenue Sources	Revenue Dollars for FY 2013	Amount of FY 2013 State Appropriations Expended as of 12/31/2012
1	Commercialization Infrastructure and Campus-Wide Entrepreneurial Culture	FY 2013 State Appropriations (INNOV)	\$350,000	\$122,323
		FY 2013 Matching Funds (General Fund)	\$66,511	
		FY 2013 Matching Funds (In-Kind)		
		FY 2013 Matching Funds (Cash)	\$8,531	
Description of Project Plans	See Individual Projects			
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2013	Amount of FY 2013 State Appropriations Expended as of 12/31/2012
Unit	ISU Research Park		\$75,000	\$74,847
Purpose	Support for the operations of the ISU Research Park.			
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2013	Amount of FY 2013 State Appropriations Expended as of 12/31/2012
Unit	ISU Pappajohn Center		\$100,000	\$46,458
Purpose	Provide Support fo the entrepreneurial programs at Iowa State including services for start-up companies			
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2013	Amount of FY 2013 State Appropriations
Unit	Biobased Foundry Piilot Project		\$50,000	\$0
Purpose	Foster entrepreneurship on campus by engaging graduate students in an immersive entrepreneurial experience. The course is offered in the Spring			
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2013	Amount of FY 2013 State Appropriations
Unit	Vice President for Research		\$20,000	\$0
Purpose	These funds support the general operations of the industry relations function at Iowa State such as efforts related to the regional marketing effort s with Ames and Des Moines, support for trade show booths/materials/attendance, company visits, association membership fees, etc.The Regents Innovaiton Fund commercialization program is administered in the VPRED office as well as efforts to coordinate industry relations and other tech transfer activities across campus.			
Unit	Small Business Development Center		\$105,000	\$15,242
Purpose				

Board of Regents approved September 2012

- 1 Commercialization Infrastructure and Campus-Wide Entrepreneurial Culture and SBDC
- 2 Commercialization Program
- 3 Infrastructure Projects and Programs

FY 2013 Innovation Fund Appropriation \$1,050,000

\$350,000
 \$500,000
 \$200,000

Iowa State University	Project	List of all FY 2013 Revenue Sources	Revenue Dollars for FY 2013	Amount of FY 2013 State Appropriations Expended as of 12/31/2012
2	Commercialization Program	FY 2013 State Appropriations (INNOV)	\$500,000	\$0
		FY 2013 Matching Funds (General Fund)		
		FY 2013 Matching Funds (Federal Support)		
		FY 2013 Matching Funds (Cash)		
		FY 2013 Matching Funds (In-Kind)		
Principal Investigator	Byron Brehm-Stecher		\$50,000	\$0
Description of Project				
Anticipated End Results				
Results achieved to Date	This project was recently implemented			
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2013	Amount of FY 2013 State Appropriations Expended as of 12/31/2012
Principal Investigator	Anumantha Kanthasamy		\$50,000	\$0
Description of Project	Small Molecule Non-receptor Tyrosine Kinase Inhibitors as Novel Neuroprotective Agents (Continuation)			
Anticipated End Results				
Results achieved to Date	Phase II of the GIVF FY12 funded project, newly implemented			
Iowa State University	Project	Total Project Budget	Allocated Dollars FY 2013	Amount of FY 2013 State Appropriations Expended as of 12/31/2012
Principal Investigator	Eliot Winer		\$15,000	\$0
Description of Project				
Anticipated End Results				
Results achieved to Date	This project was recently implemented and funds were allocated from both GIVF FY12 and RIF FY13			
Iowa State University	Project	List of all FY 2013 Revenue Sources	Revenue Dollars for FY 2013	Amount of FY 2013 State Appropriations Expended as of 12/31/2012
3	Infrastructure Projects and Programs	FY 2013 State Appropriations (INNOV)	\$200,000	\$0
		FY 2013 Matching Funds (General Fund)		
		FY 2013 Matching Funds (Federal Support)		
		FY 2013 Matching Funds (Cash)		
		FY 2013 Matching Funds (In-Kind)		
Principal Investigator				
Description of Project				
Anticipated End Results				
Results achieved to Date	Due to a change in VPRED at Iowa State, no funds have been allocated from this. We anticipate allocating funds soon.			

<u>FY 2013 RIF Appropriation - \$900,000</u>			
1	Economic Gardening and Entrepreneurship Outreach	\$300,000	
2	Technology Transfer and Business Incubation	\$300,000	
3	Regional Development	\$100,000	
4	Competitive and Market Intelligence	\$50,000	
5	National Ag-Based Lubricants (NABL) Center	\$150,000	\$900,000.00

University of Northern Iowa	Project	List of all FY 2013 Revenue Sources	5907 Revenue Dollars for FY 2012-2013	Amount Expended as of 12/31/2012
1	Economic Gardening and Entrepreneurial Outreach	FY 2013 Regents Appropriations (RIF)	\$300,000	\$85,863
		FY 2013 Federal Support		\$16,502
		FY 2013 Other		\$91,195
Description of Project	UNI Entrepreneurship Outreach proposes to launch a statewide Economic Gardening (EG) program in Iowa to address a compelling need among smaller, locally-owned employer firms for actionable business intelligence and support. UNI will create and certify a strategic research team in accordance with the National Center for Economic Gardening to provide Stage II companies (those with 9-99 employees) with secondary market research and business intelligence.			
Anticipated End Results	The Iowa Economic Gardening Network will be formalized, participating organizations certified, and 50-75 Stage II clients identified for service delivery during calendar year 2013. At least 12 companies will receive expert research team services during the pilot phase between January and June of 2013. Three of MyEntre.Net's entrepreneur resources will be transformed into customizable technology modules increasing overall small business use from 2,000 annually to 2,500. Dream Big Grow Here will expand to ten contests and attract 250 contestants.			
Results Achieved to Date	A pilot program for Economic Gardening has been launched as an advance effort for a statewide program. A Strategic Resource Team has been certified and twelve economic development organizations from throughout Iowa have been trained in EG and have begun referring Stage II business clients for services. Given the smaller pilot scale, approximately 12 companies will be served before June 30, 2013 with EG services and networked services formalized through the pilot. Ten Dream Big Grow Here contests were hosted in the fall of 2013. An additional four regional hosts were placed on a waiting list. The ten contests served entrepreneurs in 66 counties, attracted 225 contestants and generated 100,000 online votes and comments over a four week period. Regional winners will complete in a Pitch-Off event during EntreFest in 2013 in Cedar Rapids, Iowa. Work continues on scaling three MyEntre.Net resources. The Dream Big Grow Here technologies are fully scaled and two others are underway.			
Plans	Economic gardening projects will be conducted for 15 stage II companies in collaboration with local economic developers. MyEntre.Net resources will be reconfigured into stand alone program modules. These will include Dream Big Grow Here, Business Concierge and Webinars. The sixth annual EntreFest will be held in Cedar Rapids, Iowa on March 7th and 8th, 2013.			

	<u>FY 2013 RIF Appropriation - \$900,000</u>	
1	Economic Gardening and Entrepreneurship Outreach	\$300,000
2	Technology Transfer and Business Incubation	\$300,000
3	Regional Development	\$100,000
4	Competitive and Market Intelligence	\$50,000
5	National Ag-Based Lubricants (NABL) Center	\$150,000
		\$900,000.00

University of Northern Iowa	Project	List of all FY 2013 Revenue Sources	5906 Revenue Dollars for FY 2012-2013	Amount Expended as of 12/31/2012
2	Technology Transfer and Business Incubation	FY 2013 Regents Appropriations (RIF)	\$300,000	\$50,411
		FY 2013 Federal Support		
		FY 2013 Other		\$122,629
Description of Project	<p>UNI continues to advance intellectual property disclosures, protection and commercialization across campus. Strategies for commercialization include licensing, strategic partnerships and new business development. The Innovation Incubator has created a hub facility, coalescing the existing strength of Intellectual Property disclosures and University research with quality business services to support business incubation and growth. The incubator and support facilities offer a physical link between the Iowa business community, campus innovators and faculty researchers to enhance technology transfer. UNI will be forging a formal agreement with the ISU Research Foundation to assist and guide commercialization activities and starting discussions with the University of Iowa Research Foundation.</p>			
Anticipated End Results	<p>UNI expects ten disclosures, two patent applications and two license agreements. UNI's incubator will remain full and graduate 4-5 businesses into the regional economy and launch 15 student businesses in the JPEC student Business Incubator. Five late stage faculty research projects will also be assisted. Formal agreements with ISURF and UIRF will be completed.</p>			
Results Achieved to Date	<p>During the first half of FY 2013, five disclosures were received with two moving toward commercialization. UNI has begun active collaboration with the ISU Research Foundation, receiving due diligence technical assistance on four technologies. The Innovation Incubator is full and three companies have recently graduated into the regional economy with one of the companies a former tenant in the Student Business Incubator. The Innovation Incubator conducted a regional BarCamp event, which attracted more than 100 participants to the incubator and led a joint Cedar Valley/UNI Innovation Day with the announcement of the Dream Big Grow Here winner. Another faculty spin-off was started in the past 6 months and a license agreement has been signed with an Iowa company.</p>			
Plans	<p>UNI will continue to focus on commercialization initiatives, including license negotiations and business start ups. At least ten intellectual property disclosures will be received with two licensing agreements executed under patent or trade-secret provisions and UNI will conduct a faculty research grant competition. In addition, the Student Business Incubator and Innovation Incubator will remain full, generating spin-off companies for the Iowa economy. UNI will also expand its corporate research and development program to assist existing businesses in Iowa.</p>			

	FY 2013 RIF Appropriation - \$900,000	
1	Economic Gardening and Entrepreneurship Outreach	\$300,000
2	Technology Transfer and Business Incubation	\$300,000
3	Regional Development	\$100,000
4	Competitive and Market Intelligence	\$50,000
5	National Ag-Based Lubricants (NABL) Center	\$150,000
		\$900,000.00

University of Northern Iowa	Project	List of all FY 2013 Revenue Sources	5909 Revenue Dollars for FY 2012-2013	Amount Expended as of 12/31/2012
3	Regional Development	FY 2013 Regents Appropriations (RIF)	\$100,000	\$47,925
		FY 2013 Federal Support		\$3,402
		FY 2013 Other		\$45,158
Description of Project	IDM will lead an effort to assess and structure Iowa's regions for economic growth. This will include asset mapping to determine regional strengths and linkages and thereby outline the most appropriate regional boundaries. In partnership with the Iowa Economic Development Authority (IEDA), Regent universities, community colleges, utilities, Professional Developers of Iowa (PDI) and the Iowa Department of Education, IDM will enhance the Business Expansion & Strategic Trends (BEST) of Iowa program.			
Anticipated End Results	Making recommendations for reorganizing Iowa's Regions focusing on mapping regional strengths and linkages, propose new regional boundaries and suggest best practices for overall structure and leadership. Outline key benefits of regional development and assist Professional Developers of Iowa with communications and implementation.			
Results Achieved to Date	IDM has helped organize Regionalism 2.0 and conducted multiple planning meetings with PDI and steering committee members. In addition, regional asset mapping is underway. IDM worked with IWD to complete regional asset maps for four regions. IDM partnered with utility companies and economic development service providers to update the Synchronist existing industry survey and helped local development organizations conduct more effective existing industry programs. Entrepreneurial community projects were launched in two regions to integrate entrepreneurship into the regional economy.			
Plans	IDM will lead a process for developing a new set of economic boundaries to help restructure and reenergize regions across the state. IDM will continue supporting regional targeting, marketing, organizational management and planning efforts as requested. IDM will participate in the Business Expansion and Strategic Trends (BEST) of Iowa program and expand the Entrepreneurial Communities Project to enhance and increase entrepreneurship initiatives in regional economic development. Working with the BEST of Iowa Partnership, IDM will enhance the data collection and analysis process.			

FY 2013 RIF Appropriation - \$900,000

1	Economic Gardening and Entrepreneurship Outreach	\$300,000	
2	Technology Transfer and Business Incubation	\$300,000	
3	Regional Development	\$100,000	
4	Competitive and Market Intelligence	\$50,000	
5	National Ag-Based Lubricants (NABL) Center	\$150,000	\$900,000.00

University of Northern Iowa	Project	List of all FY 2013 Revenue Sources	5910 Revenue Dollars for FY 2012-2013	Amount Expended as of 12/31/2012
4	Competitive and Market Intelligence	FY 2013 Regents Appropriations (RIF)	\$50,000	\$25,339
		FY 2013 Federal Support		
		FY 2013 Other		\$25,410
Description of Project	Strategic Marketing Services (SMS) will develop and manage a competitive and market intelligence program for mid-sized Iowa companies. The purpose of devoting RIF investments to competitive and market intelligence projects is to expand economic growth across Iowa by stimulating business expansion opportunities. Accurate information is needed to make sound market entry or expansion decisions. Gathering and using data to make decisions is what SMS provides. Established businesses will be required to pay at least one-half of their project cost. SMS expects to assist at least five Iowa companies with advanced competitive and market intelligence projects. Priority will be given to businesses in the state's target industry clusters.			
Anticipated End Results	SMS will complete five competitive intelligence projects to expand market share, increase profitability and expand the workforce and market research projects for smaller Iowa companies and new startups and five market feasibility assessments for technology transfer.			
Results Achieved to Date	So far this year SMS has used \$10,000 of RIF dollars to conduct a project for IMT in Garner, Iowa that has a total project cost of \$26,856. SMS is currently conducting a project for Xmicrobials which has changed its name to Clean Water Technologies. Total project cost is \$15,682 of which \$7,841 will be paid with RIF dollars. A third project was for a startup technology company - iTracking Research Inc. where \$5,000 of RIF funds were used to match a \$5,000 investment by the company. SMS also developed a market research plan for Casey's General Stores at a cost of \$2,000 to RIF.			
Plans	SMS will continue to consult with Iowa businesses, entrepreneurs, statewide associations and local governments to conduct competitive intelligence and develop market research plans. In some cases, the client may wish to undertake some or all of the research activities on their own, utilizing the market research plan as a guide. The final piece of competitive and market intelligence assistance will be devoted to phase one market research feasibility assessments for the technology transfer process.			

FY 2013 RIF Appropriation - \$900,000

1	Economic Gardening and Entrepreneurship Outreach	\$300,000	
2	Technology Transfer and Business Incubation	\$300,000	
3	Regional Development	\$100,000	
4	Competitive and Market Intelligence	\$50,000	
5	National Ag-Based Lubricants (NABL) Center	\$150,000	\$900,000.00

University of Northern Iowa	Project	List of all FY 2013 Revenue Sources	5908 Revenue Dollars for FY 2012-2013	Amount Expended as of 12/31/2012
5	National Ag-Based Lubricants (NABL) Center	FY 2013 Regents Appropriations (RIF)*	\$150,000	\$0*
		FY 2013 Federal Support		\$15,000
		FY 2013 Other		
Description of Project	NABL will evaluate and enhance microwave lubricant production technology by partnering with Cedar Rapids-based companies (Marion Mixers and AMTek) to investigate the effectiveness and economics at pilot-scale production levels of a new microwave-based lubricant production technology. NABL will conduct fundamental research activities including ongoing development of a Continuous Oil Recirculation System (CORS) incorporating biobased oils and derivatives into the diesel engine crankcase. NABL will support Iowa's biobased products Industry through active participation with industry organizations and provide appropriate standardized testing methods and industry compliance to help prevent sub-par products from entering the marketplace, thus protecting consumers, end-users and producers.			
Anticipated End Results	NABL will refine the microwave lubricant production technology, provide fee-based testing services to at least five biolubricant and/or biofuels industry clients and develop or enhance at least three vegetable oil base products.			
Results Achieved to Date	To date, NABL has provided oil testing services to three industry clients, leading to two ongoing product development research relationships with major biofuels and agriculture industry partners. NABL's patent pending microwave-based grease processing technology has been licensed to Marion Mixers in Marion, Iowa and the technology has been refined. Progress is being made in the CORS diesel engine test cell set up and configuration with key support from a major agriculture equipment manufacturer. Local code review and engineering drawings are currently in progress. NABL led working groups at national and international-level lubricants industry association conferences to advocate for biobased lubricant product standards and industry acceptance.			
Plans	The NABL Center will continue to collaborate with industry partners on development of full-scale microwave-based biolubricant manufacturing processes and equipment, measure and evaluate final product quality differences and identify major cost drivers in vegetable lubricant processes for comparison of microwave vs. traditional methods. New research work investigating the isolation of specific fatty acids such as lubricant feedstocks, coupled with new derivatives of soybean and other oilseeds, will continue and shows potential for expanded value-added activities in Iowa's biobased products manufacturing industry. NABL will participate with industry organizations to provide appropriate standardized testing methods and compliance.			

*NABL is finalizing a grant extension with the US Department of Energy. Regents Innovation Funds will be used as a match when the grant is approved. All RIF funds will be expended by the end of the fiscal year.

GIVF Contracts Summary sheet

			FY Award	Board Approval Date	Date Contract Signed	Exhibit B Total Project amount	Contract Amount	Exhibit E Reimbursements to Date	Remaining Award	Match to Date	Remaining Project	Exhibit C Semi-Annual Report 1 Due	Semi-Annual Report 1 Recvd	Exhibit C Semi-Annual Report 2 Due	Semi-Annual Report 2 Recvd	Exhibit C Semi-Annual Report 3 Due	Semi-Annual Report 3 Recvd
Drake University	Jayne M. Smith, Director, Sponsored Programs	jayne.smith@drake.edu	FY 2011	Dec-10	2/23/2011	\$ 362,000.00	\$ 112,000.00	\$ 76,008.64	\$ 35,991.36	\$ 250,000.00	\$ 35,991.36	08/15/11	N/A	02/15/12	02/13/12	08/15/12	N/A
Luther College	Bradley Chamberlain, Assistant Professor	chambr01@luther.edu	FY 2011	Dec-10	5/16/2011	\$ 129,044.00	\$ 40,000.00	\$ 40,000.00	\$ -	\$ -	\$ 89,044.00	08/15/11	N/A	02/15/12	N/A	08/15/12	N/A
Central College	Russell Benedict	BenedictR@central.edu	FY 2012	Feb-12	6/11/2012	\$ 33,041.00	\$ 10,000.00	\$ 1,722.40	\$ 8,277.60	\$ -	\$ 31,318.60	08/15/12	08/13/12	02/15/13		08/15/13	
Grand View	Corbin Zea	CZea@grandview.edu	FY 2012	Feb-12	4/9/2012	\$ 97,831.00	\$ 45,900.00	\$ 41,066.00	\$ 4,834.00	\$ 50,000.00	\$ 6,765.00	08/15/12		02/15/13		08/15/13	

Drake University	Award	\$ 112,000.00	Budgeted Match	\$ 250,000.00	Project Budget	\$ 362,000.00
Total GIVF Reimbursements Approved:		\$76,008.64	Reported Match:	\$250,000.00	Project Total	\$326,008.64

amendment to ending date of 12/31/2012

Expenses Submitted

Match Funds Reported

Date Submitted	Amount Requested	Amount Approved	Date Approved	Date Reported	Match Amount	Reporting Period	Total Reported
02/13/12	\$1,120.70	\$1,120.70	11/10/11	2/15/2012	\$ 250,000.00		\$251,120.70
04/10/12	\$1,050.01	\$1,050.01	04/10/12				\$1,050.01
06/18/12	\$54,880.41	\$54,880.41	06/18/12				\$54,880.41
08/13/12	\$3,525.31	\$3,525.31	08/13/12				\$3,525.31
11/13/12	\$15,432.21	\$15,432.21	11/13/12				\$15,432.21
						Total Reported	\$326,008.64

In December 2008, Drake University received a \$60,000 GIVF grant to establish the Pharmacogenomics Training and Research Laboratory (PTRL). Pharmacogenomics is a discipline of health science related to the manner in which genes affect individual responses to drugs, presenting an opportunity to customize treatment or therapies for diseases such as breast cancer and leukemia. The PTRL will serve as a central facility for Drake faculty involved in research, and on a fee basis for organizations outside the University. The facility is intended to foster the development of intellectual property as a result of the research conducted.

This proposal will expand the technical capabilities of PTRL for training current and future health care professionals in the identification and characterization of protein biomarkers for application in personalized medicine.

Luther **Award \$ 40,000.00** **Budgeted Match \$ (40,000.00)** **Project Budget \$ -** New Corn-Based Plastics from Two Different Polymerization Technologies

Total GIVF Reimbursements Approved: \$40,000.00 **Reported Match:** \$0.00 **Project Total** \$ 40,000.00

<i>Expenses Submitted</i>				<i>Match Funds Reported</i>		Reporting Period	Total Reported
Date Submitted	Amount Requested	Amount Approved	Date Approved	Date Reported	Match Amount		
07/21/11	\$8,884.60	\$8,884.60	07/21/11				\$8,884.60
10/27/11	\$10,204.46	\$10,204.46	10/31/11				\$10,204.46
01/27/11	\$4.67	\$4.67	02/01/12				\$4.67
04/20/12	\$112.46	\$112.46	04/20/12				\$112.46
07/24/12	\$20,793.81	\$20,793.81	07/24/12				\$20,793.81
Total Reported							\$ 40,000.00

The proposal seeks funds for research into the use of cyclodextrins as a new and potentially less expensive method of detecting furans, dioxanes and polychlorinated biphenyls which can pollute water systems. The researcher believes a low-cost, effective detection method could be commercialized and, once proven, could be expanded to detect other forms of chemical pollutants. The research indicates that the results of the project will be shared with environmental regulatory agencies.

Central College	Award \$	10,000.00	Budgeted Match \$	23,041.00	Project Budget	\$ 33,041.00
Total GIVF Reimbursements Approved:		\$1,722.40	Reported Match:	\$0.00	Project Total	\$ 1,722.40

Expenses Submitted

Date Submitted	Amount Requested	Amount Approved	Date Approved
11/07/12	\$1,722.40	\$1,722.40	11/07/12

Match Funds Reported

Date Reported	Match Amount	Reporting Period	Total Reported
			\$1,722.40
			\$0.00
			\$0.00
Total Reported			\$ 1,722.40

Prairies for Agriculture Project

This proposal seeks to reconstruct an endangered ecosystem in a manner that provides economic opportunities for farmers, ranchers, and other members of the public. The research team will examine and demonstrate the benefits of restoring prairie ecosystems within the agricultural landscape by planting over 375 plots with different combinations of prairie plants. The broad goal of the research is to determine which specific mixes of plants provide the most biomass for fuel/forage production while simultaneously producing the most agricultural and environmental benefits. The research site will also be used for demonstration purposes to educate agricultural producers, business people, government officials and the public on the potential of prairies.

The Prairies for Agriculture Project has worked with the Tallgrass Prairie Center at the University of Northern Iowa to ensure that this proposed project will compliment and not duplicate research currently being done at UNI. The research team will also collaborate with Iowa State University by sending Central College students to ISU to study the use of pyrolysis to convert biomass into energy.

Grand View	Award \$	45,900.00	Budgeted Match \$	51,931.00	Project Budget	\$ 97,831.00
Total GIVF Reimbursements Approved:		\$41,066.00	Reported Match:	\$50,000.00	Project Total	\$ 91,066.00

Expenses Submitted

Date Submitted	Amount Requested	Amount Approved	Date Approved	<i>Match Funds Reported</i> Date Reported	Match Amount	Reporting Period	Total Reported
06/06/12	\$49,940.96	06/06/12		8/13/2012	\$50,000.00		\$91,066.00
							\$0.00
							\$0.00
						Total Reported	\$ 91,066.00

Proposal: Probing Substrate Level Inhibition of Phosphorylase b: Implications Toward Diabetes Regulation

This proposal will seek the synthesis of novel oligosaccharide-4 phosphate derivatives which will provide a better understanding of substrate inhibition for glycogen degradation in phosphorylases. It is anticipated that the outcomes of this research will make a substantive contribution to the design of active site inhibitors of phosphorylase b. This will lead to a better understanding of how to design inhibitors to control glycogen degradation and new treatments for diabetes.

[Agencies](#)[Online Services](#)www.iowaworkforce.org

Iowa Workforce Needs Assessment

The Workforce Needs Assessment Survey is conducted annually by Iowa Workforce Development with support from the Iowa Association of Business and Industry. Employers are asked to provide information regarding both their current level of employment and their current and expected job vacancies. The goal of the survey is to collect and analyze data regarding the demand for workers and the skills required of workers in the area. This information can be used by economic developers, government agencies, employers, and departments of education to guide their decision making on issues related to workforce development, vocational training, and employee recruitment programs.

[Take the 2012 Workforce Needs Assessment Survey](#)

[Results of Statewide Needs Assessment Survey 2007/2008](#)

[Results of Statewide Needs Assessment Survey 2008/2009](#)

[Results of Statewide Needs Assessment Survey 2009/2010](#)

[Results of Statewide Needs Assessment Survey 2011/2012](#)

[Results of Statewide Needs Assessment Survey 2012/2013](#)

Current Workforce Needs Assessment Reports

Listed by Regional Marketing Group Territories:

[Cedar Valley Regional Partnership 2013](#) (PDF 1,358KB)

[Creative Corridor 2013](#) (PDF 1,117KB)

[Eastern Iowa Economic Development Alliance 2012](#) (PDF 1,833KB)

[Great River Region 2013](#) (PDF 1,796KB)

[Greater Council Bluffs Partnership 2013](#) (PDF 1,800KB)

[Greater Des Moines Partnership 2013](#) (PDF 1,866KB)

[Iowa Lakes Corridor 2013](#) (PDF 1,797KB)

[Mid Iowa Growth Partnership 2013](#) (PDF 1,809KB)

[North Central Iowa Alliance 2013](#) (PDF 1,791KB)

[Northeast Iowa Business Network 2013](#) (PDF 1,792KB)

[Northwest Iowa Development 2013](#) (PDF 1,867KB)

[Opportunity² 2013](#) (PDF 1,822KB)

[Prosperity Eastern Iowa 2013](#) (PDF 1,839KB)

[Siouxland Region 2013](#) (PDF 1,822KB)

[South Central Iowa Partnership 2013](#) (PDF 1,822KB)

[Western Iowa Advantage 2013](#) (PDF 1,796KB)

[Why Southwest Iowa 2013](#) (PDF 1,921)

For further information contact:

[Regional
Research &
Analysis
Bureau Home
Page](#)

[Educational
Outcomes
Measures](#)

[Iowa College
Student
Analysis](#)

[Laborshed
Studies](#)

[Skillshed
Analysis](#)

[Unemployment
Insurance
Statistical Data](#)

[Search Labor
Market
Information](#)

[Iowa
Workforce and
Economic
Development
Status Reports](#)

[Iowa
Workforce
Development](#)

Regional Research & Analysis Bureau
Iowa Workforce Development
Telephone: (515) 281-7547
Fax: (515) 281-9656
E-mail: Laborshed.Studies@iwd.iowa.gov

PDF documents must be viewed and printed with the Adobe Acrobat Reader Plug-in.
Users must have this Plug-in downloaded and installed on their computer.
[Download the Adobe Acrobat Reader Free!](#)



Iowa Workforce Development
1000 East Grand Avenue
Des Moines, Iowa 50319-0209
Telephone: (515) 281-5387 or (800) JOB-IOWA: (800) 562-4692
For Deaf and Hard Of Hearing, Use Relay 711
[Equal Opportunity Is The Law](#)
Copyright © - All Rights Reserved
For unemployment insurance claim questions, contact: UIClaimsHelp@iwd.iowa.gov
For general questions, contact: IWD.CustomerService@iwd.iowa.gov
For technical questions about our web sites, contact: IWD.Webmaster@iwd.iowa.gov
Please read our [Terms of Use](#) and [Privacy Statement](#).
Visit the [State of Iowa Home Page](#).

IOWA CAREER, INDUSTRY, & POPULATION REPORT

2010-2020

OCTOBER 2012

Inside this issue:

2010-2020 Iowa Occupational Group Projections Show Continued Modest	1
Health, Transportation, Services Top Iowa's Growth Industries	1 & 4
2010-2020 Iowa Occupational Projections Overview of High Growth and Declining Occupations	2
2010 U.S. Population Census: Population and Immigration Growth Patterns for Region, State, and Nation	3

2010-2020 Iowa Occupational Group Projections Show Continued Modest Growth

Growth Rate

Iowa's occupational employment is expected to increase by 13% from 2010 to 2020, or 1.3% annually. Job growth will vary across major occupational groups depend-

ing on the industry. Service-providing jobs are generally expected to outperform those considered goods-producing. Figure 1 provides the comparable data.

Major occupational groups ex-

pected to grow faster than the state annual average are computer and mathematical; healthcare support; personal care; healthcare practitioner; community and social service; construction; business and financial; arts, design, entertainment, sports, and media; installation, maintenance, and repair; transportation and material moving; and architecture and engineering. Production occupations are projected to grow at the state average. Growing less than the state average include life, physical, and social science; building/grounds cleaning and maintenance; sales, office and administrative; legal; education; food prep and serving; protective service; farming, fishing, and forestry; and management major occupational groups.

Employment

As for Iowa's employment level situation, keep in mind that employment growth rates do not necessarily infer matching employment change numbers. In fact, the top two occupational groups with the greatest employment change

have a growth rate less than the state average. Major occupational groups and their projected 2010-2020 employment change can be found in Figure 2.

Occupational groups projecting higher employment changes include office and administrative, sales, production, transportation and material moving, healthcare, construction, business and financial, food prep, personal care, and education.

Figure 1. 2010-2020 Iowa Occupational Group by Growth Rate

Occupational Group	2010	2020	2010-20	Annual
	Estimated Employment	Projected Employment	Employment Change	Growth Rate (%)
Computer & Mathematical Occupations	28,995	36,285	7,290	2.5
Healthcare Support Occupations	47,955	60,000	12,045	2.5
Personal Care & Service Occupations	53,410	66,145	12,735	2.4
Healthcare Practitioners & Technical Occupations	81,850	100,305	18,455	2.3
Community & Social Services Occupations	24,865	30,295	5,435	2.2
Const & Extraction Occupations	74,650	90,830	16,180	2.2
Business & Financial Operations Occupations	69,835	83,665	13,830	2.0
Arts, Design, Entertainment, Sports, & Media Occupations	26,525	30,770	4,245	1.6
Installation, Maintenance, & Repair Occupations	66,265	76,185	9,925	1.5
Trans & Material Moving Occupations	131,700	151,235	19,535	1.5
Architecture & Engineering Occupations	17,940	20,570	2,630	1.5
Total All Occupations	1,717,020	1,948,700	231,680	1.3
Production Occupations	158,740	178,615	19,875	1.3
Life, Physical, & Social Science Occupations	11,655	13,080	1,420	1.2
Building & Grounds Cleaning & Maintenance Occupations	58,600	65,625	7,025	1.2
Sales & Related Occupations	178,595	199,995	21,400	1.2
Office & Administrative Support Occupations	243,880	270,490	26,610	1.1
Legal Occupations	8,475	9,335	865	1.0
Education, Training, & Library Occupations	109,520	120,515	11,000	1.0
Food Preparation & Serving-Related Occupations	131,865	144,810	12,945	1.0
Protective Service Occupations	21,640	23,555	1,915	0.9
Farming, Fishing, & Forestry Occupations	14,405	15,045	635	0.4
Management Occupations	155,660	161,350	5,690	0.4

Figure 2. 2010-2020 Iowa Occupational Group by Employment Change

Occupational Group	2010	2020	2010-20	Annual
	Estimated Employment	Projected Employment	Employment Change	Growth Rate (%)
Total All Occupations	1,717,020	1,948,700	231,680	1.3
Office & Administrative Support Occupations	243,880	270,490	26,610	1.1
Sales & Related Occupations	178,595	199,995	21,400	1.2
Production Occupations	158,740	178,615	19,875	1.3
Trans & Material Moving Occupations	131,700	151,235	19,535	1.5
Healthcare Practitioners & Technical Occupations	81,850	100,305	18,455	2.3
Const & Extraction Occupations	74,650	90,830	16,180	2.2
Business & Financial Operations Occupations	69,835	83,665	13,830	2.0
Food Preparation & Serving-Related Occupations	131,865	144,810	12,945	1.0
Personal Care & Service Occupations	53,410	66,145	12,735	2.4
Healthcare Support Occupations	47,955	60,000	12,045	2.5
Education, Training, & Library Occupations	109,520	120,515	11,000	1.0
Installation, Maintenance, & Repair Occupations	66,265	76,185	9,925	1.5
Computer & Mathematical Occupations	28,995	36,285	7,290	2.5
Building & Grounds Cleaning & Maintenance Occupations	58,600	65,625	7,025	1.2
Management Occupations	155,660	161,350	5,690	0.4
Community & Social Services Occupations	24,865	30,295	5,435	2.2
Arts, Design, Entertainment, Sports, & Media Occupations	26,525	30,770	4,245	1.6
Architecture & Engineering Occupations	17,940	20,570	2,630	1.5
Protective Service Occupations	21,640	23,555	1,915	0.9
Life, Physical, & Social Science Occupations	11,655	13,080	1,420	1.2
Legal Occupations	8,475	9,335	865	1.0
Farming, Fishing, & Forestry Occupations	14,405	15,045	635	0.4

Health, Transportation, Services Top Iowa's Growth Industries

Growth Rate

Iowa's top high growth industries from the 2010-2020 projection period primarily fall in the services sector. The top 15 industries are projected to produce 85,140 total jobs (or 36%) of the entire industry total of 234,665. These include management, social assistance, wholesale electronics, warehous-

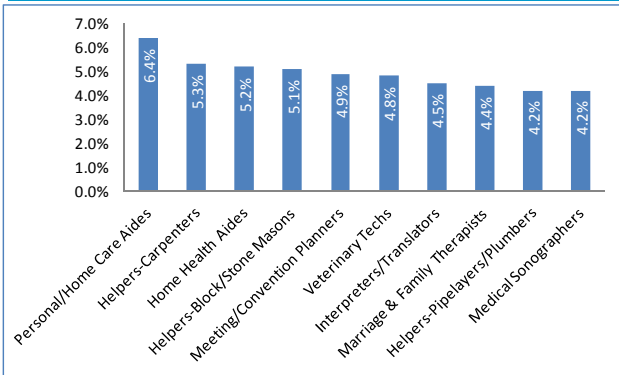
ing, wood product manufacturing, internet services, agriculture support, ambulatory health care, transportation (scenic, truck, support), courier, specialty trade, professional and scientific, and heavy construction.

Regarding Iowa's slower growing industries, manufacturing

Continued on Page 4

2010-2020 Iowa Occupational Projections Overview

Figure 7. 2010-2020 Iowa Occupations with Fastest Growth Rate



High Growth Expected in Healthcare, Personal Care, Construction, Transportation, Sales, & Office-Admin

Growth Rate

Iowa's top 10 occupations expected to have the largest percentage of employment growth for 2010-2020 are primarily in the healthcare, personal care, and construction major occupational groups. See Figure 7. These top occupations include personal care aides, home health aides, helpers (carpentry, block/stone masonry, and pipe laying/plumbing), meeting

and convention planners, interpreters, marriage and family therapists, and medical sonographers. Iowa's top 10 occupations expected to have the largest decline for 2010-2020 will account for 3,765 (or 92%) of the projected 4,110 lost jobs. Figure 10 indicates that the farm management occupation alone will account for 2,180 (or 58%) of the 3,765 jobs expected to be eliminated.

...the largest percentage of employment growth for 2010-2020 are primarily in the healthcare, personal care, and construction major occupational groups.

and convention planners, interpreters, marriage and family therapists, and medical sonographers.

Iowa's top 10 occupations expected to have the largest percentage of employment decline for 2010-2020 are primarily in the office and administrative major occupational group as Figure 8 shows. These include switchboard operators, prepress technicians, data entry keyers, food prep workers, mail carriers, gaming change workers, floral designers, file clerks, power plant operators, office machine operators, and reporters.

Employment

Iowa's top 10 occupations expected to have the largest employ-

ment growth for 2010-2020 will account for 53,950 (or 23%) of the projected 231,680 new jobs. See Figure 9. Of the 53,950 new jobs, 41,910 (or nearly 80%) will fall into the major occupational groups of healthcare; sales; office and administrative; and transportation and material moving. Iowa's top 10 occupations expected to have the largest decline for 2010-2020 will account for 3,765 (or 92%) of the projected 4,110 lost jobs. Figure 10 indicates that the farm management occupation alone will account for 2,180 (or 58%) of the 3,765 jobs expected to be eliminated.

Other top declining occupations include mail carriers, switchboard operators, data entry keyers, fast food cooks, file clerks, prepress technicians, floral designers, correctional officers, office machine operators, reporters, and legislators.

Openings

Iowa's top 10 occupations expected to have the most annual openings for 2010-2020 will account for 15,405 (or 24%) of the projected 64,525 openings. Of the 15,405 openings, 9,465 (or 61%) will fall into the major occupational groups of food prep and serving, office and administrative, and sales as Figure 11 illustrates. Top occupations include cashiers, retail sales, farm managers, truck drivers, wait staff, food prep workers, registered nurses, customer service reps, office clerks, and laborers.

Figure 8. 2010-2020 Iowa Occupations with Fastest Declining Growth Rate

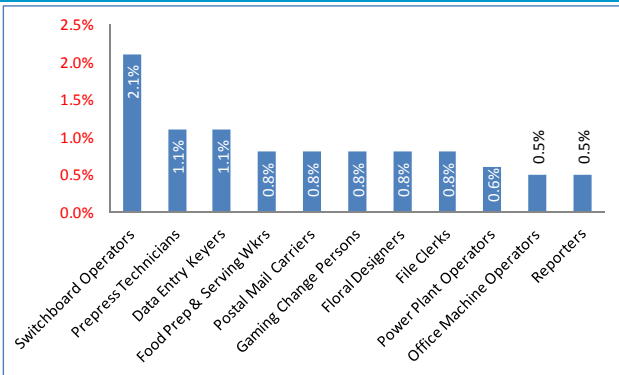


Figure 9. 2010-2020 Iowa Occupations with Largest Growth

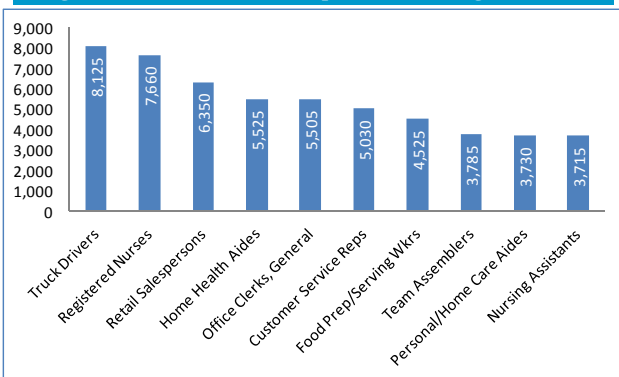


Figure 10. 2010-2020 Iowa Occupations with Fastest Declining Growth

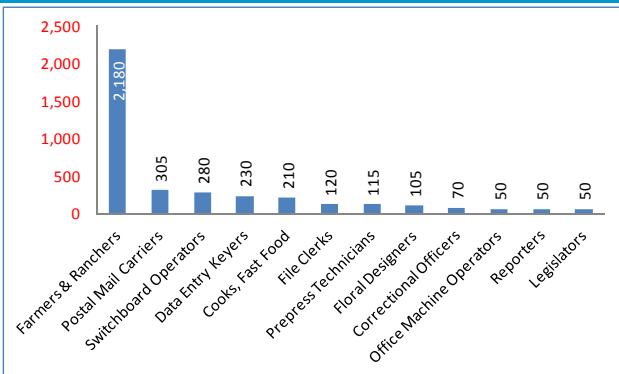
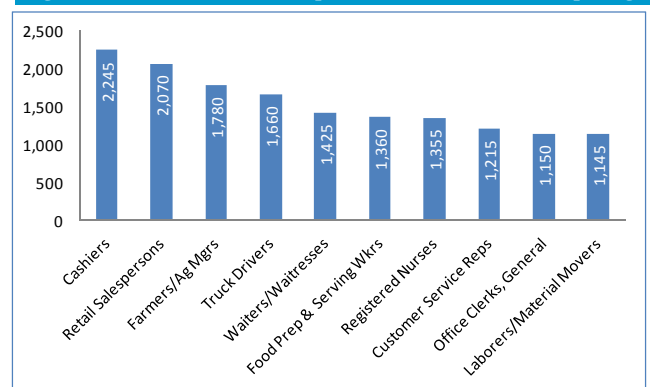


Figure 11. 2010-2020 Iowa Occupations with Most Annual Openings



2010 U.S., Iowa Population Census

Midwest Trails Nation in Growth, MSAs are Bright Spots

U.S.-Regional Pop Growth

The Midwest trails in percentage population growth when compared with other regions of the country as Figure 12 indicates. For the past several decades, the South and West regions grew at substantially higher rates than any other region.

Iowa's Pop Growth

Iowa enjoyed a 5.4 percent population gain in the 1990s and a more recent 4.1 percent increase from 2000 to 2010. See Figure 13. These back-to-back periods saw Iowa increase its

population by 269,524. At no time in the last 100 years has Iowa enjoyed greater population increases in number for consecu-

tive periods than in the past two decades. Also, the trend line indicates continued population growth.

Iowa's MSA Pop Growth

Looking at Figure 14, long-established trends continue in Iowa's sub state areas. Metropolitan Statistical Areas (MSAs) are rising in population growth. Ames, Cedar Rapids, Council Bluffs, Davenport, Des Moines, Dubuque, Iowa City, Sioux City, and Waterloo-Cedar Falls make up Iowa's MSAs. The 2010 Census data shows Iowa's fastest population growth is expected for the Ames-Des Moines and Cedar Rapids-Iowa City corridors.

Figure 12. 2010 U.S. & Regional Population Growth by Decade

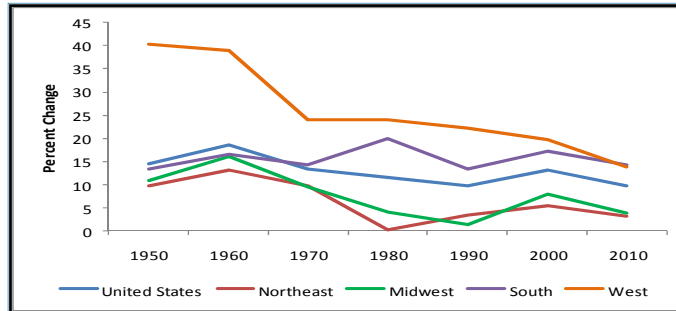


Figure 13. 2010 Iowa Population Growth by Decade

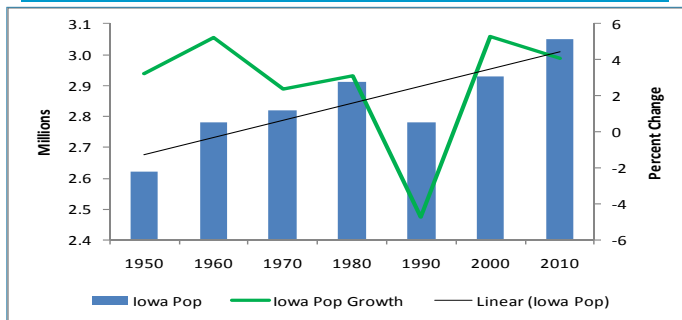
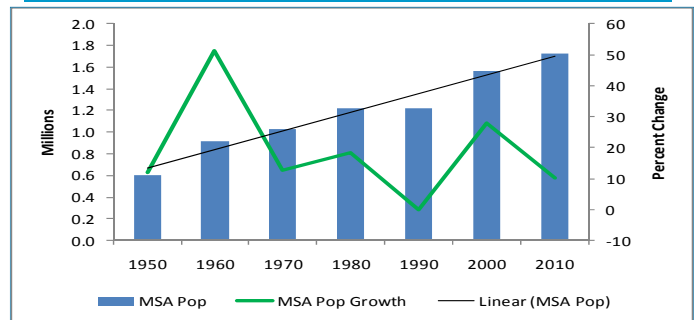


Figure 14. 2010 Iowa MSA Population Growth by Decade



Immigration & Ethnic Origin Growth Trends

U.S. Foreign-Born Pop

Figure 15 takes a look at the foreign-born population and their decade of entry into the U.S. as of 2009. More foreign immigrants entered the U.S.

during the past two decades than before. These (legal) immigrants, accounting for much of the nation's (and Iowa's) growth, came from Latin America (51%), Asia (27%), Europe

(15%), and Other (7%). Mexico led all countries at 28 percent.

Race & Hispanic/Latino Origin in Iowa

The racial make-up of Iowa's population from 1990 through

2010 is presented in Figure 16. All minority racial groups increased in number. Also listed are Latinos, the largest ethnic immigrant group.

Figure 15. 2010 U.S. Foreign-Born Population & Decade of Entry

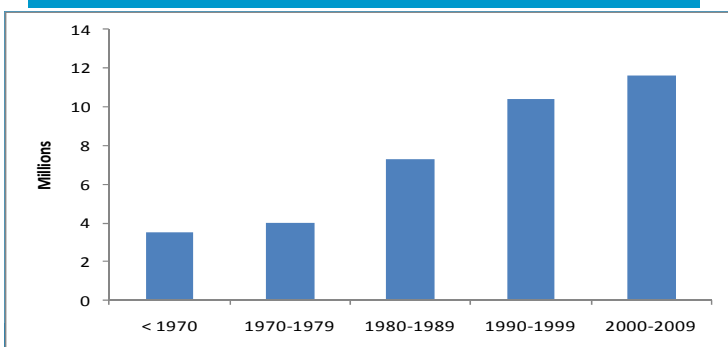


Figure 16. 2010 Race & Hispanic/Latino Origin in Iowa by Decade (%)

Race/Ethnicity	1990	2000	2010
White	96.6	93.9	91.3
Black	1.7	2.1	2.9
American Indian	0.3	0.3	0.4
Asian/Pacific Islander	0.9	1.3	1.8
Other	0.5	1.3	1.8
Two or More Races	n/a	1.1	1.8
Total	100	100	100
Latino, Any Race	1.2	2.8	5.0

Health, Transportation, Services Top Iowa's Growth Industries

Continued from Page 1

(apparel, leather, textile, electrical equipment, miscellaneous, and paper), utilities, government (federal, state, and postal services), and printing are all expected to have declining employment numbers and growth rates. In fact, the manufacturing and government industries together make up the bulk of Iowa's projected 6,775 job decline with an expected combined loss of 5,675 jobs (or 84%). Figures 3 and 4 provide a ranking of industries evaluated from a growth rate perspective.

Figure 3. 2010-2010 Iowa Industries with Fastest Growth Rate

Industry	Percent Change	Total Growth
Management of Companies and Enterprises	49.4%	6,385
Social Assistance	40.6%	11,735
Wholesale Electronic Markets and Agents	39.2%	2,470
Warehousing and Storage	39.1%	4,100
Wood Product Manufacturing	38.1%	3,245
Internet Service Providers, Web Search	37.7%	2,040
Support Activities for Agriculture	34.8%	1,245
Ambulatory Health Care Services	33.4%	16,905
Scenic and Sightseeing Transportation	33.3%	10
Couriers and Messengers	31.0%	1,475
Truck Transportation	29.7%	8,630
Specialty Trade Contractors	29.1%	11,385
Support Activities for Transportation	29.1%	840
Heavy and Civil Engineering Construction	29.0%	2,540
Professional, Scientific, and Technical Services	28.7%	12,135

Figure 4. 2010-2010 Iowa Industries with Fastest Declining Growth Rate

Industry	Percent Change	Total Growth
Apparel Manufacturing	-52.8%	-575
Postal Service	-24.4%	-1,965
Leather and Allied Product Manufacturing	-23.3%	-50
Textile Product Mills	-12.6%	-90
Textile Mills	-12.0%	-15
Utilities	-8.9%	-605
Federal Government	-8.9%	-985
Electrical Equipment, Appliance and Component Mfg	-7.8%	-500
Miscellaneous Manufacturing	-7.8%	-315
Printing and Related Support Activities	-6.9%	-495
State Government, Excluding Education and Hospitals	-5.1%	-1,080
Paper Manufacturing	-2.6%	-100

Employment

Industries evaluated from an employment number format differ somewhat from a focus on growth rates. Iowa's top 15 industries by employment number, for example, include ambulatory health care, education, administrative support, professional and scientific, social assistance, hospitals, specialty trade contractors, self-employed, insurance carriers, nursing care, truck transportation, food services, credit intermediation, management, and machinery manufacturing. Of Iowa's 234,665 projected total growth in jobs, 158,000 (or 67%) of them can be found in these industries. Figures 5 and 6 give a breakdown of growing and declining jobs by industry.

Figure 5. 2010-2020 Iowa Industries with Largest Growth

Industry	Total Growth	Percent Change
Ambulatory Health Care Services	16,905	33.4%
Educational Services	14,815	8.8%
Administrative and Support Services	14,225	22.5%
Professional, Scientific, and Technical Services	12,135	28.7%
Social Assistance	11,735	40.6%
Hospitals	11,625	21.2%
Specialty Trade Contractors	11,385	29.1%
Self Employed and Unpaid Family Workers	9,980	7.1%
Insurance Carriers and Related Activities	9,615	23.3%
Nursing and Residential Care Facilities	9,150	14.5%
Truck Transportation	8,630	29.7%
Food Services and Drinking Places	8,255	8.8%
Machinery Manufacturing	7,120	20.6%
Management of Companies and Enterprises	6,385	49.4%
Credit Intermediation and Related Activities	6,040	14.0%

Figure 6. 2010-2010 Iowa Industries with Largest Decline

Industry	Total Growth	Percent Change
Postal Service	-1,965	-24.4%
State Government, Excluding Education and Hospitals	-1,080	-5.1%
Federal Government	-985	-8.9%
Utilities	-605	-8.9%
Apparel Manufacturing	-575	-52.8%
Electrical Equipment, Appliance and Component Mfg	-500	-7.8%
Printing and Related Support Activities	-495	-6.9%
Miscellaneous Manufacturing	-315	-7.8%
Paper Manufacturing	-100	-2.6%
Textile Product Mills	-90	-12.6%
Leather and Allied Product Manufacturing	-50	-23.3%
Textile Mills	-15	-12.0%

Employment data derived from the 2010-2020 Iowa Industry and Occupational Projections produced by the Labor Market and Workforce Information Division of Iowa Workforce Development (IWD). Population figures are from the 2010 U.S. Census with additional analysis performed by the State Data Center of the State Library of Iowa and IWD. MSAs refer to Metropolitan Statistical Areas (urban areas with 50,000 or more residents).

This publication was produced by the Labor Market and Workforce Information Division of Iowa Workforce Development. Inquiries may be directed to Brent Paulson at 515.281.3439 or Brent.Paulson@iwd.iowa.gov.

Visit <http://iwin.iowaworkforce.org/> to obtain the latest workforce data and trends including this document under the **Publications** tab. Published 10/2012.



July 2013

Middle-Skill Jobs in Iowa



**SKILLED
IOWA**

Table of Contents

Introduction	1
Iowa's Jobs and Workers by Skill Levels	2
Iowa's Job Openings by Skill Levels	3
Iowa's 2025 Workforce	4
Iowa's Middle-Skill Occupations	5
Iowa's Employment by Industry	9
Middle-Skill Occupations in STEM	10
Middle-Skills Iowa Statewide Laborshed Survey	11
Middle-Skills Workers Local Employment Dynamics	12
Skills Iowa Initiative	13
Iowa Workforce Development Regions	14
IWD Region 1 Middle-Skill Occupations	15
IWD Region 2 Middle-Skill Occupations	17
IWD Region 3-4 Middle-Skill Occupations	18
IWD Region 5 Middle-Skill Occupations	20
IWD Region 6 Middle-Skill Occupations	21
IWD Region 7 Middle-Skill Occupations	22
IWD Region 8 Middle-Skill Occupations	24
IWD Region 9 Middle-Skill Occupations	25
IWD Region 10 Middle-Skill Occupations	27
IWD Region 11 Middle-Skill Occupations	30
IWD Region 12 Middle-Skill Occupations	33
IWD Region 13 Middle-Skill Occupations	35
IWD Region 14 Middle-Skill Occupations	37
IWD Region 15 Middle-Skill Occupations	38
IWD Region 16 Middle-Skill Occupations	41

Introduction



During the past three years, Iowa has managed to regain a large number of the jobs that were lost due to the severe recession of 2007-2009. Many of these jobs were classified as “middle-skill” jobs, and a disproportionate number of them were concentrated in the construction and manufacturing industries. Middle-skill jobs currently represent about 56 percent of the jobs that make up Iowa’s economy. They are generally defined as those that require education and training beyond high school, but less than a bachelor’s degree. These jobs can be found in all of the state’s industries.

The postsecondary education or training requirements that qualify an individual for a middle-skill job can include an associate’s degree or vocational certificate, an apprenticeship program, military training, on-the-job training, or “some college” less than a bachelor’s degree. Middle-skill jobs encompass a wide range of occupations from computer support specialists and radiation therapists to carpenters and machinists. The demand for middle-skilled professionals is particularly acute in healthcare, an industry that continued to add jobs throughout the recession.

Middle-skill jobs also provide an opportunity for upward mobility. The opportunities serve an important role, strengthening the middle class to the benefit of the entire economy. This is why we need to prepare youth and adults for middle-skill jobs that are in high demand in the labor market. Many of the middle-skill jobs offer relatively high pay. Recent studies have shown that two-year degree holders, especially in high-demand occupations, can earn salaries that surpass those of college graduates. This is particularly true for individuals who have completed two-year degrees in the STEM subjects (science, technology, engineering and math).

There will also be a large number of job openings in the goods-producing industries like construction, manufacturing and natural resources. Although future growth rates may not be as strong in these industries as some others, shortages will occur simply because of the need to replace retiring baby boomers. Additionally, the state’s manufacturing sector led the economic recovery in the state, leaving many companies with shortages of skilled production workers, machinists and welders. To help close the growing skills gap, the Iowa Association of Business and Industry, in collaboration with manufacturers and schools, is leading an effort to encourage the use of the National Association of Manufacturers (NAM) Skills Certification System. This system of nationally portable, industry-recognized credentials validates the skills that are required to be successful in today’s advanced manufacturing environment.

To create an awareness of how the middle-skill occupations can provide a better life for many individuals, there needs to be a better network of pathways to reach career goals. Our current system emphasizes a single pathway to success which involves attending and graduating from a four-year college after completing high school. This leaves far too many people left behind without a clear conception of the career they want to pursue, or how to get there. We need to follow the lead of other countries that have for some time broadened the range of high-quality pathways that are provided to youth, beginning in high school. This strategy will help to increase the percentage of individuals who earn a post-secondary degree or credential that prepares them for a meaningful career.

Iowa's Jobs and Workers by Skill Level

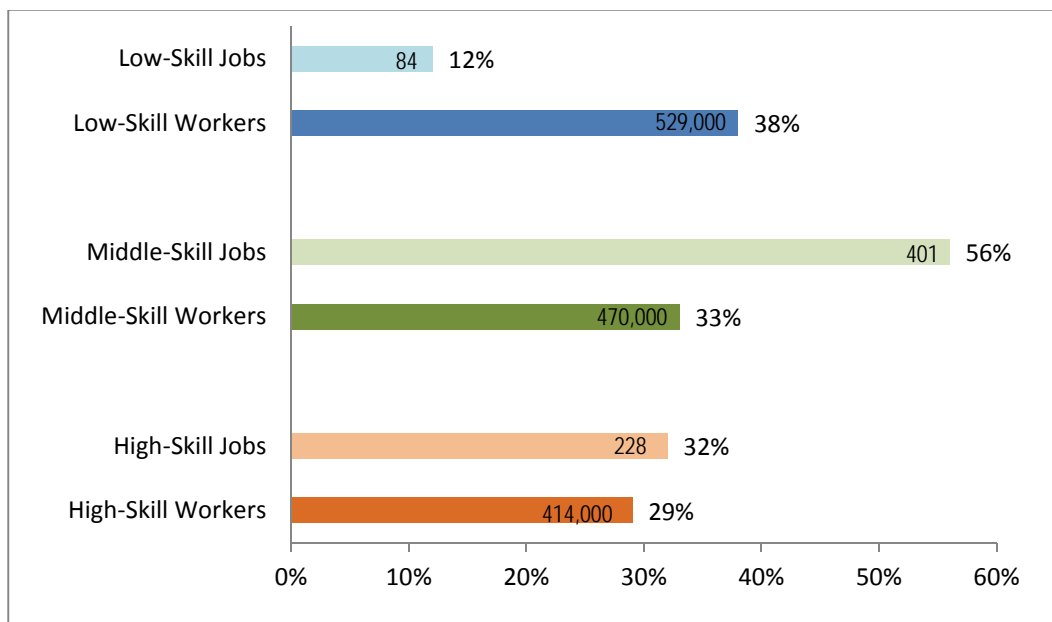
Data for the jobs by skill level was obtained from the 2012 Occupational Employment Statistics (OES) Wage Survey. OES is a federal-state cooperative program that uses a semi-annual survey of employers to create occupational employment and wage estimates for the state, metropolitan statistical areas (MSAs) and balance of state areas for over 800 occupations. The occupations from the OES were assigned an education level by the Bureau of Labor Statistics (BLS), and then grouped into three skill categories--low, middle and high. Low-skill jobs are those that need less than a high school education; middle-skill jobs require a high school education, but less than a four-year degree; and high-skill jobs call for a four-year degree or more. The number of different jobs at each skill level was divided by the total number of jobs to calculate the percent of jobs.

Information for workers was obtained from the 2011 Current Population Survey (CPS), employment and status of the civilian noninstitutional population 25 years and over, by educational attainment. The CPS is sponsored jointly by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics to produce labor force statistics for the United States. The CPS reported four educational levels for the civilian labor force, which were rolled into three skill levels. The number of workers in each skill level was divided by the total civilian labor force to calculate the percentage of workers.

The major difference between the data sources is that jobs include a count of all occupations regardless of age. Workers include people who are 25 years of age and older who may be either employed or unemployed.

Fifty-six percent of the jobs in Iowa are middle-skill, while only 33 percent of workers possess middle-skills, making it difficult for many employers to fill these positions. In Iowa, only 12 percent of the jobs are low-skill; however, there's an abundance of low-skill workers, at nearly 40 percent. Clearly, there exists a mismatch between the number of jobs and workers at these skill levels. The imbalances show that Iowa has an opportunity to train low-skill workers so they can qualify for middle-skill jobs which will provide them with a rewarding career and higher pay. Middle-skill jobs can be found across all of Iowa's industries, and many require the use of state-of-the-art technology and prior work-related experiences as a prerequisite for employment.

Figure 1. Iowa's Jobs and Workers by Skill Level



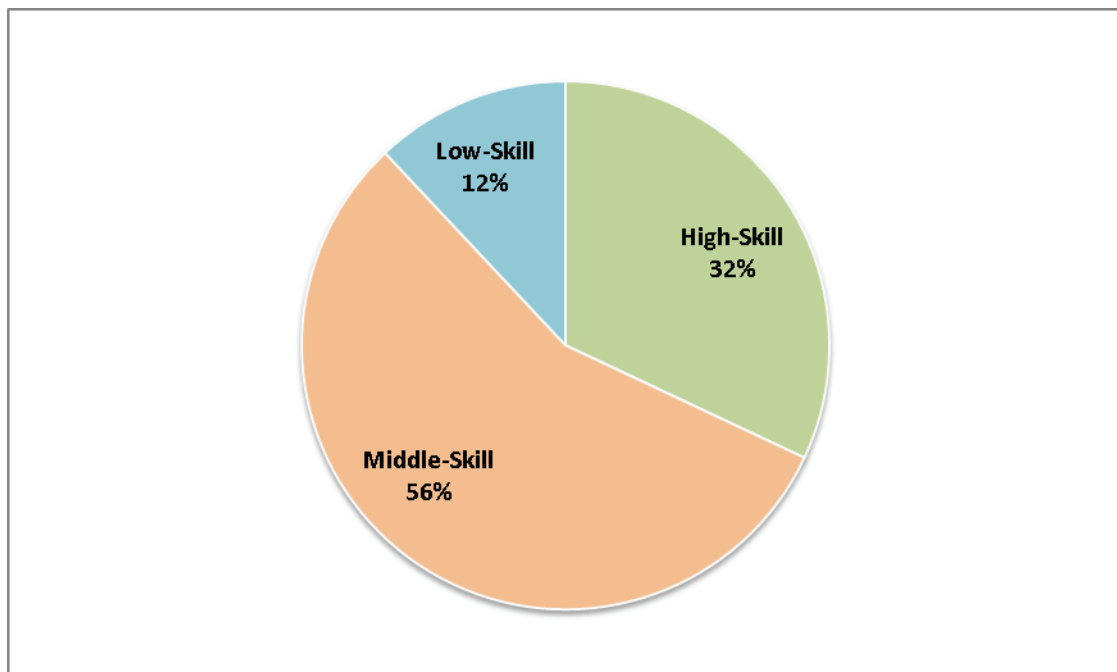
Source: Labor Force and Occupational Analysis Bureau, Iowa Workforce Development
2012 CPS data will be released by the end of the 2013 summer

Iowa's Job Openings by Skill Level

The 2012 OES data was used to create Figure 2, which displays the distribution of Iowa's job openings by skill level. The demand for middle-skills jobs will remain strong, particularly as baby boomers continue to retire. According to researchers at the Brookings Institution, jobs in the areas of healthcare and protective services lack the ability to be outsourced and the skill sets of immigrant workers remain as either high or low. Over half of the job openings will be in middle-skill occupations, followed by high-skill at 32 percent and low-skill at 12 percent. Many of the middle-skill jobs with 200 or more annual openings can be found in Office and Administrative Support, Construction and Extraction and Production occupations. Most of the fast-growing middle-skill occupations can also be found within these same major occupational groups. Examples of the occupations include: managers of office and administrative support workers, customer service representatives, managers of construction trades and extraction workers, operating engineers and other construction equipment operators, welders, cutters, solderers, brazers and machinists.

The mean annual wage for middle-skill occupations predominantly falls between \$35,000 and \$60,000, a good paying wage. Occupations at the higher-end of pay can be found in the areas of managers-general and operations, administrative services, and construction; business and finance- loan officers, appraisers and assessors, and purchasing agents; and sales- real estate brokers, sale representatives, and insurance sales agents.

Figure 2. Iowa's Jobs by Skill Level - 2012



Source: Labor Force and Occupational Analysis Bureau, Iowa Workforce Development

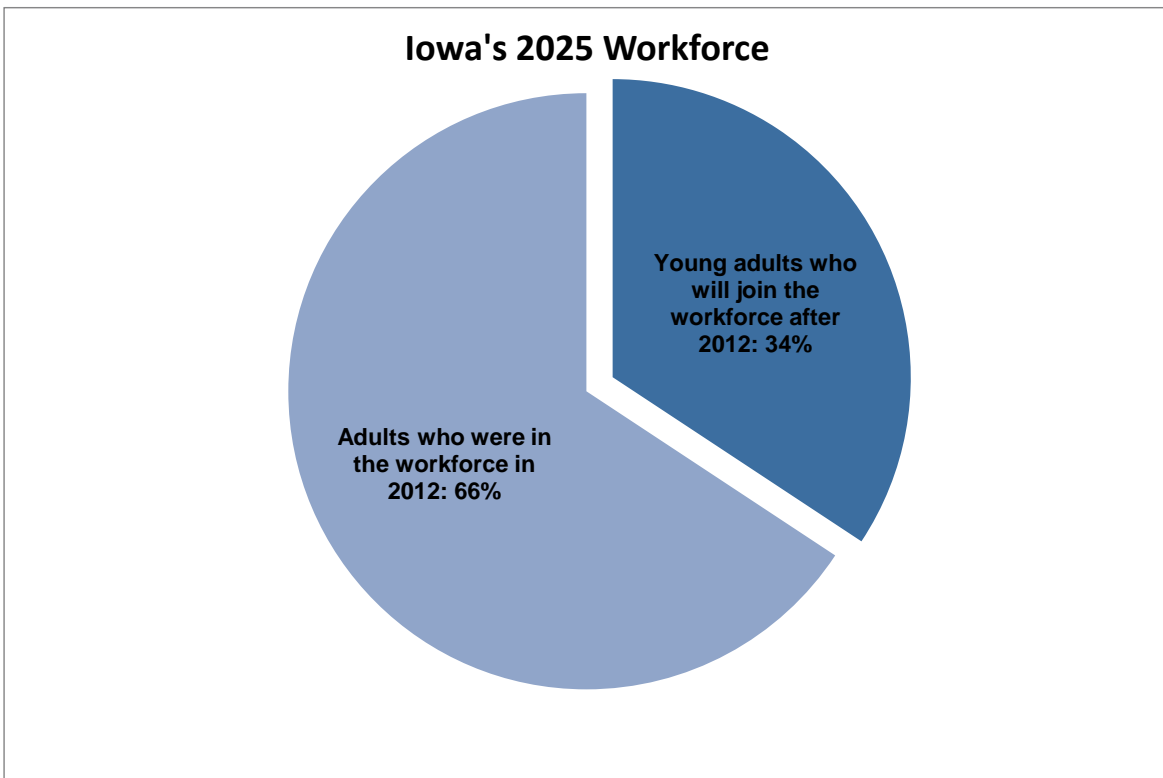
Iowa's 2025 Workforce

Employers continue to have difficulty filling positions with qualified candidates that require middle-skills. This may be due to some jobs requiring specific technical skills and/or several years of direct job experience that many workers have not acquired. Businesses have raised concerns about potential candidates since some do not have basic skills such as reading, writing, math and spelling. Other applicants may be unable to qualify for positions due to criminal history, lack of a clean driving record, or failing to pass company required drug tests.

Opportunities are available which will allow incumbent workers, high school students, unskilled workers and those seeking a career change to procure middle-skills. Skills can be acquired through programs provided by apprenticeships, community colleges, career and technical education programs and employers. Apprenticeships offer a combination of classroom training and hands-on learning. Community colleges provide additional workforce and skills training via associate degrees, certificates, and non-certificate programs to students in areas where job openings exist. Career and technical programs combine academic occupational skills training to prepare participants for the workforce. Employers can work in partnership with business leaders, unions and educational institutions to create sector-based organizations that provide training for specific industries

Data for the 2025 workforce was obtained from Woods and Poole Economics, Inc. state population projections. The 2025 population for the 20-34 age group was divided by the total population ages 20-64 (working age). This provided the percent of young people who will join the workforce. The remaining percent represented the adults who were in the workforce in 2012.

Figure 3. Iowa's 2025 Workforce



Source: Labor Force and Occupational Analysis Bureau, Iowa Workforce Development.

Iowa's Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	155,660	161,350	5,690	0.4	4,005	\$42.50	\$88,400
11-1021	General & Operations Mgrs	9,995	10,530	535	0.5	240	47.77	99,354
11-3011	Administrative Services Mgrs	2,915	3,290	370	1.3	110	39.39	81,938
11-3071	Transportation, Storage, & Distribution Mgrs	1,050	1,220	170	1.6	40	37.04	77,045
11-9013	Farmers, Ranchers, & Other Agricultural Mgrs	91,170	88,990	-2,180	-0.2	1,780	40.08	83,359
11-9021	Construction Mgrs	3,450	4,240	790	2.3	100	37.63	78,281
11-9051	Food Service Mgrs	2,985	2,950	-35	-0.1	55	22.08	45,923
11-9081	Lodging Mgrs	1,055	1,245	190	1.8	50	18.52	38,518
11-9141	Property, Real Estate, & Community Association Mgrs	1,685	1,890	200	1.2	55	24.37	50,695
11-9199	Mgrs, All Other	3,930	4,560	630	1.6	150	41.54	86,403
13-0000	Business & Financial Operations Occupations	69,835	83,665	13,830	2.0	2,850	27.75	57,718
13-1022	Wholesale & Retail Buyers, Ex Farm Products	1,475	1,650	175	1.2	55	25.32	52,677
13-1023	Purchasing Agents, Ex Wholesale, Retail, & Farm Products	2,685	3,100	415	1.5	115	25.64	53,319
13-1031	Claims Adjusters, Examiners, & Investigators	3,945	4,565	620	1.6	165	25.17	52,353
13-1199	Business Operations Specialists, All Other	11,000	12,225	1,225	1.1	335	26.63	55,390
13-2021	Appraisers & Assessors of Real Estate	1,915	2,090	175	0.9	60	27.95	58,139
13-2072	Loan Officers	5,310	6,615	1,300	2.4	265	29.66	61,700
13-2082	Tax Preparers	875	970	95	1.1	30	13.70	28,495
15-0000	Computer & Mathematical Occupations	28,995	36,285	7,290	2.5	1,300	31.98	66,531
15-1151	Computer Support Specialists	4,820	5,860	1,045	2.2	230	21.54	44,791
17-0000	Architecture & Engineering Occupations	17,940	20,570	2,630	1.5	670	31.94	66,438
17-3011	Architectural & Civil Drafters	860	930	70	0.8	25	22.72	47,272
17-3013	Mechanical Drafters	955	1,130	175	1.8	35	21.70	45,127
17-3022	Civil Engineering Technicians	725	805	80	1.1	20	23.50	48,894
17-3023	Electrical & Electronic Engineering Technicians	1,195	1,230	30	0.3	25	23.93	49,776
17-3026	Industrial Engineering Technicians	640	760	120	1.9	25	24.82	51,632
17-3027	Mechanical Engineering Technicians	565	650	85	1.5	20	22.39	46,568
19-0000	Life, Physical, & Social Science Occupations	11,655	13,080	1,420	1.2	510	26.24	54,567
19-4011	Agricultural & Food Science Technicians	1,080	1,185	100	0.9	45	15.93	33,151
19-4091	Environmental Science & Protection Technicians, Incl Health	455	515	60	1.3	25	23.84	49,579
19-4093	Forest & Conservation Technicians	475	480	5	0.1	20	18.24	37,942
19-4099	Life, Physical, & Social Science Technicians, All Other	480	505	25	0.5	25	21.92	45,607
21-0000	Community & Social Services Occupations	24,865	30,295	5,435	2.2	1,090	18.02	37,480
21-1011	Substance Abuse & Behavioral Disorder Counselors	1,385	1,765	375	2.7	70	21.31	44,343
21-1093	Social & Human Service Assistants	5,055	5,870	815	1.6	190	13.33	27,734
23-0000	Legal Occupations	8,475	9,335	865	1.0	240	33.46	69,600
23-1022	Arbitrators, Mediators, & Conciliators	1,540	1,900	355	2.3	60	34.90	72,593
25-0000	Education, Training, & Library Occupations	109,520	120,515	11,000	1.0	3,565	21.86	45,470
25-2011	Preschool Teachers, Ex Special Education	4,215	4,975	760	1.8	185	13.67	28,429
25-3021	Self-Enrichment Education Teachers	1,810	2,155	345	1.9	65	16.78	34,884
25-9041	Teacher Assistants	15,095	16,535	1,440	1.0	485	10.59	22,033
27-0000	Arts, Design, Entertainment, Sports, & Media Occupations	26,525	30,770	4,245	1.6	1,140	18.31	38,077
27-1023	Floral Designers	1,335	1,230	-105	-0.8	40	11.30	23,493
27-1026	Merchandise Displayers & Window Trimmers	975	1,130	155	1.6	45	12.85	26,722
27-2022	Coaches & Scouts	5,235	6,680	1,440	2.8	275	13.17	27,389
27-2032	Choreographers	325	395	70	2.2	20	26.68	55,506
27-2042	Musicians & Singers	610	645	35	0.6	20	16.48	34,278
27-4021	Photographers	2,165	2,585	420	1.9	65	13.10	27,246
29-0000	Healthcare Practitioners & Technical Occupations	81,850	100,305	18,455	2.3	3,500	31.16	64,824
29-1126	Respiratory Therapists	915	1,145	230	2.5	40	23.03	47,896
29-1141	Registered Nurses	32,455	40,115	7,660	2.4	1,355	25.95	53,991
29-2012	Medical & Clinical Laboratory Technicians	1,440	1,585	150	1.0	45	19.11	39,748
29-2021	Dental Hygienists	1,960	2,535	570	2.9	95	32.02	66,603
29-2032	Diagnostic Medical Sonographers	535	760	225	4.2	30	28.21	58,686
29-2034	Radiologic Technologists & Technicians	2,600	3,235	635	2.4	105	22.56	46,919
29-2052	Pharmacy Technicians	3,575	4,625	1,050	2.9	165	13.48	28,045
29-2056	Veterinary Technologists & Technicians	640	945	305	4.8	40	14.50	30,160
29-2081	Opticians, Dispensing	960	1,170	210	2.2	40	13.49	28,070

Iowa's Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
31-0000	Healthcare Support Occupations	47,955	60,000	12,045	2.5	1,875	12.83	26,704
31-2021	Physical Therapist Assistants	780	1,070	290	3.7	40	21.18	44,051
31-2022	Physical Therapist Aides	740	905	165	2.2	30	12.03	25,010
31-9092	Medical Assistants	3,475	4,320	845	2.4	135	14.31	29,755
31-9096	Veterinary Assistants & Laboratory Animal Caretakers	805	910	105	1.3	20	11.55	24,024
31-9099	Healthcare Support Wkrs, All Other	960	1,090	130	1.4	30	14.11	29,336
33-0000	Protective Service Occupations	21,640	23,555	1,915	0.9	790	18.35	38,166
33-1012	First-Line Supvs/Mgrs of Police & Detectives	700	695	-5	-0.1	25	33.36	69,375
33-3012	Correctional Officers & Jailers	3,110	3,040	-70	-0.2	55	20.70	43,056
33-3051	Police & Sheriff's Patrol Officers	4,600	4,790	190	0.4	155	23.71	49,311
33-9032	Security Guards	6,550	7,740	1,190	1.8	225	12.55	26,115
33-9092	Lifeguards, Ski Patrol, & Other Recreational Protective Svce Wkrs	1,975	2,225	250	1.3	150	8.99	18,706
33-9099	Protective Service Wkrs, All Other	440	540	100	2.3	40	14.46	30,068
35-0000	Food Preparation & Serving-Related Occupations	131,865	144,810	12,945	1.0	5,920	9.66	20,084
35-1012	First-Line Supvs/Mgrs of Food Prep & Serving Wkrs	8,540	9,375	835	1.0	265	14.49	30,140
37-0000	Building & Grounds Cleaning & Maintenance Occupations	58,600	65,625	7,025	1.2	1,760	11.71	24,351
37-1011	First-Line Supvs/Mgrs of Housekeeping & Janitorial Wkrs	2,350	2,375	25	0.1	35	16.57	34,478
37-1012	First-Line Supvs/Mgrs of Landscaping & Groundskeeping Wkrs	1,375	1,535	160	1.2	35	20.60	42,865
37-2021	Pest Control Wkrs	540	695	160	3.0	40	16.46	34,238
37-3012	Pesticide Handlers, Sprayers, & Applicators, Vegetation	1,010	1,145	135	1.3	30	13.89	28,905
37-3013	Tree Trimmers & Pruners	800	1,010	210	2.6	35	15.81	32,889
39-0000	Personal Care & Service Occupations	53,410	66,145	12,735	2.4	2,680	11.30	23,507
39-1011	Gaming Supvs	680	795	115	1.7	25	20.54	42,731
39-1021	First-Line Supvs/Mgrs of Personal Service Wkrs	1,330	1,530	200	1.5	50	19.59	40,748
39-3011	Gaming Dealers	1,580	1,965	390	2.5	105	11.32	23,550
39-3099	Entertainment Attendants & Related Wkrs, All Other	305	395	90	3.0	25	N.A.	N.A.
39-4021	Funeral Attendants	605	625	20	0.3	30	10.23	21,262
39-4031	Funeral Service Mgrs, Directors, Morticians, & Undertakers	535	625	90	1.7	20	30.05	62,510
39-9011	Child Care Wkrs	17,190	20,630	3,440	2.0	885	9.20	19,120
39-9031	Fitness Trainers & Aerobics Instructors	2,550	3,115	570	2.2	100	11.25	23,398
39-9041	Residential Advisors	405	485	85	2.1	25	14.99	31,173
41-0000	Sales & Related Occupations	178,595	199,995	21,400	1.2	7,660	15.91	33,092
41-1011	First-Line Supvs/Mgrs of Retail Sales Wkrs	21,585	24,100	2,520	1.2	755	18.43	38,345
41-1012	First-Line Supvs/Mgrs of Non-Retail Sales Wkrs	5,375	5,895	515	1.0	185	32.68	67,980
41-2012	Gaming Change Persons & Booth Cashiers	500	460	-40	-0.8	25	12.90	26,823
41-3011	Advertising Sales Agents	2,065	2,340	275	1.3	90	24.45	50,859
41-3021	Insurance Sales Agents	6,305	8,560	2,255	3.6	370	24.65	51,267
41-3041	Travel Agents	630	745	115	1.8	20	15.57	32,370
41-3099	Sales Reps, Services, All Other	3,685	4,415	730	2.0	180	25.97	54,015
41-4012	Sales Reps, Wholesale & Mfg, Ex Technical & Scientific Products	17,685	20,075	2,390	1.4	655	28.06	58,368
41-9011	Demonstrators & Product Promoters	1,520	1,700	175	1.2	60	9.88	20,555
41-9021	Real Estate Brokers	705	805	105	1.5	25	28.81	59,924
41-9022	Real Estate Sales Agents	1,620	1,895	275	1.7	65	17.74	36,905
41-9091	Door-to-Door Sales Wkrs/News & Street Vendors/Related Wkrs	1,945	1,910	-30	-0.2	45	16.08	33,440
41-9099	Sales & Related Wkrs, All Other	1,635	1,940	305	1.9	70	18.82	39,146
43-0000	Office & Administrative Support Occupations	243,880	270,490	26,610	1.1	8,160	15.27	31,768
43-1011	First-Line Supvs/Mgrs of Office & Admin Support Wkrs	10,210	11,865	1,655	1.6	440	23.53	48,957
43-2011	Switchboard Operators, Incl Answering Service	1,335	1,055	-280	-2.1	25	12.59	26,201
43-3011	Bill & Account Collectors	3,800	4,460	660	1.7	140	14.97	31,137
43-3021	Billing & Posting Clerks & Machine Operators	5,230	6,090	855	1.6	175	15.81	32,874
43-3031	Bookkeeping, Accounting, & Auditing Clerks	25,300	28,540	3,240	1.3	600	15.44	32,114
43-3051	Payroll & Timekeeping Clerks	1,365	1,505	140	1.0	40	17.32	36,028
43-3061	Procurement Clerks	550	605	55	1.0	30	17.29	35,966
43-3071	Tellers	8,690	9,705	1,010	1.2	460	12.12	25,193
43-4031	Court, Municipal, & License Clerks	1,345	1,390	45	0.3	45	17.24	35,858
43-4041	Credit Authorizers, Checkers, & Clerks	475	525	50	1.1	20	15.96	33,205
43-4051	Customer Service Representatives	25,020	30,050	5,030	2.0	1,215	14.62	30,414
43-4061	Eligibility Interviewers, Government Programs	980	945	-35	-0.4	25	21.13	43,956
43-4071	File Clerks	1,580	1,460	-120	-0.8	40	12.86	26,732
43-4081	Hotel, Motel, & Resort Desk Clerks	3,080	3,670	585	1.9	180	9.21	19,142
43-4111	Interviewers, Ex Eligibility & Loan	1,530	1,810	275	1.8	60	13.37	27,822

Iowa's Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
43-4121	Library Assistants, Clerical	1,870	1,975	105	0.6	95	12.20	25,379
43-4131	Loan Interviewers & Clerks	3,415	3,560	145	0.4	75	15.73	32,720
43-4141	New Accounts Clerks	695	780	85	1.2	25	17.17	35,700
43-4151	Order Clerks	2,575	2,790	210	0.8	95	15.06	31,321
43-4161	Human Resources Assistants, Ex Payroll & Timekeeping	1,265	1,430	165	1.3	50	17.95	37,336
43-4171	Receptionists & Information Clerks	11,365	13,685	2,320	2.0	575	12.60	26,214
43-4199	Information & Record Clerks, All Other	1,965	2,020	55	0.3	60	17.80	37,035
43-5011	Cargo & Freight Agents	280	390	110	3.9	20	20.02	41,621
43-5021	Couriers & Messengers	1,060	1,195	135	1.3	40	11.79	24,537
43-5031	Police, Fire, & Ambulance Dispatchers	860	910	50	0.6	20	18.05	37,546
43-5032	Dispatchers, Ex Police, Fire, & Ambulance	1,755	2,140	385	2.2	70	17.89	37,194
43-5041	Meter Readers, Utilities	610	605	-5	-0.1	20	18.45	38,385
43-5052	Postal Service Mail Carriers	3,710	3,405	-305	-0.8	120	24.62	51,196
43-5061	Production, Planning, & Expediting Clerks	3,160	3,550	385	1.2	120	21.54	44,802
43-5071	Shipping, Receiving, & Traffic Clerks	6,750	6,865	115	0.2	185	14.49	30,148
43-5111	Weighers, Measurers, Checkers, & Samplers, Recordkeeping	915	980	60	0.7	40	13.77	28,634
43-6011	Executive Secretaries & Administrative Assistants	13,245	14,885	1,640	1.2	340	20.19	41,998
43-6012	Legal Secretaries	2,290	2,435	145	0.6	45	17.55	36,516
43-6013	Medical Secretaries	3,955	5,380	1,420	3.6	195	14.13	29,405
43-6014	Secretaries, Ex Legal, Medical, & Executive	20,875	21,410	535	0.3	335	14.28	29,686
43-9021	Data Entry Keyers	2,180	1,950	-230	-1.1	40	13.27	27,611
43-9041	Insurance Claims & Policy Processing Clerks	2,965	3,545	585	2.0	145	16.58	34,485
43-9051	Mail Clerks & Mail Machine Operators, Ex Postal Service	2,290	2,705	415	1.8	85	12.15	25,255
43-9061	Office Clerks, General	33,915	39,420	5,505	1.6	1,150	13.93	28,983
43-9071	Office Machine Operators, Ex Computer	950	900	-50	-0.5	25	14.61	30,394
43-9199	Office & Administrative Support Wkrs, All Other	1,365	1,550	190	1.4	50	13.13	27,311
45-0000	Farming, Fishing, & Forestry Occupations	14,405	15,045	635	0.4	495	14.79	30,774
45-1011	First-Line Supvs/Mgrs of Farming/Fishing/Forestry Wkrs	1,090	1,125	35	0.3	35	24.90	51,789
45-2021	Animal Breeders	500	545	45	0.9	20	14.06	29,248
47-0000	Construction & Extraction Occupations	74,650	90,830	16,180	2.2	3,240	19.50	40,561
47-1011	First-Line Supvs/Mgrs of Const Trades & Extraction Wkrs	5,795	7,195	1,405	2.4	275	26.76	55,640
47-2021	Brickmasons & Blockmasons	1,680	2,345	665	4.0	100	21.98	45,731
47-2031	Carpenters	10,510	12,760	2,250	2.1	450	18.52	38,523
47-2071	Paving, Surfacing, & Tamping Equipment Operators	865	1,065	200	2.3	40	17.89	37,212
47-2073	Operating Engineers & Other Construction Equipment Operators	4,825	5,745	920	1.9	205	19.74	41,062
47-2111	Electricians	7,200	8,700	1,500	2.1	345	22.75	47,309
47-2121	Glaziers	445	600	160	3.6	35	20.51	42,665
47-2132	Insulation Wkrs, Mechanical	330	425	95	2.9	25	17.29	35,972
47-2151	Pipelayers	875	1,105	230	2.6	50	22.39	46,584
47-2152	Plumbers, Pipefitters, & Steamfitters	6,240	7,750	1,505	2.4	330	24.27	50,485
47-2211	Sheet Metal Wkrs	2,060	2,405	350	1.7	70	22.35	46,493
47-2221	Structural Iron & Steel Wkrs	845	985	140	1.7	30	24.62	51,216
47-3013	Helpers--Electricians	755	940	185	2.5	40	14.25	29,635
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, & Steamfitters	520	740	220	4.2	35	12.38	25,736
47-4011	Construction & Building Inspectors	715	820	110	1.5	30	22.70	47,213
47-4031	Fence Erectors	600	715	115	1.9	30	17.10	35,570
47-4041	Hazardous Materials Removal Wkrs	375	455	80	2.1	20	17.70	36,830
47-4051	Highway Maintenance Wkrs	3,550	3,665	115	0.3	105	18.41	38,291
49-0000	Installation, Maintenance, & Repair Occupations	66,265	76,185	9,925	1.5	2,470	19.59	40,742
49-1011	First-Line Supvs/Mgrs of Mechanics, Installers, & Repairers	4,020	4,515	495	1.2	155	27.89	58,009
49-3021	Automotive Body & Related Repairers	2,220	2,630	410	1.8	95	18.80	39,107
49-3023	Automotive Service Technicians & Mechanics	9,790	11,415	1,625	1.7	415	17.16	35,690
49-3031	Bus & Truck Mechanics & Diesel Engine Specialists	4,170	4,630	460	1.1	135	18.83	39,158
49-3041	Farm Equipment Mechanics	1,925	2,110	185	1.0	70	17.11	35,573
49-3042	Mobile Heavy Equipment Mechanics, Ex Engines	1,630	1,845	215	1.3	65	21.91	45,581
49-3043	Rail Car Repairers	390	470	80	2.1	20	19.36	40,263
49-3052	Motorcycle Mechanics	400	505	100	2.5	20	14.53	30,221
49-3053	Outdoor Power Equipment & Other Small Engine Mechanics	565	665	100	1.8	25	14.54	30,252
49-3093	Tire Repairers & Changers	1,215	1,425	215	1.8	50	13.02	27,073
49-9041	Industrial Machinery Mechanics	4,075	5,310	1,235	3.0	200	20.94	43,566
49-9043	Maintenance Wkrs, Machinery	1,450	1,560	110	0.8	40	20.00	41,584
49-9051	Electrical Power-Line Installers & Repairers	1,610	1,630	20	0.1	60	26.76	55,660
49-9052	Telecommunications Line Installers & Repairers	1,250	1,375	130	1.0	35	19.37	40,280
49-9062	Medical Equipment Repairers	480	635	155	3.2	30	23.97	49,852

Iowa's Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
49-9071	Maintenance & Repair Wkrs, General	14,320	15,885	1,565	1.1	420	17.61	36,626
49-9091	Coin, Vending, & Amusement Machine Servicers & Repairers	610	785	175	2.9	30	15.20	31,626
49-9098	Helpers--Installation, Maintenance, & Repair Wkrs	635	725	90	1.4	40	11.44	23,798
49-9099	Installation, Maintenance, & Repair Wkrs, All Other	1,395	1,605	210	1.5	45	17.43	36,249
51-0000	Production Occupations	158,740	178,615	19,875	1.3	5,455	15.88	33,032
51-2022	Electrical & Electronic Equipment Assemblers	1,290	1,385	100	0.8	30	16.22	33,746
51-2031	Engine & Other Machine Assemblers	1,610	1,800	190	1.2	50	17.57	36,552
51-2041	Structural Metal Fabricators & Fitters	1,945	2,350	405	2.1	75	16.28	33,870
51-2092	Team Assemblers	21,670	25,455	3,785	1.7	805	15.14	31,492
51-2099	Assemblers & Fabricators, All Other	3,185	3,720	535	1.7	115	13.01	27,045
51-3092	Food Batchmakers	2,285	2,380	95	0.4	75	18.12	37,686
51-3093	Food Cooking Machine Operators & Tenders	1,025	1,065	40	0.4	35	12.80	26,627
51-4011	Computer-Controlled Machine Tool Operators, Metal & Plastic	2,715	3,585	870	3.2	140	17.59	36,587
51-4021	Extruding & Drawing Machine Setters/Operators, Metal & Plastic	530	650	115	2.2	20	15.92	33,101
51-4023	Rolling Machine Setters, Operators, & Tenders, Metal & Plastic	830	1,000	175	2.1	35	17.74	36,887
51-4031	Cutting/Punching/Press Machine Setters & Operators, Metal/Plastic	3,970	4,395	425	1.1	70	16.43	34,165
51-4033	Grinding/Lapping/Polishing/Buffering Mach Tool Wkrs, Metal/Plastic	980	1,075	95	1.0	25	15.66	32,559
51-4034	Lathe/Turning Mach Tool Setters & Operators, Metal & Plastic	520	595	70	1.3	25	16.05	33,387
51-4035	Milling/Planing Mach Setters, Operators, & Tenders, Metal/Plastic	715	805	90	1.3	25	14.95	31,114
51-4041	Machinists	5,725	6,715	990	1.7	205	17.43	36,261
51-4072	Molding/Coremaking/Casting Mach Setters/Operators, Metal/Plastic	2,420	2,710	290	1.2	70	14.42	29,981
51-4081	Multiple Machine Tool Setters/Operators/Tenders, Metal & Plastic	1,735	1,940	205	1.2	55	17.02	35,385
51-4111	Tool & Die Makers	1,415	1,530	115	0.8	20	22.20	46,185
51-4121	Welders, Cutters, Solderers, & Brazers	8,365	10,110	1,740	2.1	395	16.70	34,735
51-4122	Welding/Soldering/Brazing Machine Setters, Operators, & Tenders	1,590	1,820	230	1.4	65	17.26	35,907
51-4191	Heat Treating Equip Setters, Operators, & Tenders, Metal & Plastic	430	495	65	1.5	40	17.31	36,001
51-4193	Plating/Coating Mach Setters & Operators, Metal & Plastic	465	540	75	1.6	20	15.00	31,194
51-5112	Printing Press Operators	3,455	3,450	-5	0.0	70	15.64	32,533
51-5113	Print Binding & Finishing Wkrs	880	845	-35	-0.4	30	14.39	29,920
51-7011	Cabinetmakers & Bench Carpenters	1,615	2,025	410	2.5	80	15.41	32,053
51-7041	Sawing Machine Setters, Operators, & Tenders, Wood	690	895	200	2.9	35	13.30	27,661
51-7042	Woodworking Machine Setters, Operators, & Tenders, Ex Sawing	810	1,115	305	3.8	40	14.22	29,590
51-8013	Power Plant Operators	695	655	-45	-0.6	25	25.11	52,215
51-8031	Water & Liquid Waste Treatment Plant & System Operators	1,980	2,160	180	0.9	70	19.19	39,913
51-8091	Chemical Plant & System Operators	930	920	-10	-0.1	30	24.15	50,247
51-9012	Separating/Filtering/Clarifying/Precipitating/Still Mach Setters	1,275	1,385	110	0.9	30	16.22	33,746
51-9021	Crushing/Grinding/Polishing Machine Setters, Operators, & Tenders	730	795	65	0.9	30	15.48	32,212
51-9023	Mixing & Blending Machine Setters, Operators, & Tenders	1,905	2,005	100	0.5	65	16.51	34,328
51-9032	Cutting & Slicing Machine Setters, Operators, & Tenders	795	805	5	0.1	20	15.13	31,464
51-9041	Extruding/Forming/Pressing/Compacting Machine Setters/Operators	660	695	35	0.5	20	15.42	32,081
51-9061	Inspectors, Testers, Sorters, Samplers, & Weighers	5,500	6,425	925	1.7	210	16.89	35,148
51-9083	Ophthalmic Laboratory Technicians	425	480	55	1.3	20	13.57	28,228
51-9111	Packaging & Filling Machine Operators & Tenders	4,635	4,980	345	0.7	110	14.92	31,037
51-9121	Coating/Painting/Spraying Machine Setters, Operators, & Tenders	2,025	2,385	360	1.8	80	16.24	33,789
51-9195	Molders, Shapers, & Casters, Ex Metal & Plastic	805	885	75	0.9	40	14.04	29,203
51-9197	Tire Builders	1,220	1,210	-15	-0.1	50	N.A.	N.A.
51-9199	Production Wkrs, All Other	8,185	9,385	1,200	1.5	335	14.20	29,540
53-0000	Transportation & Material Moving Occupations	131,700	151,235	19,535	1.5	5,155	15.56	32,364
53-1021	First-Line Supvs/Mgrs of Helpers/Laborers/Material Movers, Hand	1,730	2,290	560	3.2	90	22.18	46,137
53-1031	First-Line Supvs/Mgrs of Trans/Material-Moving Mach Operators	2,720	3,240	525	1.9	110	24.66	51,311
53-3021	Bus Drivers, Transit & Intercity	1,840	1,995	150	0.8	50	15.42	32,074
53-3022	Bus Drivers, School	5,670	5,715	45	0.1	115	15.02	31,236
53-3031	Driver/Sales Wkrs	4,135	4,425	285	0.7	110	13.54	28,169
53-3032	Truck Drivers, Heavy & Tractor-Trailer	42,670	50,795	8,125	1.9	1,660	18.39	38,251
53-3033	Truck Drivers, Light or Delivery Services	10,325	12,070	1,745	1.7	380	14.36	29,871
53-3099	Motor Vehicle Operators, All Other	695	785	90	1.3	25	13.20	27,463
53-4011	Locomotive Engineers	795	825	30	0.4	30	N.A.	N.A.
53-4021	Railroad Brake, Signal, & Switch Operators	510	525	10	0.2	20	N.A.	N.A.
53-4031	Railroad Conductors & Yardmasters	625	650	20	0.3	20	N.A.	N.A.
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa's Employment by Industry

The Iowa economy has undergone significant changes over the past couple of decades. Several factors have led to change, including industrial and corporate restructuring, less unionization, rapid technological change and globalization. An important consequence of technological change and globalization is increasing economic returns associated with higher levels of education and skills. These factors have widened the gap between employees who have higher levels of skills and education and those who lack them. Over the past twenty years, the number of high-paying jobs for low-skill workers has decreased substantially.

The manufacturing industry is just one example of how technology and globalization have transformed the way in which work is performed. The changes in manufacturing processes have created a need for highly skilled employees and the elimination of thousands of low-skill assembly line jobs. Advances in computers and robotics enable machines to perform many routine tasks that once required human labor. Modern manufacturing plants also have state-of-the art inventory systems that can supply needed parts "just in time" for assembly. They have developed computer links to their suppliers and customers. Suppliers can track progress on the production line via technology and can arrange to ship parts and materials to the right place at the right time, minimizing inventories and downtime.

The percentage distributions displayed on Figure 4 show how Iowa's major industry sectors have changed in their proportions to total nonfarm employment since 1990. For example, manufacturing accounted for 17.8 percent of nonfarm employment in 1990. The sector's proportion dropped to 13.6 percent in 2010 due to the effects of the recession, and then rose to 14.3 percent in 2012 as the state's economy picked up momentum. On the other hand, several service-providing sectors have significantly increased their proportions. These sectors include financial activities, professional and business services, and education and health services

Figure 4. Iowa's Employment Trends by Industry, 1990-2012

	1990	2000	2010	2012
Total Nonfarm Employment	1,226,600	1,478,500	1,469,400	1,508,700
Natural Resources and Mining	0.2	0.1	0.1	0.1
Construction	3.7	4.3	4.2	4.4
Manufacturing	17.8	17.0	13.6	14.3
Trade, Transportation and Utilities	22.0	21.4	20.4	20.9
Information	2.4	2.7	2.0	1.8
Financial Activities	5.7	6.1	6.9	6.9
Professional and Business Services	5.6	7.3	8.3	8.8
Education and Health Services	12.0	12.3	14.6	15.0
Leisure and Hospitality	8.3	8.5	8.8	9.1
Other Services	4.5	3.8	3.9	3.9
Government	17.9	16.5	17.2	17.3

Source: Labor Force and Occupational Analysis Bureau, Iowa Workforce Development.

Middle-Skill Occupations in Science, Technology, Engineering and Math (STEM)

STEM is an acronym for the fields of study in the categories of science, technology, engineering and mathematics. Workers in the STEM occupations drive our nation's innovation and competitiveness by generating new ideas, new companies and new industries. In addition to earning higher wages, workers employed in these occupations tend to experience lower unemployment rates and a smaller salary gap between men and women compared to other occupations.

According to the Department of Labor's Bureau of Labor Statistics, the STEM fields have the greatest potential for job growth in the 21st century and will pay higher wages than non-STEM occupations. In Iowa, the STEM occupations pay a mean hourly wage of \$26.89 compared to \$18.14 for the non-STEM occupations. Iowa's STEM occupations that require middle skills range from a low of \$11.55 an hour (\$24,024) to a high of \$37.63 an hour (\$78,281).

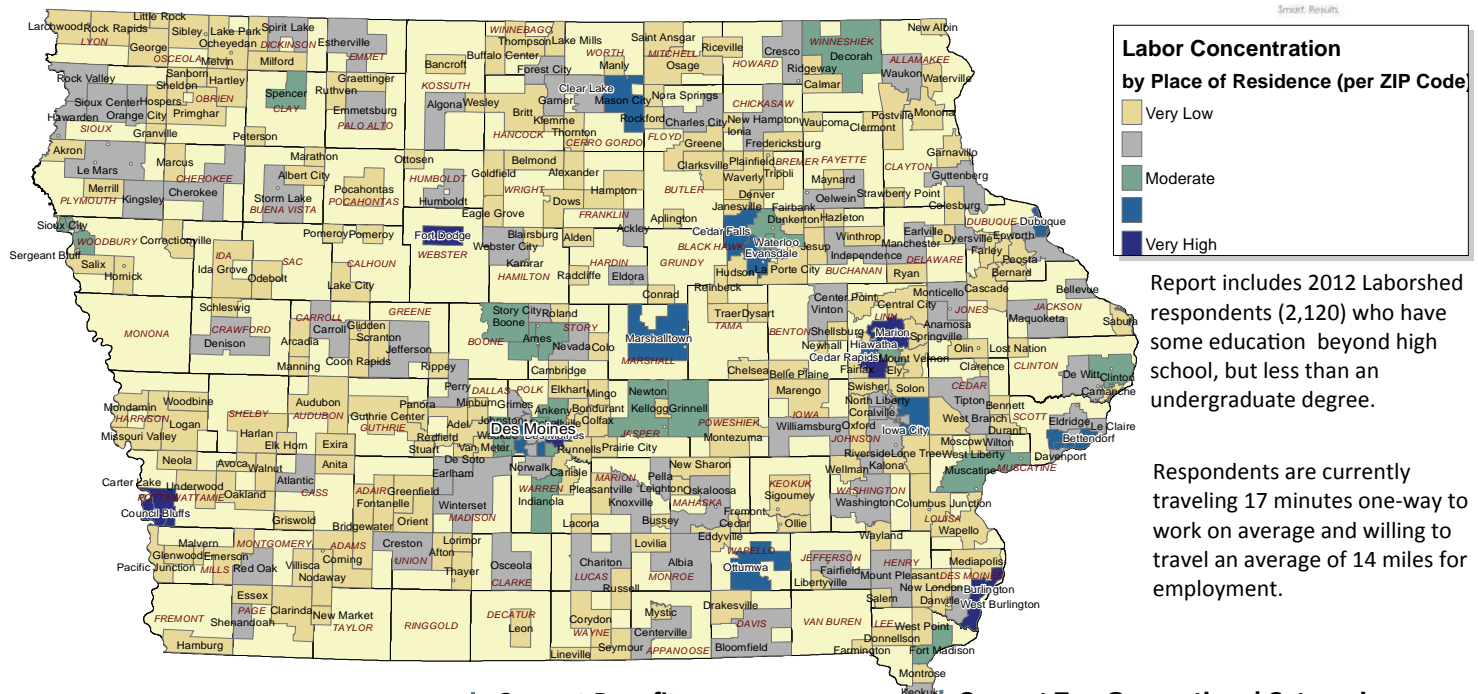
Currently, 67 percent of Iowa's STEM occupations have a growth rate that exceeds the state's annual growth rate of 1.3 percent for all occupations. About 16 percent of Iowa's workforce is employed in the STEM occupations, and about 40 percent of these occupations are concentrated in healthcare. In fact, Iowa's current list of STEM occupations that are in the middle-skill category is dominated by a wide range of healthcare technicians. The occupations included on the list often require an associate degree and training in the use of scientific equipment along with the ability to collect and analyze data. Outside of healthcare, the state's STEM occupations also include such occupations as Veterinary Technologists and Technicians; Plumbers, Pipefitters and Steamfitters; Construction Managers, Computer Support Specialists and Computer-Controlled Machine Tool Operators. Figure 5 below shows five middle-skill occupations in the STEM fields that have annual growth rates that exceed 3.0 percent:

Figure 5. Middle-skill Occupations in STEM that are Fast-Growing, 2010-2020

Occupational Title	Employment		Annual Growth Rate (%)	2012 Mean Wage	2012 Mean Salary
	2010 Estimated	2020 Projected			
Veterinary Technologists & Technicians	640	945	4.8	\$14.50	\$30,160
Diagnostic Medical Sonographers	535	760	4.2	28.21	58,686
Physical Therapist Assistants	780	1,070	3.7	21.18	44,051
Heating, A C, & Refrigeration Mechanics & Installers	3,250	4,450	3.7	22.39	46,577
Computer-Controlled Machine Tool Operators, Metal & Plastic	2,715	3,585	3.2	17.59	36,587
Pharmacy Technicians	3,575	4,625	2.9	13.48	28,045
Dental Hygienists	1,960	2,535	2.9	32.02	66,603
Commercial Pilots	280	355	2.9	34.14	71,002
Respiratory Therapists	915	1,145	2.5	23.03	47,896
Motorcycle Mechanics	400	505	2.5	14.53	30,221
Radiologic Technologists & Technicians	2,600	3,235	2.4	22.56	46,919
Medical Assistants	3,475	4,320	2.4	14.31	29,755
Plumbers, Pipefitters, & Steamfitters	6,240	7,750	2.4	24.27	50,485
Registered Nurses	32,455	40,115	2.4	25.95	53,991
Emergency Medical Technicians & Paramedics	2,225	2,750	2.4	15.79	32,851
Construction Managers	3,450	4,240	2.3	37.63	78,281
Dental Assistants	2,855	3,505	2.3	17.34	36,066
Physical Therapist Aides	740	905	2.2	12.03	25,010
Opticians, Dispensing	960	1,170	2.2	13.49	28,070
Massage Therapists	805	980	2.2	16.79	34,933
Computer Support Specialists	4,820	5,860	2.2	21.54	44,791

Source: Labor Force and Occupational Analysis Bureau, Iowa Workforce Development.

Labor Characteristics Middle-Skills Iowa Statewide Laborshed Survey



Labor Concentration by Place of Residence (per ZIP Code)

- Very Low
- Moderate
- Very High

Report includes 2012 Laborshed respondents (2,120) who have some education beyond high school, but less than an undergraduate degree.

Respondents are currently traveling 17 minutes one-way to work on average and willing to travel an average of 14 miles for employment.

Employment Status:

- 76.0% Employed**
 - 27.8% of the employed are willing to change employment
- 8.8% Unemployed**
 - 63.1% of the unemployed are willing to accept employment
- 6.2% Voluntarily Not Employed, Not Retired**
 - 41.7% of voluntarily not employed, not retired are willing to accept employment
- 9.0% Retired**
 - 23.2% of retirees are willing to accept employment

Education Levels:

- 11.3% Trade certified
- 5.6% Vocational training
- 38.3% Associate degree

Flexibility in the Workplace:

- (by percent of interest)*
- Cross-training - 75.6%
 - Job teams - 76.0%
 - Job sharing - 43.3%
 - Varied shifts (2nd, 3rd, & split) - 33.2%
 - Telecommuting - 13.0%
 - Temporary work - 45.0%

Underemployment:

- Total Underemployment - 6.1%
- Low hours - 2.4%
 - Mismatch of skills - 3.6%
 - Low Income - 1.4%
- (IWD only counts individuals once when estimating Total Underemployment.)

Current Benefits:

- Health/medical insurance - 88.8%
- Pension/Retirement/401K - 64.8%
- Dental coverage - 52.3%
- Paid vacation - 46.2%
- Vision coverage - 32.7%
- Life insurance - 27.2%
- Paid sick leave - 24.8%
- Paid holidays - 24.0%
- Disability insurance - 16.8%
- Prescription Drugs - 8.2%
- Paid time off - 7.1%

Desired Benefits:

- (by percent of interest)*
- Health/medical insurance - 82.7%
 - Pension/retirement/401K - 43.0%
 - Dental coverage - 39.9%
 - Paid vacation - 34.6%
 - Vision coverage - 26.1%
 - Paid sick leave - 14.5%
 - Life insurance - 13.2%
 - Paid holidays - 12.9%
 - Disability insurance - 9.2%
 - Prescription Drugs - 7.5%
 - Paid time off - 6.5%

Top Advertising Media:

- (for those seeking employment opportunities)*
- The Internet (42.9%)
 - Local/Regional Newspapers (27.8%)
 - Networking through family, friends, & acquaintances (12.1%)
 - Local IowaWORKS Centers (10.1%)
 - Private Employment Services (2.2%)

Current Top Occupational Categories:

- Clerical & Administrative Support Services - 19.9%
- Management - 15.5%
- Healthcare Practitioner & Technical - 10.2%
- Production, Construction & Material Handling - 8.4%
- Sales - 6.2%
- Business & Financial Operations - 4.5%

Top Industry Categories:

- Health Care & Social Services - 18.0%
- Manufacturing - 13.9%
- Wholesale & Retail - 11.2%
- Education - 8.6%
- Finance, Insurance & Real Estate - 8.2%
- Transportation, Communications & Public Utilities - 7.7%
- Public Administration & Government - 7.7%
- Personal Services - 7.1%
- Professional Services - 5.5%
- Construction - 4.1%

Other Facts:

- 9.7% are veterans
- 67.1% paid an hourly wage
- 71.2% are/were employed full-time
- 15.8% are/were employed part-time
- 10.2% are/were self-employed
- 14.3% work two or more jobs
- Work an average of 41 hours/week

A Laborshed is defined as the area or region from which an employment center draws its commuting workers. The information contained within this summary is based on aggregated data from the annual statewide Laborshed of 6,000 completed household surveys.

There were an estimated 1,944 respondents in 2011 that were considered by definition to be middle-skill respondents and 1,692 considered low-skill. In 2012, the number of middle-skill respondents increased to 2,120 and low-skill respondents decreased (1,615).

In 2012, just over three-fourths (76.0%) of the respondents that have some education beyond high school, but less than an undergraduate degree, are employed. These respondents are working or have experience in all industries, but the top three industries are health care & social services (18.0%), manufacturing (13.9%) and wholesale and retail (11.2%). They can also be found in all occupational categories, but are mostly working in clerical & administrative support (19.9%), management (15.5%) and healthcare practitioner and technical (10.2%) occupations.

Source: Statewide Laborshed Data 2012

Middle-Skill Workers Local Employment Dynamics (LED)

The Local Employment Dynamics (LED) program is a partnership between Iowa Workforce Development and the U.S. Census Bureau. LED provides demographic information about Iowa's workforce, labor market conditions and communities through the use of Quarterly Workforce Indicators (QWI). Ten indicators provide measurements on gender, employment, job flows, job creation, turnover, new hires, separations and average earnings for industries. In 2012, additional indicators were added that contribute data on race/ethnicity and educational attainment of workers 25 years of age and older.

Educational attainment of workers data from the April 1, 2011 to March 31, 2012 period showed that 64 percent have a high school diploma/equivalent and some college or an associate's degree. Males and females are equally represented in the middle-skill educational group. Also, nine percent of workers had less than a high school diploma, of those 61 percent were male and 39 percent female. Twenty-six percent of the workers received a bachelor's degree or above, 48 percent were male and 52 percent were female.

The total employment of 1,225,579, measures the number of workers in Iowa's industries who were employed by the same employer in both the current and previous quarter. There were nearly 800,000 middle-skill workers, which represented 65 percent of total workers.

Job creation provides the number of jobs gained by new businesses, or the increase of employment by existing firms. Sixty percent of the middle-skill jobs created employed male workers, while forty percent employed females.

Middle-skill worker new hires, the number of workers with a new employer, represented 65 percent of total workers. More male workers than female workers were hired during the April 2011 to March 2012 time period. A detailed table of LED data can be found in the technical notes.

Figure 6. Iowa's Local Employment Dynamics (LED)

QWI Quick Facts - ALL High School or equivalent and some college or associate's degree	Iowa Average (April 1, 2011-March 31, 2012)
Total Employment	790,844
Job Creation	35,294
New Hires	73,933

Source: Local Employment Dynamics (LED), U.S. Census Bureau

Skilled Iowa Initiative

Focused on bridging skills gap within Iowa, Governor Terry Branstad introduced the Skilled Iowa Initiative on June 11, 2012. This public/private initiative is designed to provide assurances to employers and potential employers that local workforces have the skills and abilities to fill job openings.

Skilled Iowa promotes ACT[®]'s National Career Readiness Certificate (NCRC) testing to potential job seekers, encourages businesses to hire certified workers when applicable, and provides resources to those looking to improve their skills.

The NCRC is a portable, nationally recognized credential that is now recommended for many career pathways, and employers across the country are recommending the NCRC. It consists of assessing three core workplace employability skills: Applied Mathematics, Locating Information, and Reading for Information. Each measures skills employers have identified as being critical to on-the-job success.

Employers are using the scores to help select the most qualified candidates for the job. Individuals may earn one of four levels – platinum, gold, silver or bronze – to show employers their qualifications for job opportunities and career advancements.

Skilled Iowa credentialing is a service offered to PROMISE JOBS and Food Assistance Employment and Training program participants. Program participants utilize KeyTrain to prepare to sit for the NCRC. KeyTrain is an interactive tool that provides training for the National Career Readiness Certificate.

Skilled Iowa and NCRC in Iowa High Schools

All Iowa public high schools are integrating Skilled Iowa and NCRC with their career and college planning discussions with students. The NCRC is being used to educate students on the type of employment opportunities in Iowa and the skill sets needed for those opportunities.

Many schools offer NCRC testing in conjunction with the mandatory Iowa Assessments. Students are benchmarked, and then re-tested a year or two later to determine growth, and identify curriculum needs.

The NCRC will be an accompaniment to a high school diploma. The diploma is a credential of academic preparation and the NCRC is a credential of skill application. Together they will prepare students to enter the world of work, continue their education/training or both.

Skilled Iowa Internship Program

The Skilled Iowa Internship program, sponsored by Iowa Workforce Development (IWD), is targeted at individuals who collect unemployment insurance benefits, but is available to any Iowa resident. Individuals may elect to participate in an internship opportunity to build their skills while looking for permanent employment.

Participating companies provide job-skills training to unemployed workers for up to eight weeks and twenty-four hours each week. The works continue to receive their unemployment benefits while at the company.

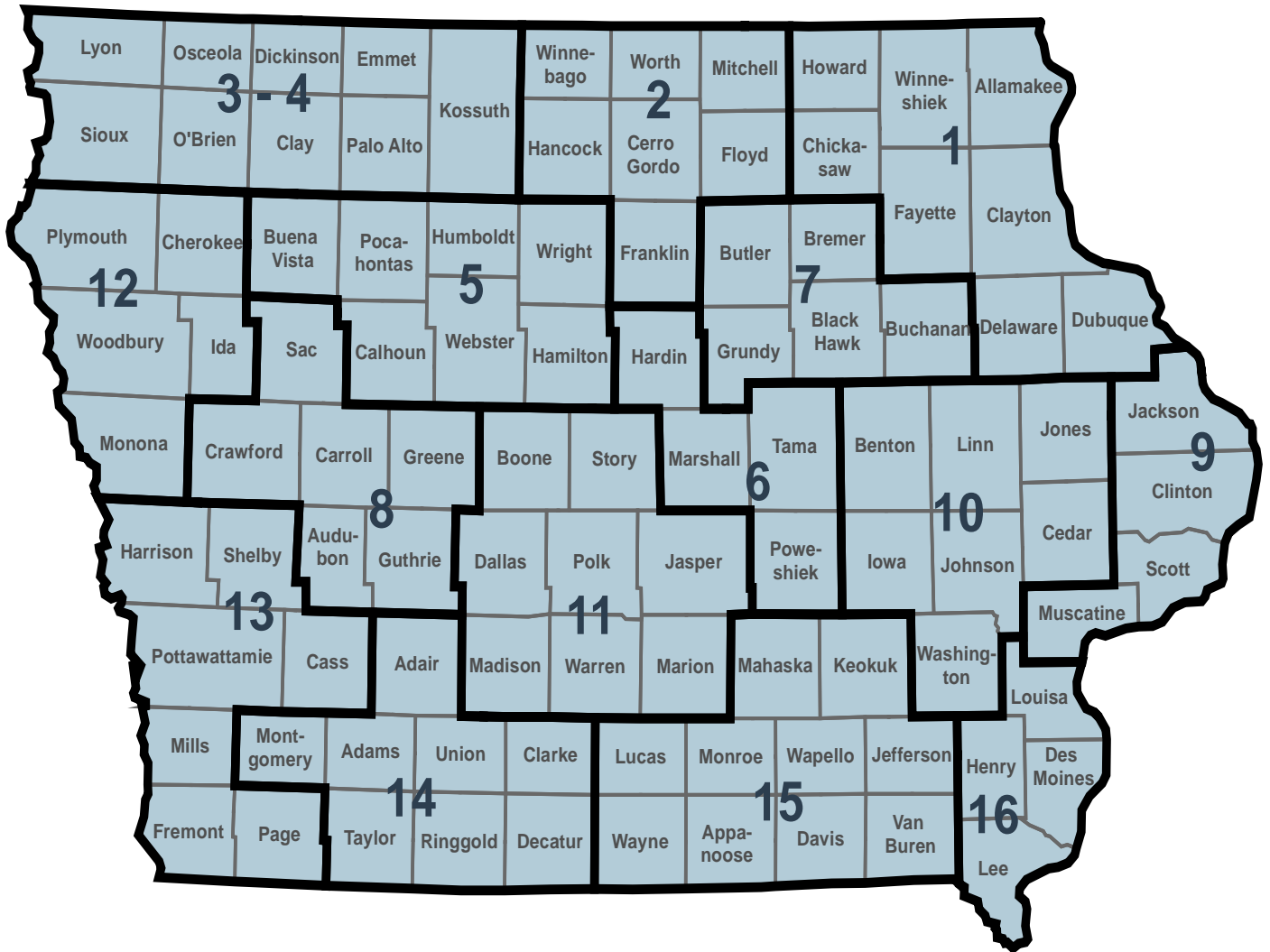
The internship program is available to all Iowa businesses. IWD works closely with each business to define and develop training plans and to provide screened, eligible candidates. Skilled Iowa internships offer a lower training expense with lower risk to participating companies.

Skilled Iowa Communities

Skilled Iowa Communities will improve the job training and marketability of Iowa's workforce and drive future economic growth for the state. Similar initiatives throughout the country have changed the landscape of local economies through programs that incorporate the NCRC assessment system.

Communities earning the Skilled Iowa designation benefit by having a tool to attract new businesses to the area and by being able to demonstrate their community has a skilled workforce to fill current and future jobs.

Iowa Workforce Development Regions



Source: Iowa Workforce Development.

Iowa Workforce Development Region 1 Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	11,950	12,220	270	0.2	295	\$38.97	\$81,053
11-1021	General and Operations Managers	820	850	30	0.4	20	45.40	94,436
11-9013	Farmers, Ranchers, and Other Agricultural Managers	7,605	7,400	-205	-0.3	150	N.A.	N.A.
11-9199	Managers, All Other	610	705	95	1.6	25	36.48	75,878
13-0000	Business and Financial Operations Occupations	3,380	4,055	675	2.0	135	25.21	52,454
13-1199	Business Operations Specialists, All Other	520	595	75	1.4	15	23.01	47,862
13-2072	Loan Officers	250	310	60	2.4	10	27.29	56,751
15-0000	Computer and Mathematical Occupations	2,225	2,925	700	3.1	110	33.35	69,355
15-1151	Computer Support Specialists	420	515	95	2.3	20	22.55	46,896
21-0000	Community and Social Service Occupations	1,995	2,395	400	2.0	85	16.88	35,113
21-1093	Social and Human Service Assistants	210	245	40	1.9	10	11.39	23,678
25-0000	Education, Training, and Library Occupations	8,510	9,215	700	0.8	255	19.80	41,203
25-2011	Preschool Teachers, Except Special Education	270	310	35	1.3	10	12.26	25,502
25-4031	Library Technicians	165	175	10	0.6	10	13.59	28,273
25-9041	Teacher Assistants	1,365	1,470	105	0.8	40	11.69	24,313
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	1,580	1,805	230	1.5	65	16.52	34,373
27-2022	Coaches and Scouts	420	525	105	2.5	20	13.49	28,055
29-0000	Healthcare Practitioners and Technical Occupations	5,795	7,025	1,230	2.1	240	29.29	60,910
29-1141	Registered Nurses	2,225	2,700	475	2.1	90	25.27	52,562
29-2021	Dental Hygienists	175	220	45	2.6	10	30.65	63,765
29-2041	Emergency Medical Technicians and Paramedics	265	335	65	2.5	10	12.60	26,215
29-2052	Pharmacy Technicians	325	425	100	3.1	15	12.51	26,015
29-2061	Licensed Practical and Licensed Vocational Nurses	580	685	100	1.7	25	18.67	38,842
31-0000	Healthcare Support Occupations	3,515	4,335	820	2.3	130	12.19	25,359
31-1014	Nursing Aides, Orderlies, and Attendants	1,815	2,140	325	1.8	55	11.30	23,502
31-9091	Dental Assistants	235	280	45	1.9	10	15.72	32,711
31-9092	Medical Assistants	265	320	55	2.1	10	13.64	28,371
33-0000	Protective Service Occupations	1,335	1,460	125	0.9	55	17.53	36,474
33-3051	Police and Sheriff's Patrol Officers	280	295	15	0.5	10	22.90	47,637
33-9032	Security Guards	370	430	60	1.6	10	12.89	26,822
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	255	280	25	1.0	20	8.82	18,341
35-0000	Food Preparation and Serving Related Occupations	8,870	9,845	975	1.1	405	9.34	19,420
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	535	590	55	1.0	15	13.15	27,350
39-0000	Personal Care and Service Occupations	4,065	4,890	825	2.0	195	10.40	21,620
39-3011	Gaming Dealers	145	200	55	3.8	10	8.15	16,963
39-5012	Hairdressers, Hairstylists, and Cosmetologists	550	650	100	1.8	20	11.55	24,031
39-9011	Childcare Workers	1,485	1,710	225	1.5	70	8.50	17,685
39-9031	Fitness Trainers and Aerobics Instructors	230	280	50	2.2	10	9.53	19,812
41-0000	Sales and Related Occupations	11,755	13,165	1,410	1.2	505	14.85	30,890
41-1011	First-Line Supervisors of Retail Sales Workers	1,295	1,415	120	0.9	40	19.00	39,514
41-1012	First-Line Supervisors of Non-Retail Sales Workers	400	450	45	1.1	15	27.69	57,596
41-3021	Insurance Sales Agents	310	415	105	3.4	15	29.80	61,999
41-3099	Sales Representatives, Services, All Other	290	360	70	2.4	15	24.85	51,683
41-4012	Sales Representatives, Wholesale and Mfg, Except Technical and Scientific Products	1,465	1,625	160	1.1	50	26.87	55,890
41-9099	Sales and Related Workers, All Other	260	305	50	1.9	10	16.83	35,004

Iowa Workforce Development Region 1 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
43-0000	Office and Administrative Support Occupations	15,570	16,970	1,405	0.9	490	14.17	29,490
43-1011	First-Line Supervisors of Office and Administrative Support Workers	590	670	80	1.4	25	21.29	44,281
43-3011	Bill and Account Collectors	185	235	50	2.7	10	15.35	31,933
43-3021	Billing and Posting Clerks	285	325	35	1.2	10	14.58	30,336
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,835	2,050	215	1.2	40	14.30	29,738
43-3071	Tellers	740	815	75	1.0	40	12.83	26,683
43-4051	Customer Service Representatives	995	1,140	140	1.4	40	15.09	31,388
43-4081	Hotel, Motel, and Resort Desk Clerks	210	265	55	2.6	15	8.75	18,204
43-4171	Receptionists and Information Clerks	620	735	115	1.9	30	11.65	24,235
43-4199	Information and Record Clerks, All Other	410	505	95	2.3	20	17.64	36,694
43-5052	Postal Service Mail Carriers	270	235	-35	-1.3	10	24.63	51,228
43-5061	Production, Planning, and Expediting Clerks	260	295	35	1.3	10	18.61	38,705
43-5071	Shipping, Receiving, and Traffic Clerks	535	550	15	0.3	15	13.60	28,280
43-6011	Executive Secretaries and Executive Administrative Assistants	455	515	60	1.3	10	18.71	38,908
43-6013	Medical Secretaries	280	360	80	2.9	10	13.71	28,520
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,810	1,800	-5	0.0	25	13.51	28,094
43-9061	Office Clerks, General	2,220	2,515	295	1.3	70	12.66	26,336
43-9199	Office and Administrative Support Workers, All Other	185	235	50	2.7	10	15.48	32,197
47-0000	Construction and Extraction Occupations	5,450	6,575	1,125	2.1	225	19.03	39,591
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	335	405	70	2.1	15	27.05	56,259
47-2021	Brickmasons and Blockmasons	185	250	70	3.8	10	25.11	52,227
47-2031	Carpenters	655	795	140	2.1	30	16.92	35,190
47-2073	Operating Engineers and Other Construction Equipment Operators	595	765	165	2.8	30	22.08	45,923
47-2111	Electricians	530	630	100	1.9	25	22.52	46,833
47-2152	Plumbers, Pipefitters, and Steamfitters	170	205	35	2.1	10	20.28	42,184
47-4051	Highway Maintenance Workers	330	340	10	0.3	10	18.62	38,731
49-0000	Installation, Maintenance, and Repair Occupations	5,010	5,905	895	1.8	200	18.71	38,916
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	265	295	35	1.3	10	25.53	53,104
49-3023	Automotive Service Technicians and Mechanics	520	620	100	1.9	25	18.32	38,122
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	405	445	40	1.0	15	17.85	37,131
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	335	450	115	3.4	20	19.01	39,558
49-9041	Industrial Machinery Mechanics	340	490	155	4.6	20	21.48	44,667
49-9071	Maintenance and Repair Workers, General	1,195	1,345	155	1.3	35	16.63	34,591
49-9099	Installation, Maintenance, and Repair Workers, All Other	200	245	45	2.3	10	18.70	38,902
51-0000	Production Occupations	13,090	14,900	1,810	1.4	465	15.69	32,631
51-1011	First-Line Supervisors of Production and Operating Workers	680	745	65	1.0	15	25.87	53,808
51-2092	Team Assemblers	2,335	2,715	385	1.6	85	16.16	33,614
51-2099	Assemblers and Fabricators, All Other	320	365	45	1.4	10	13.99	29,107
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	590	760	170	2.9	30	18.09	37,622
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	235	285	50	2.1	10	N.A.	N.A.
51-4041	Machinists	420	515	95	2.3	15	17.38	36,149
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	265	300	35	1.3	10	17.79	36,991
51-4121	Welders, Cutters, Solderers, and Brazers	865	1,075	210	2.4	45	15.38	31,994
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	215	250	35	1.6	10	12.68	26,384
51-7099	Woodworkers, All Other	220	280	60	2.7	10	N.A.	N.A.
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	390	455	65	1.7	15	16.48	34,265
51-9199	Production Workers, All Other	545	630	85	1.6	25	14.96	31,131
53-0000	Transportation and Material Moving Occupations	9,885	11,040	1,155	1.2	355	15.60	32,451
53-1031	First-Line Supvs of Transportation and Material-Moving Machine and Vehicle Operators	195	230	35	1.8	10	22.31	46,417
53-3022	Bus Drivers, School or Special Client	595	590	-10	-0.2	10	13.29	27,640
53-3031	Driver/Sales Workers	375	390	15	0.4	10	13.49	28,063
53-3032	Heavy and Tractor-Trailer Truck Drivers	3,215	3,665	450	1.4	110	19.06	39,636
53-3033	Light Truck or Delivery Services Drivers	755	865	110	1.5	25	12.05	25,054
Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.								
Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau								

Iowa Workforce Development Region 2 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	7,230	7,345	115	0.2	175	38.76	80,620
11-1021	General and Operations Managers	390	405	15	0.4	10	43.63	90,751
11-9013	Farmers, Ranchers, and Other Agricultural Managers	4,985	4,845	-145	-0.3	95	N.A.	N.A.
11-9199	Managers, All Other	315	370	55	1.7	15	39.16	81,459
13-0000	Business and Financial Operations Occupations	1,820	2,125	305	1.7	70	25.90	53,879
13-1199	Business Operations Specialists, All Other	450	520	70	1.6	15	27.57	57,347
25-0000	Education, Training, and Library Occupations	3,450	3,790	340	1.0	115	18.44	38,349
25-9041	Teacher Assistants	365	415	45	1.2	15	10.35	21,518
29-0000	Healthcare Practitioners and Technical Occupations	3,265	3,815	550	1.7	120	31.74	66,020
29-1111	Registered Nurses	1,340	1,585	245	1.8	50	26.19	54,463
29-2061	Licensed Practical and Licensed Vocational Nurses	345	385	35	1.0	15	17.56	36,506
31-0000	Healthcare Support Occupations	2,520	3,100	580	2.3	95	12.82	26,665
31-1012	Nursing Aides, Orderlies, and Attendants	1,005	1,120	115	1.1	25	11.70	24,334
33-0000	Protective Service Occupations	740	755	15	0.2	30	19.40	40,366
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	235	240	10	0.4	15	N.A.	N.A.
39-0000	Personal Care and Service Occupations	1,660	1,985	325	2.0	80	11.59	24,113
39-5012	Hairdressers, Hairstylists, and Cosmetologists	295	335	45	1.5	10	N.A.	N.A.
39-9011	Childcare Workers	500	630	130	2.6	30	8.70	18,098
41-0000	Sales and Related Occupations	6,190	6,810	620	1.0	260	14.56	30,287
41-1011	First-Line Supervisors of Retail Sales Workers	685	740	55	0.8	20	16.13	33,546
41-3021	Insurance Sales Agents	155	195	45	2.9	10	N.A.	N.A.
41-4012	Sales Reps, Wholesale and Mfg, Ex Technical and Scientific Products	755	835	80	1.1	25	29.59	61,551
43-0000	Office and Administrative Support Occupations	7,940	8,515	575	0.7	235	14.22	29,571
43-1011	First-Line Supervisors of Office and Administrative Support Workers	340	380	40	1.2	15	23.14	48,137
43-3031	Bookkeeping, Accounting, and Auditing Clerks	895	980	80	0.9	20	14.58	30,329
43-3071	Tellers	275	285	15	0.5	10	11.79	24,526
43-4051	Customer Service Representatives	535	600	65	1.2	20	15.50	32,249
43-4171	Receptionists and Information Clerks	240	275	40	1.7	10	11.90	24,762
43-6013	Medical Secretaries	170	225	55	3.2	10	14.23	29,589
43-6014	Secretaries and Admin Assistants, Except Legal, Medical, and Executive	1,035	1,055	20	0.2	15	13.28	27,635
43-9061	Office Clerks, General	1,235	1,405	175	1.4	40	13.21	27,476
47-0000	Construction and Extraction Occupations	2,665	3,245	580	2.2	115	17.43	36,251
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	195	250	55	2.8	10	23.66	49,212
47-2031	Carpenters	715	885	170	2.4	30	17.97	37,388
47-2073	Operating Engineers and Other Construction Equipment Operators	225	290	65	2.9	10	18.53	38,529
49-0000	Installation, Maintenance, and Repair Occupations	2,505	2,845	340	1.4	90	19.01	39,538
49-3023	Automotive Service Technicians and Mechanics	190	220	30	1.6	10	13.83	28,770
49-9071	Maintenance and Repair Workers, General	415	460	50	1.2	15	18.02	37,482
49-9799	Installation, Maintenance, and Repair Workers, All Other	330	390	65	2.0	10	21.04	43,771
51-0000	Production Occupations	6,600	7,665	1,065	1.6	245	15.52	32,291
51-1011	First-Line Supervisors of Production and Operating Workers	440	505	65	1.5	10	22.36	46,508
51-2092	Team Assemblers	1,605	1,955	355	2.2	65	13.75	28,589
51-2099	Assemblers and Fabricators, All Other	260	325	65	2.5	10	16.06	33,416
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	160	215	60	3.8	10	20.49	42,609
51-4121	Welders, Cutters, Solderers, and Brazers	340	445	100	2.9	20	16.19	33,683
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	225	255	30	1.3	10	17.38	36,158
51-9399	Production Workers, All Other	270	320	50	1.9	10	13.84	28,773
53-0000	Transportation and Material Moving Occupations	5,185	5,775	590	1.1	185	14.50	30,172
53-3032	Heavy and Tractor-Trailer Truck Drivers	1,895	2,120	225	1.2	60	16.19	33,671
53-3033	Light Truck or Delivery Services Drivers	370	455	80	2.2	15	13.81	28,728
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 3-4 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	10,695	10,835	140	0.1	235	\$36.73	\$76,410
11-1021	General and Operations Managers	565	565	0	0.0	10	40.76	84,766
11-9013	Farmers, Ranchers, and Other Agricultural Managers	8,065	8,020	-45	-0.1	155	N.A.	N.A.
11-9199	Managers, All Other	210	240	30	1.4	10	27.67	57,546
13-0000	Business and Financial Operations Occupations	2,260	2,585	325	1.4	80	25.18	52,381
13-1199	Business Operations Specialists, All Other	365	415	50	1.4	10	17.15	35,672
13-2072	Loan Officers	265	300	35	1.3	10	30.08	62,555
19-0000	Life, Physical, and Social Science Occupations	720	780	60	0.8	30	21.60	44,915
19-4099	Life, Physical, and Social Science Technicians, All Other	180	215	35	1.9	10	20.29	42,203
21-0000	Community and Social Service Occupations	1,925	2,340	415	2.2	85	14.12	29,363
21-1093	Social and Human Service Assistants	535	695	160	3.0	30	10.31	21,444
25-0000	Education, Training, and Library Occupations	4,790	5,280	490	1.0	160	18.45	38,372
25-9041	Teacher Assistants	1,020	1,110	90	0.9	30	11.08	23,052
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	895	1,020	125	1.4	35	14.14	29,406
27-2022	Coaches and Scouts	160	210	50	3.1	10	9.68	20,143
29-0000	Healthcare Practitioners and Technical Occupations	3,160	3,790	625	2.0	125	30.80	64,064
29-1141	Registered Nurses	1,205	1,500	295	2.4	50	24.89	51,766
29-2061	Licensed Practical and Licensed Vocational Nurses	365	400	35	1.0	15	17.84	37,105
31-0000	Healthcare Support Occupations	2,540	3,230	690	2.7	105	11.31	23,530
31-1014	Nursing Aides, Orderlies, and Attendants	840	945	105	1.3	20	11.61	24,156
33-0000	Protective Service Occupations	550	570	20	0.4	20	16.33	33,958
35-0000	Food Preparation and Serving Related Occupations	5,365	5,790	425	0.8	230	9.39	19,519
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	370	405	30	0.8	10	12.62	26,252
39-0000	Personal Care and Service Occupations	1,855	2,215	355	1.9	80	10.29	21,406
39-5012	Hairdressers, Hairstylists, and Cosmetologists	355	405	55	1.5	10	12.45	25,901
39-9011	Childcare Workers	575	700	125	2.2	30	8.35	17,357
41-0000	Sales and Related Occupations	7,455	8,220	760	1.0	310	15.38	32,004
41-1011	First-Line Supervisors of Retail Sales Workers	810	880	75	0.9	25	17.69	36,799
41-3021	Insurance Sales Agents	350	455	105	3.0	20	24.19	50,318
41-4012	Sales Reps, Wholesale and Manufacturing, Except Technical and Scientific Products	970	1,050	80	0.8	30	29.55	61,468
43-0000	Office and Administrative Support Occupations	11,075	11,570	495	0.4	315	13.59	28,253
43-1011	First-Line Supervisors of Office and Administrative Support Workers	300	335	35	1.2	10	21.47	44,648
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,410	1,560	150	1.1	30	13.34	27,753
43-3071	Tellers	465	470	10	0.2	20	11.94	24,845
43-4051	Customer Service Representatives	875	655	-220	-2.5	25	12.95	26,935
43-4081	Hotel, Motel, and Resort Desk Clerks	205	250	45	2.2	10	8.93	18,576
43-4171	Receptionists and Information Clerks	365	420	55	1.5	15	11.82	24,584
43-5071	Shipping, Receiving, and Traffic Clerks	325	310	-10	-0.3	10	14.00	29,128
43-6011	Executive Secretaries and Executive Administrative Assistants	485	530	45	0.9	10	16.26	33,820
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,170	1,190	25	0.2	20	12.34	25,673
43-9061	Office Clerks, General	2,050	2,270	220	1.1	60	12.56	26,139
43-9799	Office and Administrative Support Workers, All Other	610	710	100	1.6	25	14.74	30,668
47-0000	Construction and Extraction Occupations	3,375	4,025	650	1.9	135	16.13	33,545
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	240	290	50	2.1	10	21.71	45,166
47-2031	Carpenters	655	805	150	2.3	30	14.64	30,460
47-2111	Electricians	270	315	45	1.7	10	21.14	43,953
47-4051	Highway Maintenance Workers	280	290	10	0.4	10	18.61	38,704

Iowa Workforce Development Region 3-4 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
49-0000	Installation, Maintenance, and Repair Occupations	3,730	4,175	445	1.2	130	18.52	38,516
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	240	270	25	1.0	10	25.16	52,337
49-3021	Automotive Body and Related Repairers	150	190	40	2.7	10	N.A.	N.A.
49-3023	Automotive Service Technicians and Mechanics	375	420	45	1.2	15	16.84	35,039
49-3041	Farm Equipment Mechanics and Service Technicians	320	345	25	0.8	10	17.18	35,739
49-9041	Industrial Machinery Mechanics	200	255	55	2.8	10	17.52	36,437
49-9071	Maintenance and Repair Workers, General	605	660	55	0.9	15	17.15	35,677
49-9099	Installation, Maintenance, and Repair Workers, All Other	735	800	65	0.9	20	18.21	37,873
51-0000	Production Occupations	7,550	8,305	755	1.0	245	15.42	32,068
51-1011	First-Line Supervisors of Production and Operating Workers	495	535	40	0.8	10	21.40	44,505
51-2092	Team Assemblers	495	560	60	1.2	15	15.06	31,315
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	185	220	35	1.9	10	15.67	32,584
51-4041	Machinists	425	470	45	1.1	10	15.50	32,247
51-4121	Welders, Cutters, Solderers, and Brazers	525	610	90	1.7	25	17.31	36,004
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	175	205	25	1.4	10	19.66	40,888
51-9199	Production Workers, All Other	380	425	50	1.3	15	13.80	28,694
53-0000	Transportation and Material Moving Occupations	5,375	5,950	575	1.1	190	15.08	31,368
53-3032	Heavy and Tractor-Trailer Truck Drivers	2,170	2,405	235	1.1	65	18.28	38,020
53-3033	Light Truck or Delivery Services Drivers	395	460	65	1.6	15	14.46	30,091
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 5 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	8,265	8,270	5	0.0	185	35.30	73,424
11-1021	General and Operations Managers	390	400	10	0.3	10	42.38	88,138
11-9013	Farmers, Ranchers, and Other Agricultural Managers	6,140	6,010	-125	-0.2	120	N.A.	N.A.
11-9199	Managers, All Other	250	265	15	0.6	10	32.97	68,589
13-0000	Business and Financial Operations Occupations	1,660	1,845	190	1.1	55	24.10	50,131
13-1199	Business Operations Specialists, All Other	370	395	25	0.7	10	21.00	43,671
25-0000	Education, Training, and Library Occupations	3,570	3,805	235	0.7	110	19.24	40,015
25-4031	Library Technicians	165	175	10	0.6	10	10.30	21,439
25-9041	Teacher Assistants	520	550	30	0.6	15	10.30	21,419
29-0000	Healthcare Practitioners and Technical Occupations	2,600	3,085	485	1.9	105	27.76	57,731
29-1111	Registered Nurses	1,055	1,280	225	2.1	40	24.15	50,243
29-2061	Licensed Practical and Licensed Vocational Nurses	300	335	30	1.0	10	17.27	35,920
31-0000	Healthcare Support Occupations	2,040	2,365	325	1.6	60	11.75	24,435
31-1012	Nursing Aides, Orderlies, and Attendants	1,300	1,435	130	1.0	30	11.66	24,266
33-0000	Protective Service Occupations	1,085	1,160	75	0.7	50	18.58	38,652
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	360	425	65	1.8	30	8.48	17,631
39-0000	Personal Care and Service Occupations	1,825	2,125	305	1.7	75	11.05	22,989
39-9011	Childcare Workers	740	875	135	1.8	35	N.A.	N.A.
41-0000	Sales and Related Occupations	5,880	6,435	555	0.9	240	16.21	33,703
41-1011	First-Line Supervisors of Retail Sales Workers	685	730	45	0.7	20	18.05	37,534
41-4012	Sales Reps, Wholesale and Manufacturing, Except Technical and Scientific Products	665	730	65	1.0	20	26.48	55,090
43-0000	Office and Administrative Support Occupations	8,145	8,775	630	0.8	245	13.93	28,985
43-1011	First-Line Supervisors of Office and Administrative Support Workers	285	305	20	0.7	10	21.34	44,394
43-3031	Bookkeeping, Accounting, and Auditing Clerks	975	1,090	115	1.2	25	13.95	29,019
43-3071	Tellers	260	260	5	0.2	10	12.93	26,886
43-4051	Customer Service Representatives	390	430	40	1.0	15	13.74	28,581
43-4171	Receptionists and Information Clerks	295	355	60	2.0	15	11.71	24,351
43-6011	Executive Secretaries and Executive Administrative Assistants	325	375	50	1.5	10	17.33	36,037
43-6013	Medical Secretaries	155	215	60	3.9	10	11.98	24,930
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	795	805	10	0.1	10	13.20	27,459
43-9061	Office Clerks, General	1,470	1,660	190	1.3	45	12.88	26,778
47-0000	Construction and Extraction Occupations	2,415	2,860	445	1.8	95	17.78	36,988
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	185	230	50	2.7	10	24.52	51,005
47-2031	Carpenters	510	625	115	2.3	20	19.73	41,031
47-2111	Electricians	185	215	30	1.6	10	19.28	40,105
49-0000	Installation, Maintenance, and Repair Occupations	2,640	3,010	370	1.4	95	18.88	39,272
49-3023	Automotive Service Technicians and Mechanics	260	315	50	1.9	10	15.34	31,922
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	290	325	35	1.2	10	18.56	38,592
49-9041	Industrial Machinery Mechanics	300	370	70	2.3	15	18.98	39,477
49-9071	Maintenance and Repair Workers, General	525	575	50	1.0	15	16.85	35,063
51-0000	Production Occupations	6,555	7,110	550	0.8	210	15.27	31,756
51-1011	First-Line Supervisors of Production and Operating Workers	440	460	20	0.5	10	23.37	48,609
51-2092	Team Assemblers	810	805	-10	-0.1	15	14.57	30,294
51-4121	Welders, Cutters, Solderers, and Brazers	285	305	20	0.7	10	15.56	32,367
53-0000	Transportation and Material Moving Occupations	5,655	6,210	555	1.0	190	16.21	33,716
53-3032	Heavy and Tractor-Trailer Truck Drivers	2,225	2,540	315	1.4	75	21.14	43,966
53-3033	Light Truck or Delivery Services Drivers	245	280	35	1.4	10	13.18	27,423
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 6 Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	5,655	5,675	20	0.0	130	\$37.06	\$77,079
11-9013	Farmers, Ranchers, and Other Agricultural Managers	3,890	3,790	-105	-0.3	75	N.A.	N.A.
13-0000	Business and Financial Operations Occupations	1,910	2,175	265	1.4	65	26.08	54,247
13-1199	Business Operations Specialists, All Other	405	480	75	1.9	15	24.52	50,983
21-0000	Community and Social Service Occupations	1,290	1,400	115	0.9	45	17.40	36,202
21-1093	Social and Human Service Assistants	655	620	-35	-0.5	15	14.97	31,148
29-0000	Healthcare Practitioners and Technical Occupations	2,080	2,460	380	1.8	85	27.22	56,625
29-1141	Registered Nurses	805	965	160	2.0	30	23.86	49,629
29-2061	Licensed Practical and Licensed Vocational Nurses	310	355	45	1.5	15	18.19	37,835
31-0000	Healthcare Support Occupations	1,525	1,850	325	2.1	55	11.56	24,052
31-1014	Nursing Aides, Orderlies, and Attendants	720	840	120	1.7	20	10.89	22,666
31-9099	Healthcare Support Workers, All Other	270	320	50	1.9	10	11.69	24,321
39-0000	Personal Care and Service Occupations	1,130	1,300	170	1.5	50	11.61	24,156
39-9011	Childcare Workers	295	350	55	1.9	15	N.A.	N.A.
41-0000	Sales and Related Occupations	4,270	4,610	340	0.8	170	13.53	28,138
41-1011	First-Line Supervisors of Retail Sales Workers	515	555	40	0.8	15	17.70	36,821
41-4012	Sales Reps, Wholesale and Manufacturing, Except Technical and Scientific Products	475	510	30	0.6	15	29.22	60,759
43-0000	Office and Administrative Support Occupations	6,630	7,065	430	0.6	200	14.52	30,193
43-1011	First-Line Supervisors of Office and Administrative Support Workers	255	285	25	1.0	10	22.96	47,749
43-3031	Bookkeeping, Accounting, and Auditing Clerks	680	740	60	0.9	15	14.86	30,927
43-3071	Tellers	250	255	5	0.2	10	11.75	24,438
43-4051	Customer Service Representatives	315	355	40	1.3	15	14.02	29,158
43-4171	Receptionists and Information Clerks	235	275	35	1.5	10	11.97	24,910
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	495	520	20	0.4	10	12.72	26,470
43-9061	Office Clerks, General	1,010	1,150	140	1.4	30	13.11	27,268
43-9199	Office and Administrative Support Workers, All Other	455	505	50	1.1	15	N.A.	N.A.
47-0000	Construction and Extraction Occupations	1,890	2,200	310	1.6	70	17.92	37,283
47-2031	Carpenters	315	375	60	1.9	15	16.56	34,445
47-2111	Electricians	175	205	30	1.7	10	21.62	44,968
49-0000	Installation, Maintenance, and Repair Occupations	2,110	2,415	305	1.4	75	19.38	40,310
49-3023	Automotive Service Technicians and Mechanics	265	305	40	1.5	10	15.32	31,873
49-9041	Industrial Machinery Mechanics	125	180	55	4.4	10	19.10	39,734
49-9071	Maintenance and Repair Workers, General	420	470	50	1.2	15	18.19	37,843
51-0000	Production Occupations	5,410	6,220	810	1.5	195	14.77	30,734
51-1011	First-Line Supervisors of Production and Operating Workers	470	540	65	1.4	15	24.63	51,231
51-2092	Team Assemblers	510	640	130	2.5	25	15.83	32,927
51-4041	Machinists	275	325	45	1.6	10	N.A.	N.A.
51-4121	Welders, Cutters, Solderers, and Brazers	260	310	50	1.9	10	16.77	34,883
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	195	235	40	2.1	10	15.37	31,974
51-9199	Production Workers, All Other	175	220	45	2.6	10	11.94	24,836
53-0000	Transportation and Material Moving Occupations	3,815	4,220	405	1.1	130	14.83	30,838
53-3032	Heavy and Tractor-Trailer Truck Drivers	1,265	1,405	140	1.1	40	16.01	33,305
53-3033	Light Truck or Delivery Services Drivers	275	320	45	1.6	10	11.94	24,821
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 7 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	9,135	9,570	440	0.5	245	\$40.17	\$83,557
11-1021	General and Operations Managers	755	780	25	0.3	15	50.27	104,567
11-9013	Farmers, Ranchers, and Other Agricultural Managers	4,695	4,575	-115	-0.2	90	N.A.	N.A.
11-9021	Construction Managers	240	295	55	2.3	10	36.64	76,204
11-9199	Managers, All Other	465	535	70	1.5	15	43.26	89,962
13-0000	Business and Financial Operations Occupations	4,125	4,760	635	1.5	150	26.20	54,502
13-1199	Business Operations Specialists, All Other	665	775	110	1.7	25	23.73	49,351
13-2072	Loan Officers	340	380	40	1.2	15	29.24	60,819
15-0000	Computer and Mathematical Occupations	1,380	1,620	240	1.7	50	30.41	63,246
15-1151	Computer Support Specialists	275	320	40	1.5	10	21.86	45,471
21-0000	Community and Social Service Occupations	1,995	2,530	535	2.7	100	17.52	36,421
21-1093	Social and Human Service Assistants	315	395	80	2.5	15	12.65	26,322
25-0000	Education, Training, and Library Occupations	7,675	8,880	1,205	1.6	285	20.83	43,312
25-2011	Preschool Teachers, Except Special Education	200	250	50	2.5	10	13.23	27,517
25-9041	Teacher Assistants	975	1,130	150	1.5	35	9.67	20,106
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	1,435	1,680	245	1.7	65	16.96	35,272
27-2022	Coaches and Scouts	255	340	85	3.3	15	13.50	28,085
29-0000	Healthcare Practitioners and Technical Occupations	5,570	6,880	1,310	2.4	245	29.72	61,821
29-1141	Registered Nurses	2,030	2,570	540	2.7	90	25.85	53,777
29-2021	Dental Hygienists	130	175	45	3.5	10	30.23	62,877
29-2052	Pharmacy Technicians	265	315	50	1.9	10	13.75	28,599
29-2061	Licensed Practical and Licensed Vocational Nurses	585	675	90	1.5	25	17.89	37,220
31-0000	Healthcare Support Occupations	2,835	3,505	670	2.4	105	13.11	27,253
31-1014	Nursing Aides, Orderlies, and Attendants	1,365	1,585	220	1.6	40	11.81	24,566
31-9091	Dental Assistants	210	275	60	2.9	10	19.31	40,160
31-9092	Medical Assistants	205	255	50	2.4	10	13.75	28,602
33-0000	Protective Service Occupations	1,090	1,155	65	0.6	40	18.50	38,485
33-3051	Police and Sheriff's Patrol Officers	305	315	10	0.3	10	22.34	46,467
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	155	165	5	0.3	10	8.46	17,588
35-0000	Food Preparation and Serving Related Occupations	9,025	10,055	1,030	1.1	415	9.60	19,971
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	535	585	55	1.0	15	13.48	28,029
39-0000	Personal Care and Service Occupations	3,975	4,930	955	2.4	195	10.48	21,794
39-5012	Hairdressers, Hairstylists, and Cosmetologists	695	830	135	1.9	25	11.59	24,102
39-9011	Childcare Workers	1,575	1,920	345	2.2	85	8.67	18,023
41-0000	Sales and Related Occupations	11,045	12,210	1,170	1.1	460	16.15	33,592
41-1011	First-Line Supervisors of Retail Sales Workers	1,200	1,300	100	0.8	40	19.06	39,647
41-1012	First-Line Supervisors of Non-Retail Sales Workers	260	280	20	0.8	10	31.34	65,173
41-3011	Advertising Sales Agents	175	205	30	1.7	10	22.38	46,561
41-3021	Insurance Sales Agents	260	315	55	2.1	10	23.57	49,029
41-3099	Sales Representatives, Services, All Other	385	450	60	1.6	15	23.03	47,910
41-4012	Sales Reps, Wholesale and Mfg, Ex Technical and Scientific Products	1,155	1,285	130	1.1	40	25.97	54,015
43-0000	Office and Administrative Support Occupations	16,015	17,740	1,725	1.1	535	14.64	30,453
43-1011	First-Line Supervisors of Office and Administrative Support Workers	565	655	90	1.6	25	21.52	44,743
43-3011	Bill and Account Collectors	450	625	175	3.9	25	N.A.	N.A.
43-3021	Billing and Posting Clerks	255	300	40	1.6	10	15.13	31,466
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,645	1,840	195	1.2	40	15.87	32,997
43-3071	Tellers	725	730	5	0.1	30	11.01	22,903

Iowa Workforce Development Region 7 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
43-4051	Customer Service Representatives	1,140	1,320	180	1.6	50	13.56	28,205
43-4081	Hotel, Motel, and Resort Desk Clerks	150	180	30	2.0	10	8.84	18,391
43-4171	Receptionists and Information Clerks	750	925	175	2.3	40	11.98	24,920
43-4199	Information and Record Clerks, All Other	540	625	85	1.6	25	16.48	34,281
43-5052	Postal Service Mail Carriers	240	205	-35	-1.5	10	24.99	51,989
43-5071	Shipping, Receiving, and Traffic Clerks	500	520	20	0.4	15	13.94	28,992
43-6011	Executive Secretaries and Executive Administrative Assistants	730	830	100	1.4	20	18.34	38,145
43-6013	Medical Secretaries	390	535	145	3.7	20	14.66	30,498
43-6014	Secretaries and Admin Assistants, Except Legal, Medical, and Executive	1,430	1,465	35	0.2	20	13.91	28,944
43-9061	Office Clerks, General	2,180	2,525	345	1.6	70	13.66	28,412
43-9199	Office and Administrative Support Workers, All Other	730	845	115	1.6	25	14.09	29,321
47-0000	Construction and Extraction Occupations	4,720	5,535	815	1.7	185	18.32	38,092
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	320	385	70	2.2	15	25.45	52,918
47-2031	Carpenters	760	915	155	2.0	30	16.34	33,985
47-2073	Operating Engineers and Other Construction Equipment Operators	555	615	60	1.1	20	21.90	45,554
47-2111	Electricians	395	465	70	1.8	20	22.10	45,981
47-2152	Plumbers, Pipefitters, and Steamfitters	325	385	60	1.8	15	20.67	43,007
49-0000	Installation, Maintenance, and Repair Occupations	5,300	6,115	815	1.5	200	19.35	40,237
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	250	270	25	1.0	10	29.32	60,976
49-3023	Automotive Service Technicians and Mechanics	715	795	80	1.1	25	16.48	34,272
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	345	390	45	1.3	10	19.14	39,797
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	240	315	75	3.1	10	21.12	43,938
49-9041	Industrial Machinery Mechanics	220	305	80	3.6	10	24.02	49,958
49-9071	Maintenance and Repair Workers, General	1,260	1,435	175	1.4	40	17.49	36,375
49-9098	Helpers--Installation, Maintenance, and Repair Workers	160	190	30	1.9	10	10.10	21,010
49-9099	Installation, Maintenance, and Repair Workers, All Other	695	815	120	1.7	25	19.59	40,746
51-0000	Production Occupations	12,010	13,760	1,745	1.5	440	16.85	35,052
51-1011	First-Line Supervisors of Production and Operating Workers	725	805	80	1.1	20	29.08	60,480
51-2092	Team Assemblers	1,170	1,385	220	1.9	45	N.A.	N.A.
51-2099	Assemblers and Fabricators, All Other	335	415	75	2.2	15	14.35	29,828
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	290	385	95	3.3	15	17.76	36,944
51-4041	Machinists	730	850	115	1.6	25	17.51	36,430
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	250	300	50	2.0	10	N.A.	N.A.
51-4121	Welders, Cutters, Solderers, and Brazers	1,075	1,315	240	2.2	55	17.06	35,480
51-7011	Cabinetmakers and Bench Carpenters	390	510	120	3.1	20	14.21	29,561
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	385	435	50	1.3	15	N.A.	N.A.
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	195	285	90	4.6	10	15.33	31,893
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	380	435	50	1.3	15	20.21	42,044
51-9199	Production Workers, All Other	250	275	25	1.0	10	12.24	25,473
53-0000	Transportation and Material Moving Occupations	8,510	9,815	1,305	1.5	340	15.50	32,225
53-1031	First-Line Supvs of Trans & Material-Moving Machine & Vehicle Operators	205	250	45	2.2	10	26.88	55,905
53-3032	Heavy and Tractor-Trailer Truck Drivers	1,925	2,185	260	1.4	65	17.59	36,574
53-3033	Light Truck or Delivery Services Drivers	860	960	105	1.2	25	14.26	29,653
53-6099	Transportation Workers, All Other	255	255	0	0.0	10	N.A.	N.A.
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 8 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	6,815	6,720	-90	-0.1	145	36.66	76,262
11-9013	Farmers, Ranchers, and Other Agricultural Managers	5,515	5,335	-175	-0.3	110	N.A.	N.A.
13-0000	Business and Financial Operations Occupations	1,180	1,365	185	1.6	45	26.27	54,637
13-1199	Business Operations Specialists, All Other	300	335	35	1.2	10	22.74	47,289
25-0000	Education, Training, and Library Occupations	1,925	2,015	90	0.5	55	19.76	41,112
25-9041	Teacher Assistants	305	310	5	0.2	10	9.88	20,550
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	490	560	70	1.4	20	12.83	26,691
27-2022	Coaches and Scouts	160	205	45	2.8	10	N.A.	N.A.
29-0000	Healthcare Practitioners and Technical Occupations	1,600	1,930	330	2.1	65	30.08	62,569
29-1141	Registered Nurses	775	955	180	2.3	30	24.38	50,716
31-0000	Healthcare Support Occupations	1,635	1,985	345	2.1	60	12.54	26,075
31-1014	Nursing Aides, Orderlies, and Attendants	630	720	85	1.3	15	11.41	23,736
31-9099	Healthcare Support Workers, All Other	405	480	75	1.9	15	N.A.	N.A.
39-0000	Personal Care and Service Occupations	1,105	1,365	255	2.3	50	11.24	23,368
39-9011	Childcare Workers	315	360	45	1.4	15	8.07	16,803
41-0000	Sales and Related Occupations	3,825	4,200	380	1.0	160	14.97	31,135
41-1011	First-Line Supervisors of Retail Sales Workers	430	455	30	0.7	15	15.42	32,065
41-3021	Insurance Sales Agents	130	185	55	4.2	10	15.23	31,677
41-4012	Sales Reps, Wholesale and Manufacturing, Except Technical and Scientific Products	435	460	25	0.6	10	32.42	67,435
43-0000	Office and Administrative Support Occupations	5,350	5,720	370	0.7	155	13.77	28,631
43-3031	Bookkeeping, Accounting, and Auditing Clerks	555	610	55	1.0	10	13.77	28,648
43-3071	Tellers	255	265	10	0.4	10	13.67	28,422
43-4051	Customer Service Representatives	310	335	30	1.0	10	13.65	28,397
43-9061	Office Clerks, General	1,395	1,575	185	1.3	45	12.65	26,330
47-0000	Construction and Extraction Occupations	1,730	2,080	350	2.0	70	16.36	34,033
47-2031	Carpenters	335	410	70	2.1	15	13.80	28,688
49-0000	Installation, Maintenance, and Repair Occupations	1,640	1,825	190	1.2	55	17.95	37,335
49-3023	Automotive Service Technicians and Mechanics	215	245	30	1.4	10	18.51	38,503
49-9071	Maintenance and Repair Workers, General	325	360	35	1.1	10	15.83	32,929
49-9099	Installation, Maintenance, and Repair Workers, All Other	380	405	25	0.7	10	16.99	35,329
51-0000	Production Occupations	4,000	4,430	430	1.1	140	13.56	28,219
51-4121	Welders, Cutters, Solderers, and Brazers	225	260	35	1.6	10	17.09	35,548
53-0000	Transportation and Material Moving Occupations	2,915	3,160	240	0.8	95	15.04	31,283
53-3032	Heavy and Tractor-Trailer Truck Drivers	825	930	105	1.3	25	18.81	39,125
53-3033	Light Truck or Delivery Services Drivers	325	360	35	1.1	10	12.04	25,034
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 9 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	9,345	9,870	525	0.6	270	41.54	86,399
11-1021	General and Operations Managers	1,135	1,195	55	0.5	25	47.08	97,926
11-9013	Farmers, Ranchers, and Other Agricultural Managers	3,790	3,585	-205	-0.5	75	N.A.	N.A.
11-9021	Construction Managers	350	425	75	2.1	10	35.34	73,511
11-9199	Managers, All Other	455	510	55	1.2	15	43.85	91,219
13-0000	Business and Financial Operations Occupations	5,160	6,235	1,075	2.1	215	27.97	58,182
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	285	335	50	1.8	15	23.66	49,214
13-1199	Business Operations Specialists, All Other	800	900	105	1.3	25	30.34	63,115
13-2072	Loan Officers	440	515	75	1.7	20	30.35	63,131
15-0000	Computer and Mathematical Occupations	1,820	2,440	620	3.4	100	28.87	60,056
15-1151	Computer Support Specialists	460	590	130	2.8	25	18.52	38,514
21-0000	Community and Social Service Occupations	1,690	2,090	400	2.4	75	17.69	36,789
21-1093	Social and Human Service Assistants	250	300	50	2.0	10	11.39	23,683
25-0000	Education, Training, and Library Occupations	8,720	9,545	825	0.9	280	20.56	42,782
25-2011	Preschool Teachers, Except Special Education	445	505	65	1.5	20	11.38	23,662
25-9041	Teacher Assistants	1,345	1,460	115	0.9	40	9.71	20,205
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	1,765	1,985	220	1.2	70	15.99	33,260
27-2022	Coaches and Scouts	265	330	65	2.5	15	12.37	25,734
29-0000	Healthcare Practitioners and Technical Occupations	7,920	9,820	1,900	2.4	350	30.26	62,945
29-1141	Registered Nurses	2,865	3,610	745	2.6	125	25.00	51,998
29-2021	Dental Hygienists	260	335	75	2.9	15	30.97	64,405
29-2034	Radiologic Technologists and Technicians	260	325	70	2.7	10	22.43	46,656
29-2052	Pharmacy Technicians	380	475	95	2.5	15	12.97	26,961
29-2061	Licensed Practical and Licensed Vocational Nurses	625	730	105	1.7	30	17.66	36,737
29-2071	Medical Records and Health Information Technicians	195	235	40	2.1	10	14.63	30,435
29-2099	Health Technologists and Technicians, All Other	235	295	60	2.6	10	16.54	34,405
31-0000	Healthcare Support Occupations	4,265	5,725	1,455	3.4	205	12.65	26,319
31-1014	Nursing Aides, Orderlies, and Attendants	1,395	1,645	250	1.8	45	11.41	23,736
31-9091	Dental Assistants	250	305	60	2.4	10	15.74	32,749
31-9092	Medical Assistants	375	470	95	2.5	15	12.97	26,996
31-9099	Healthcare Support Workers, All Other	445	535	90	2.0	15	13.40	27,871
33-0000	Protective Service Occupations	2,175	2,470	295	1.4	95	18.93	39,369
33-3051	Police and Sheriff's Patrol Officers	495	525	30	0.6	20	25.95	53,968
33-9032	Security Guards	715	870	155	2.2	25	12.86	26,767
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	285	355	65	2.3	25	8.83	18,363
35-0000	Food Preparation and Serving Related Occupations	13,090	14,490	1,400	1.1	605	9.63	20,022
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	775	850	75	1.0	25	13.82	28,755
37-0000	Building and Grounds Cleaning and Maintenance Occupations	7,130	8,125	995	1.4	230	11.61	24,159
37-2019	Building Cleaning Workers, All Other	575	630	60	1.0	15	14.64	30,466
39-0000	Personal Care and Service Occupations	4,695	5,715	1,020	2.2	215	10.94	22,767
39-3011	Gaming Dealers	140	175	35	2.5	10	10.33	21,483
39-5012	Hairdressers, Hairstylists, and Cosmetologists	760	865	110	1.4	25	10.51	21,851
39-9011	Childcare Workers	1,195	1,420	225	1.9	60	8.71	18,118
39-9031	Fitness Trainers and Aerobics Instructors	245	280	35	1.4	10	10.96	22,799
39-9099	Personal Care and Service Workers, All Other	385	420	35	0.9	10	N.A.	N.A.
41-0000	Sales and Related Occupations	16,865	18,775	1,915	1.1	710	16.01	33,304
41-1011	First-Line Supervisors of Retail Sales Workers	1,790	1,950	160	0.9	60	18.59	38,685
41-1012	First-Line Supervisors of Non-Retail Sales Workers	465	495	30	0.6	15	32.06	66,676
41-3011	Advertising Sales Agents	160	190	25	1.6	10	17.12	35,605
41-3021	Insurance Sales Agents	585	765	180	3.1	30	26.48	55,082
41-3099	Sales Representatives, Services, All Other	475	545	70	1.5	20	22.96	47,757
41-4012	Sales Reps, Wholesale and Mfg, Ex Technical and Scientific Products	1,800	2,055	255	1.4	65	30.34	63,112
41-9099	Sales and Related Workers, All Other	285	330	40	1.4	10	14.48	30,129
43-0000	Office and Administrative Support Occupations	21,580	24,465	2,885	1.3	775	14.53	30,212
43-1011	First-Line Supervisors of Office and Administrative Support Workers	915	1,050	135	1.5	40	22.29	46,349
43-3011	Bill and Account Collectors	405	520	115	2.8	20	15.28	31,791
43-3021	Billing and Posting Clerks	425	505	80	1.9	15	14.88	30,951

Iowa Workforce Development Region 9 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,905	2,180	275	1.4	50	15.69	32,617
43-3071	Tellers	700	730	30	0.4	30	11.33	23,568
43-4051	Customer Service Representatives	2,220	2,720	500	2.3	115	13.19	27,431
43-4081	Hotel, Motel, and Resort Desk Clerks	240	280	40	1.7	15	8.85	18,415
43-4151	Order Clerks	465	520	55	1.2	20	15.38	31,984
43-4171	Receptionists and Information Clerks	900	1,125	225	2.5	50	12.62	26,264
43-4199	Information and Record Clerks, All Other	405	485	80	2.0	20	17.70	36,825
43-5032	Dispatchers, Except Police, Fire, and Ambulance	200	260	60	3.0	10	15.05	31,307
43-5052	Postal Service Mail Carriers	310	270	-40	-1.3	10	25.26	52,533
43-5061	Production, Planning, and Expediting Clerks	215	245	25	1.2	10	19.82	41,230
43-5071	Shipping, Receiving, and Traffic Clerks	635	625	-10	-0.2	15	14.24	29,609
43-6011	Executive Secretaries and Executive Administrative Assistants	1,165	1,360	195	1.7	35	19.15	39,849
43-6013	Medical Secretaries	385	520	135	3.5	20	14.30	29,731
43-6014	Secretaries and Admin Assistants, Except Legal, Medical, and Executive	1,745	1,820	75	0.4	30	13.56	28,198
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	195	235	40	2.1	10	14.15	29,433
43-9061	Office Clerks, General	2,960	3,510	555	1.9	105	13.37	27,822
43-9199	Office and Administrative Support Workers, All Other	820	1,000	180	2.2	35	15.79	32,830
47-0000	Construction and Extraction Occupations	6,640	8,105	1,465	2.2	290	21.17	44,031
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	550	695	140	2.5	25	27.96	58,154
47-2031	Carpenters	915	1,130	215	2.3	40	18.21	37,858
47-2073	Operating Engineers and Other Construction Equipment Operators	250	290	45	1.8	10	21.48	44,679
47-2111	Electricians	725	860	135	1.9	35	24.48	50,912
47-2152	Plumbers, Pipefitters, and Steamfitters	640	795	155	2.4	35	29.82	62,026
49-0000	Installation, Maintenance, and Repair Occupations	7,790	8,795	1,005	1.3	275	19.43	40,410
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	415	450	35	0.8	15	28.72	59,734
49-3023	Automotive Service Technicians and Mechanics	875	1,020	145	1.7	40	17.70	36,812
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	305	350	50	1.6	10	19.02	39,568
49-3093	Tire Repairers and Changers	200	225	25	1.3	10	11.79	24,529
49-9041	Industrial Machinery Mechanics	455	590	135	3.0	20	21.67	45,070
49-9043	Maintenance Workers, Machinery	370	410	40	1.1	10	19.31	40,161
49-9071	Maintenance and Repair Workers, General	2,040	2,260	220	1.1	60	18.00	37,438
49-9098	Helpers--Installation, Maintenance, and Repair Workers	340	365	25	0.7	20	10.42	21,672
49-9099	Installation, Maintenance, and Repair Workers, All Other	690	760	70	1.0	20	21.01	43,697
51-0000	Production Occupations	16,875	18,765	1,890	1.1	550	16.42	34,139
51-1011	First-Line Supervisors of Production and Operating Workers	1,095	1,205	110	1.0	25	26.00	54,088
51-2092	Team Assemblers	2,720	3,170	450	1.7	100	15.44	32,109
51-2099	Assemblers and Fabricators, All Other	415	470	55	1.3	15	13.40	27,879
51-3091	Food Batchmakers	315	310	-5	-0.2	10	N.A.	N.A.
51-3092	Computer-Controlled Machine Tool Operators, Metal and Plastic	475	605	130	2.7	20	15.83	32,925
51-3093	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	380	430	50	1.3	10	13.78	28,658
51-4031	Cutting/Punching/Press Mach Setters, Operators, & Tenders, Metal/Plastic	445	505	60	1.3	10	16.54	34,396
51-4041	Machinists	525	590	70	1.3	15	17.33	36,051
51-4051	Metal-Refining Furnace Operators and Tenders	150	195	45	3.0	10	N.A.	N.A.
51-4121	Welders, Cutters, Solderers, and Brazers	755	905	150	2.0	35	16.55	34,419
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	280	330	50	1.8	10	15.33	31,879
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal/Plastic	185	235	50	2.7	10	N.A.	N.A.
51-7011	Cabinetmakers and Bench Carpenters	150	190	40	2.7	10	14.94	31,085
51-8091	Chemical Plant and System Operators	420	420	0	0.0	15	N.A.	N.A.
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	710	780	70	1.0	20	18.07	37,599
51-9111	Packaging and Filling Machine Operators and Tenders	750	790	40	0.5	15	16.17	33,645
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	205	240	35	1.7	10	13.61	28,313
51-9199	Production Workers, All Other	515	550	35	0.7	15	15.95	33,172
53-0000	Transportation and Material Moving Occupations	13,585	15,655	2,070	1.5	545	15.22	31,663
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	185	255	65	3.5	10	24.76	51,482
53-1031	First-Line Supvs of Trans and Material-Moving Machine/Vehicle Operators	265	310	45	1.7	10	25.28	52,586
53-3022	Bus Drivers, School or Special Client	400	410	10	0.3	10	15.55	32,345
53-3031	Driver/Sales Workers	450	475	25	0.6	10	9.98	20,767
53-3032	Heavy and Tractor-Trailer Truck Drivers	3,060	3,710	650	2.1	125	18.02	37,482
53-3033	Light Truck or Delivery Services Drivers	1,095	1,285	190	1.7	40	15.64	32,527
53-6099	Transportation Workers, All Other	570	660	90	1.6	25	N.A.	N.A.
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 10 Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	20,730	21,980	1,245	0.6	170	\$44.78	\$93,150
11-1021	General and Operations Managers	2,060	2,180	120	0.6	10	49.23	102,405
11-3011	Administrative Services Managers	615	695	80	1.3	10	44.68	92,931
11-9013	Farmers, Ranchers, and Other Agricultural Managers	7,020	6,630	-395	-0.6	0	N.A.	N.A.
11-9021	Construction Managers	525	635	115	2.2	10	45.30	94,215
11-9051	Food Service Managers	535	510	-25	-0.5	0	22.61	47,043
11-9141	Property, Real Estate, and Community Association Managers	410	455	45	1.1	5	24.29	50,535
11-9199	Managers, All Other	920	1,040	120	1.3	10	39.34	81,827
13-0000	Business and Financial Operations Occupations	10,695	12,845	2,150	2.0	215	27.20	56,572
13-1022	Wholesale and Retail Buyers, Except Farm Products	250	270	25	1.0	*	24.26	50,458
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	485	540	50	1.0	5	26.61	55,350
13-1031	Claims Adjusters, Examiners, and Investigators	395	475	80	2.0	10	26.17	54,452
13-1199	Business Operations Specialists, All Other	1,495	1,705	205	1.4	20	25.93	53,927
13-2072	Loan Officers	575	730	155	2.7	15	29.38	61,104
15-0000	Computer and Mathematical Occupations	9,185	11,025	1,840	2.0	185	32.31	67,204
15-1151	Computer Support Specialists	1,145	1,370	225	2.0	20	23.22	48,293
17-0000	Architecture and Engineering Occupations	5,560	6,055	495	0.9	50	34.13	70,995
17-3021	Aerospace Engineering and Operations Technicians	360	370	10	0.3	*	N.A.	N.A.
17-3023	Electrical and Electronics Engineering Technicians	510	530	20	0.4	*	21.45	44,610
21-0000	Community and Social Service Occupations	3,940	4,925	980	2.5	100	18.56	38,596
21-1093	Social and Human Service Assistants	305	395	90	3.0	10	12.38	25,755
23-0000	Legal Occupations	1,220	1,365	145	1.2	15	32.47	67,523
23-1021	Paralegals and Legal Assistants	315	390	70	2.2	5	18.66	38,807
25-0000	Educ, Training, and Library Occupations	19,840	21,955	2,110	1.1	210	26.96	56,069
25-2011	Preschool Teachers, Except Special Educ	700	815	115	1.6	10	14.32	29,790
25-3021	Self-Enrichment Educ Teachers	455	540	90	2.0	10	16.82	34,978
25-4031	Library Technicians	305	320	15	0.5	*	15.16	31,542
25-9041	Teacher Assistants	2,270	2,520	250	1.1	25	11.58	24,084
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	4,330	5,070	740	1.7	75	19.24	40,016
27-1026	Merchandise Displayers and Window Trimmers	185	200	20	1.1	*	13.87	28,849
27-2022	Coaches and Scouts	970	1,265	295	3.0	30	16.23	33,752
29-0000	Healthcare Practitioners and Technical Occupations	14,590	18,020	3,425	2.3	345	34.34	71,435
29-1126	Respiratory Therapists	165	210	50	3.0	5	23.71	49,328
29-1141	Registered Nurses	6,135	7,690	1,550	2.5	155	27.27	56,725
29-2012	Medical and Clinical Laboratory Technicians	280	315	35	1.3	5	19.76	41,101
29-2021	Dental Hygienists	260	345	85	3.3	10	32.63	67,872
29-2034	Radiologic Technologists and Technicians	440	555	115	2.6	10	22.52	46,838
29-2041	Emergency Medical Technicians and Paramedics	325	410	85	2.6	10	14.63	30,426
29-2052	Pharmacy Technicians	480	605	125	2.6	10	14.64	30,439
29-2061	Licensed Practical and Licensed Vocational Nurses	950	1,160	215	2.3	20	18.04	37,526
29-2071	Medical Records and Health Information Technicians	325	385	60	1.8	5	18.48	38,437
29-2081	Opticians, Dispensing	185	250	65	3.5	5	14.28	29,703
29-2099	Health Technologists and Technicians, All Other	315	385	70	2.2	5	20.64	42,921
31-0000	Healthcare Support Occupations	6,525	8,050	1,520	2.3	150	13.81	28,743
31-1014	Nursing Aides, Orderlies, and Attendants	2,800	3,245	445	1.6	45	12.84	26,711
31-9091	Dental Assistants	470	585	115	2.4	10	18.56	38,603
31-9092	Medical Assistants	405	510	105	2.6	10	14.75	30,693
31-9094	Medical Transcriptionists	500	505	5	0.1	*	15.25	31,719
31-9099	Healthcare Support Workers, All Other	455	520	65	1.4	5	15.45	32,138

Iowa Workforce Development Region 10 Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
33-0000	Protective Service Occupations	3,450	3,805	355	1.0	35	17.64	36,692
33-1012	Correctional Officers and Jailers	565	550	-15	-0.3	0	36.47	75,850
33-3051	Police and Sheriff's Patrol Officers	650	675	25	0.4	*	23.82	49,534
33-9032	Security Guards	1,020	1,240	220	2.2	20	10.85	22,582
33-9092	Lifeguards, Ski Patrol, & Other Recreational Protective Service Wrkrs	285	345	60	2.1	5	8.66	18,003
33-9099	Protective Service Workers, All Other	235	265	30	1.3	5	17.38	36,158
35-0000	Food Preparation and Serving Related Occupations	20,985	23,280	2,295	1.1	230	9.73	20,251
35-1011	First-Line Supvs of Food Preparation and Serving Workers	1,450	1,610	160	1.1	15	15.00	31,194
37-0000	Building and Grounds Cleaning and Maintenance Occupations	8,470	9,545	1,075	1.3	110	12.40	25,797
37-2019	Building Cleaning Workers, All Other	270	310	35	1.3	5	N.A.	N.A.
39-0000	Personal Care and Service Occupations	8,325	10,200	1,875	2.3	190	11.37	23,645
39-1021	First-Line Supvs of Personal Service Workers	245	295	50	2.0	5	17.33	36,056
39-5012	Hairdressers, Hairstylists, and Cosmetologists	1,295	1,480	185	1.4	20	11.94	24,841
39-9011	Childcare Workers	3,040	3,635	595	2.0	60	9.15	19,026
39-9031	Fitness Trainers and Aerobics Instructors	415	575	160	3.9	15	13.54	28,173
39-9099	Personal Care and Service Workers, All Other	550	595	40	0.7	5	9.05	18,835
41-0000	Sales and Related Occupations	27,355	30,810	3,455	1.3	345	16.00	33,296
41-1011	First-Line Supvs of Retail Sales Workers	3,090	3,405	315	1.0	30	19.52	40,597
41-1012	First-Line Supvs of Non-Retail Sales Workers	630	670	40	0.6	5	30.25	62,931
41-3011	Advertising Sales Agents	330	370	40	1.2	5	20.76	43,173
41-3021	Insurance Sales Agents	780	1,090	310	4.0	30	28.50	59,283
41-3099	Sales Representatives, Services, All Other	1,125	1,315	190	1.7	20	27.19	56,561
41-4012	Sales Reps, Wholesale and Mfg, ExTechnical and Scientific Products	2,720	3,205	485	1.8	50	26.45	55,031
41-9022	Real Estate Sales Agents	225	260	35	1.6	5	14.53	30,222
41-9099	Sales and Related Workers, All Other	1,070	1,235	165	1.5	15	18.49	38,461
43-0000	Office and Administrative Support Occupations	42,375	47,745	5,370	1.3	565	16.26	33,825
43-1011	First-Line Supvs of Office and Administrative Support Workers	1,825	2,095	270	1.5	25	26.99	56,136
43-3011	Bill and Account Collectors	285	340	55	1.9	5	16.63	34,580
43-3021	Billing and Posting Clerks	840	1,020	180	2.1	20	16.86	35,082
43-3031	Bookkeeping, Accounting, and Auditing Clerks	3,715	4,270	560	1.5	55	16.08	33,440
43-3051	Payroll and Timekeeping Clerks	295	335	40	1.4	5	18.24	37,935
43-3071	Tellers	855	975	120	1.4	10	12.07	25,099
43-4051	Customer Service Representatives	6,120	7,395	1,275	2.1	130	14.82	30,842
43-4081	Hotel, Motel, and Resort Desk Clerks	365	470	105	2.9	10	9.96	20,719
43-4111	Interviewers, Except Eligibility and Loan	220	265	45	2.0	5	13.40	27,878
43-4121	Library Assistants, Clerical	295	315	25	0.8	*	14.99	31,170
43-4151	Order Clerks	620	685	65	1.0	5	14.52	30,201
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	195	225	25	1.3	5	18.92	39,344
43-4171	Receptionists and Information Clerks	1,605	1,940	335	2.1	35	13.41	27,897
43-4199	Information and Record Clerks, All Other	975	1,110	135	1.4	15	18.48	38,443
43-5032	Dispatchers, Except Police, Fire, and Ambulance	325	395	70	2.2	5	17.37	36,127
43-5052	Postal Service Mail Carriers	480	440	-40	-0.8	0	24.84	51,677
43-5061	Production, Planning, and Expediting Clerks	680	750	75	1.1	5	23.67	49,234
43-5071	Shipping, Receiving, and Traffic Clerks	1,195	1,210	10	0.1	*	15.06	31,315
43-6011	Executive Secretaries and Executive Administrative Assistants	2,135	2,390	255	1.2	25	19.78	41,151
43-6013	Medical Secretaries	725	1,015	290	4.0	30	14.57	30,309
43-6014	Secretaries & Admin Assistants, Except Legal, Medical, & Executive	3,325	3,490	165	0.5	15	15.63	32,513
43-9041	Insurance Claims and Policy Processing Clerks	295	370	75	2.5	10	15.97	33,221
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	295	355	60	2.0	5	12.82	26,667
43-9061	Office Clerks, General	6,145	7,040	895	1.5	90	15.32	31,861
43-9199	Office and Administrative Support Workers, All Other	2,170	2,540	370	1.7	35	11.29	23,481
47-0000	Construction and Extraction Occupations	10,465	12,750	2,290	2.2	230	20.68	43,016
47-1011	First-Line Supvs of Construction Trades and Extraction Workers	685	840	160	2.3	15	28.48	59,225
47-2021	Brickmasons and Blockmasons	185	260	75	4.1	5	22.21	46,196
47-2031	Carpenters	1,550	1,865	315	2.0	30	18.90	39,312
47-2073	Operating Engineers and Other Construction Equipment Operators	580	685	105	1.8	10	19.12	39,772
47-2111	Electricians	1,310	1,595	285	2.2	30	25.80	53,665
47-2152	Plumbers, Pipefitters, and Steamfitters	830	1,045	215	2.6	20	26.41	54,945
47-2211	Sheet Metal Workers	230	275	40	1.7	5	22.58	46,952
47-4051	Highway Maintenance Workers	330	335	5	0.2	*	18.72	38,934
47-4099	Construction and Related Workers, All Other	445	540	95	2.1	10	20.02	41,633

Iowa Workforce Development Region 10 Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
49-0000	Installation, Maintenance, and Repair Occupations	10,015	11,430	1,415	1.4	145	20.95	43,578
49-1011	First-Line Supvs of Mechanics, Installers, and Repairers	545	600	55	1.0	5	28.80	59,900
49-2022	Telecom Equipment Installers and Repairers, Except Line Installers	255	295	40	1.6	5	26.23	54,566
49-3021	Automotive Body and Related Repairers	330	380	50	1.5	5	17.70	36,802
49-3023	Automotive Service Technicians and Mechanics	1,160	1,320	160	1.4	15	18.43	38,321
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	500	570	70	1.4	5	19.45	40,451
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	415	580	165	4.0	15	23.75	49,398
49-9041	Industrial Machinery Mechanics	710	885	175	2.5	20	22.51	46,830
49-9071	Maintenance and Repair Workers, General	2,215	2,510	295	1.3	30	18.67	38,837
49-9098	Helpers--Installation, Maintenance, and Repair Workers	300	330	30	1.0	5	12.67	26,345
49-9099	Installation, Maintenance, and Repair Workers, All Other	925	1,060	135	1.5	15	14.71	30,610
51-0000	Production Occupations	16,475	17,875	1,400	0.8	145	17.22	35,819
51-1011	First-Line Supvs of Production and Operating Workers	1,175	1,245	70	0.6	5	27.58	57,380
51-2092	Team Assemblers	2,655	2,845	190	0.7	20	16.35	33,992
51-2099	Assemblers and Fabricators, All Other	550	650	100	1.8	10	12.34	25,665
51-3092	Food Batchmakers	410	425	10	0.2	*	N.A.	N.A.
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	335	460	125	3.7	10	18.69	38,870
51-4041	Machinists	350	395	50	1.4	5	18.64	38,772
51-4121	Welders, Cutters, Solderers, and Brazers	690	810	120	1.7	10	17.05	35,460
51-4191	Heat Treating Equipment Setters, Operators, & Tenders, Metal/Plastic	120	130	10	0.8	*	19.07	39,666
51-5112	Printing Press Operators	670	715	45	0.7	5	14.63	30,433
51-9012	Separating/Filtering/Clarifying/Precipitating/Still Machine Workers	545	565	20	0.4	*	15.78	32,812
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	915	1,045	130	1.4	15	17.98	37,392
51-9111	Packaging and Filling Machine Operators and Tenders	720	740	25	0.3	*	18.09	37,639
51-9199	Production Workers, All Other	610	680	70	1.1	5	12.43	25,840
53-0000	Transportation and Material Moving Occupations	23,770	28,480	4,710	2.0	480	16.33	33,967
53-1021	First-Line Supvs of Helpers, Laborers, and Material Movers, Hand	175	220	45	2.6	5	21.76	45,260
53-1031	First-Line Supvs of Trans & Material-Moving Mach/Vehicle Operators	405	485	80	2.0	10	24.32	50,585
53-3022	Bus Drivers, School or Special Client	1,125	1,060	-65	-0.6	0	14.26	29,661
53-3031	Driver/Sales Workers	580	625	45	0.8	5	13.72	28,536
53-3032	Heavy and Tractor-Trailer Truck Drivers	11,025	14,330	3,305	3.0	330	17.89	37,218
53-3033	Light Truck or Delivery Services Drivers	1,355	1,580	225	1.7	20	13.96	29,036
53-3099	Motor Vehicle Operators, All Other	270	295	25	0.9	5	12.44	25,874
53-6099	Transportation Workers, All Other	745	840	95	1.3	10	N.A.	N.A.
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 11 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	30,255	33,400	3,145	1.0	1,010	\$47.13	\$98,034
11-1021	General and Operations Managers	3,485	3,835	355	1.0	100	54.15	112,625
11-3011	Administrative Services Managers	1,205	1,370	165	1.4	45	42.69	88,793
11-9013	Farmers, Ranchers, and Other Agricultural Managers	7,515	7,100	-415	-0.6	145	54.42	113,196
11-9021	Construction Managers	1,075	1,340	265	2.5	35	38.52	80,123
11-9051	Food Service Managers	685	695	10	0.1	15	20.76	43,196
11-9141	Property, Real Estate, and Community Association Managers	625	705	85	1.4	20	28.42	59,114
11-9199	Managers, All Other	2,260	2,610	350	1.5	85	45.30	94,214
13-0000	Business and Financial Operations Occupations	27,325	33,800	6,470	2.4	1,225	29.46	61,283
13-1011	Wholesale and Retail Buyers, Except Farm Products	400	450	50	1.3	15	N.A.	N.A.
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	640	755	115	1.8	30	26.42	54,941
13-1031	Claims Adjusters, Examiners, and Investigators	2,205	2,645	435	2.0	100	25.02	52,041
13-1199	Business Operations Specialists, All Other	3,040	3,430	390	1.3	95	28.86	60,043
13-2072	Loan Officers	1,830	2,390	565	3.1	105	30.43	63,290
15-0000	Computer and Mathematical Occupations	15,270	19,660	4,390	2.9	745	33.83	70,375
15-1151	Computer Support Specialists	1,950	2,420	465	2.4	100	23.47	48,831
19-0000	Life, Physical, and Social Science Occupations	4,205	4,790	580	1.4	205	28.15	58,566
19-4011	Agricultural and Food Science Technicians	440	525	85	1.9	25	17.87	37,166
19-4091	Environmental Science and Protection Technicians, Including Health	225	255	30	1.3	15	24.52	50,984
19-4099	Life, Physical, and Social Science Technicians, All Other	475	550	75	1.6	25	24.44	50,855
21-0000	Community and Social Service Occupations	7,740	9,525	1,790	2.3	350	18.57	38,631
21-1093	Social and Human Service Assistants	1,395	1,590	190	1.4	50	13.79	28,673
23-0000	Legal Occupations	3,470	3,830	365	1.1	100	43.01	89,476
23-2011	Paralegals and Legal Assistants	555	695	140	2.5	20	23.25	48,365
25-0000	Education, Training, and Library Occupations	26,445	29,325	2,880	1.1	870	24.27	50,492
25-2011	Preschool Teachers, Except Special Education	1,480	1,775	295	2.0	70	15.36	31,939
25-3021	Self-Enrichment Education Teachers	785	945	160	2.0	30	18.48	38,438
25-4031	Library Technicians	560	590	30	0.5	25	14.42	29,979
25-9041	Teacher Assistants	3,645	4,015	370	1.0	120	10.82	22,500
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	8,435	9,760	1,325	1.6	365	21.42	44,547
27-1026	Merchandise Displayers and Window Trimmers	515	605	90	1.7	25	12.64	26,298
27-2022	Coaches and Scouts	940	1,175	240	2.6	50	13.32	27,709
29-0000	Healthcare Practitioners and Technical Occupations	20,585	25,660	5,080	2.5	930	32.60	67,799
29-1141	Registered Nurses	7,470	9,470	2,000	2.7	335	27.52	57,257
29-2012	Medical and Clinical Laboratory Technicians	395	450	55	1.4	15	18.81	39,126
29-2021	Dental Hygienists	535	710	175	3.3	30	32.47	67,537
29-2034	Radiologic Technologists and Technicians	600	765	165	2.8	25	23.60	49,087
29-2041	Emergency Medical Technicians and Paramedics	485	585	95	2.0	20	18.08	37,622
29-2052	Pharmacy Technicians	860	1,145	285	3.3	45	13.85	28,800
29-2056	Veterinary Technologists and Technicians	205	300	95	4.6	15	14.20	29,543
29-2061	Licensed Practical and Licensed Vocational Nurses	1,385	1,685	300	2.2	65	18.18	37,814
29-2071	Medical Records and Health Information Technicians	485	590	105	2.2	20	16.05	33,379
29-2099	Health Technologists and Technicians, All Other	630	740	110	1.7	25	18.10	37,663
31-0000	Healthcare Support Occupations	10,060	12,820	2,760	2.7	420	13.73	28,554
31-1014	Nursing Aides, Orderlies, and Attendants	4,190	4,960	770	1.8	130	12.71	26,451
31-9091	Dental Assistants	660	830	170	2.6	30	18.32	38,100
31-9092	Medical Assistants	845	1,060	220	2.6	35	15.88	33,018
31-9094	Medical Transcriptionists	625	680	55	0.9	15	15.31	31,836
31-9099	Healthcare Support Workers, All Other	1,190	1,355	165	1.4	35	14.83	30,865
33-0000	Protective Service Occupations	6,250	6,920	670	1.1	225	18.20	37,852
33-2011	Firefighters	495	520	30	0.6	15	16.20	33,687
33-3051	Police and Sheriff's Patrol Officers	1,310	1,370	60	0.5	45	24.48	50,932
33-9032	Security Guards	2,400	2,870	470	2.0	85	12.87	26,781
33-9092	Lifeguards, Ski Patrol, & Other Recreational Protective Service Wrks	245	280	35	1.4	20	10.13	21,058

Iowa Workforce Development Region 11 Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
35-0000	Food Preparation and Serving Related Occupations	31,750	35,225	3,475	1.1	1,485	9.99	20,777
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	2,265	2,480	215	0.9	70	16.14	33,561
39-0000	Personal Care and Service Occupations	14,325	17,935	3,610	2.5	740	12.22	25,418
39-1021	First-Line Supervisors of Personal Service Workers	355	415	55	1.5	15	22.31	46,418
39-3011	Gaming Dealers	210	285	75	3.6	15	N.A.	N.A.
39-3019	Gaming Service Workers, All Other	325	410	85	2.6	20	N.A.	N.A.
39-5012	Hairdressers, Hairstylists, and Cosmetologists	2,475	2,930	460	1.9	95	12.82	26,681
39-9011	Childcare Workers	3,905	4,820	915	2.3	215	10.04	20,902
39-9031	Fitness Trainers and Aerobics Instructors	840	1,030	190	2.3	35	11.32	23,535
39-9099	Personal Care and Service Workers, All Other	955	1,020	65	0.7	30	10.40	21,636
41-0000	Sales and Related Occupations	46,650	53,965	7,310	1.6	2,135	18.27	37,990
41-1011	First-Line Supervisors of Retail Sales Workers	4,830	5,410	580	1.2	170	19.03	39,577
41-1012	First-Line Supervisors of Non-Retail Sales Workers	1,425	1,585	155	1.1	50	38.25	79,559
41-3011	Advertising Sales Agents	540	630	90	1.7	25	39.66	82,500
41-3021	Insurance Sales Agents	1,545	2,150	605	3.9	95	24.71	51,383
41-3099	Sales Representatives, Services, All Other	1,740	2,125	385	2.2	90	28.46	59,196
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	4,785	5,830	1,045	2.2	215	30.04	62,483
41-9011	Demonstrators and Product Promoters	440	475	30	0.7	15	10.44	21,719
41-9021	Real Estate Sales Agents	510	600	90	1.8	20	35.28	73,369
41-9099	Sales and Related Workers, All Other	1,685	1,980	295	1.8	75	21.79	45,329
43-0000	Office and Administrative Support Occupations	74,835	85,745	10,910	1.5	2,780	16.48	34,264
43-1011	First-Line Supervisors of Office and Administrative Support Workers	3,830	4,580	750	2.0	175	24.38	50,701
43-3011	Bill and Account Collectors	1,835	2,145	310	1.7	65	15.63	32,526
43-3021	Billing and Posting Clerks	1,615	1,990	380	2.4	65	17.71	36,845
43-3031	Bookkeeping, Accounting, and Auditing Clerks	6,770	8,010	1,240	1.8	200	17.07	35,513
43-3051	Payroll and Timekeeping Clerks	410	485	75	1.8	15	19.31	40,153
43-3071	Tellers	2,200	2,575	375	1.7	125	12.39	25,776
43-4051	Customer Service Representatives	9,315	11,495	2,180	2.3	485	15.66	32,573
43-4081	Hotel, Motel, and Resort Desk Clerks	755	870	115	1.5	40	9.35	19,445
43-4111	Interviewers, Except Eligibility and Loan	815	990	180	2.2	35	13.52	28,119
43-4121	Library Assistants, Clerical	350	380	25	0.7	20	13.76	28,612
43-4131	Loan Interviewers and Clerks	1,620	1,760	145	0.9	45	N.A.	N.A.
43-4151	Order Clerks	765	840	75	1.0	30	15.95	33,177
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	425	475	55	1.3	15	19.53	40,617
43-4171	Receptionists and Information Clerks	2,750	3,470	720	2.6	155	13.13	27,302
43-4199	Information and Record Clerks, All Other	1,235	1,360	125	1.0	45	18.44	38,361
43-5021	Couriers and Messengers	370	410	40	1.1	15	12.39	25,775
43-5032	Dispatchers, Except Police, Fire, and Ambulance	485	585	95	2.0	20	19.82	41,229
43-5052	Postal Service Mail Carriers	815	800	-15	-0.2	25	25.45	52,940
43-5061	Production, Planning, and Expediting Clerks	800	955	155	1.9	35	21.00	43,675
43-5071	Shipping, Receiving, and Traffic Clerks	1,190	1,225	35	0.3	35	15.36	31,959
43-6011	Executive Secretaries and Executive Administrative Assistants	4,165	4,795	630	1.5	120	22.28	46,335
43-6012	Legal Secretaries	640	680	35	0.5	15	20.63	42,910
43-6013	Medical Secretaries	1,080	1,515	430	4.0	55	15.22	31,651
43-6014	Secretaries and Admin Assistants, Ex Legal, Medical, and Executive	4,770	5,070	300	0.6	95	16.30	33,906
43-9041	Insurance Claims and Policy Processing Clerks	1,690	2,085	395	2.3	90	17.21	35,797
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	980	1,195	215	2.2	40	12.31	25,607
43-9061	Office Clerks, General	9,545	11,425	1,880	2.0	355	14.68	30,531
43-9199	Office and Administrative Support Workers, All Other	1,715	2,025	305	1.8	65	13.40	27,878
47-0000	Construction and Extraction Occupations	17,715	22,220	4,505	2.5	850	20.78	43,225
47-1011	First-Line Supervisors of Const Trades and Extraction Workers	1,225	1,570	345	2.8	65	28.47	59,220
47-2021	Brickmasons and Blockmasons	245	340	100	4.1	15	21.39	44,494
47-2031	Carpenters	2,655	3,310	655	2.5	120	20.30	42,224
47-2073	Operating Engineers and Other Construction Equipment Operators	1,090	1,415	325	3.0	60	20.21	42,046
47-2111	Electricians	2,055	2,615	565	2.7	110	21.99	45,735
47-2121	Glaziers	195	280	85	4.4	15	21.02	43,722
47-2152	Plumbers, Pipefitters, and Steamfitters	1,140	1,480	340	3.0	65	23.65	49,193
47-2221	Structural Iron and Steel Workers	250	325	75	3.0	15	24.54	51,045
47-4051	Highway Maintenance Workers	535	555	20	0.4	15	20.03	41,652
47-4099	Construction and Related Workers, All Other	950	1,095	145	1.5	45	24.20	50,321

Iowa Workforce Development Region 11 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
49-0000	Installation, Maintenance, and Repair Occupations	16,285	19,390	3,110	1.9	665	20.44	42,530
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	1,055	1,220	165	1.6	45	30.26	62,945
49-2011	Computer, Automated Teller, and Office Machine Repairers	550	600	50	0.9	20	19.95	41,491
49-2022	Telecom Equip Installers and Repairers, Except Line Installers	850	965	115	1.4	25	21.66	45,056
49-3021	Automotive Body and Related Repairers	640	780	145	2.3	30	21.71	45,166
49-3023	Automotive Service Technicians and Mechanics	2,110	2,565	455	2.2	100	18.33	38,137
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	1,285	1,505	220	1.7	50	19.92	41,418
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	415	500	85	2.0	20	22.52	46,840
49-9021	Heating, Air Conditioning, & Refrigeration Mechanics and Installers	1,095	1,560	465	4.2	65	23.79	49,480
49-9041	Industrial Machinery Mechanics	735	990	260	3.5	40	22.16	46,078
49-9071	Maintenance and Repair Workers, General	3,225	3,725	500	1.6	110	17.66	36,739
49-9099	Installation, Maintenance, and Repair Workers, All Other	965	1,085	125	1.3	30	17.62	36,668
51-0000	Production Occupations	25,965	29,515	3,545	1.4	925	16.03	33,352
51-1011	First-Line Supervisors of Production and Operating Workers	1,545	1,730	185	1.2	40	27.56	57,332
51-2092	Team Assemblers	3,060	3,700	640	2.1	125	14.01	29,151
51-2099	Assemblers and Fabricators, All Other	1,285	1,600	315	2.5	55	13.09	27,213
51-3092	Food Batchmakers	575	610	35	0.6	20	12.48	25,955
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	590	795	205	3.5	30	17.41	36,213
51-4041	Machinists	785	875	90	1.1	25	19.05	39,608
51-4121	Welders, Cutters, Solderers, and Brazers	1,460	1,820	360	2.5	75	18.28	38,029
51-5112	Printing Press Operators	1,100	1,105	5	0.0	20	17.48	36,361
51-5113	Print Binding and Finishing Workers	410	390	-20	-0.5	15	14.10	29,335
51-7011	Cabinetmakers and Bench Carpenters	350	410	60	1.7	15	17.20	35,779
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	920	1,085	165	1.8	35	16.01	33,301
51-9111	Packaging and Filling Machine Operators and Tenders	925	1,055	125	1.4	30	14.68	30,532
51-9121	Coating/Painting/Spraying Machine Setters, Operators, and Tenders	505	585	80	1.6	20	19.60	40,774
51-9197	Tire Builders	995	1,025	35	0.4	45	N.A.	N.A.
51-9199	Production Workers, All Other	825	970	145	1.8	35	14.46	30,066
53-0000	Transportation and Material Moving Occupations	31,990	37,285	5,295	1.7	1,305	16.17	33,631
53-1021	First-Line Supvs of Helpers, Laborers, & Material Movers, Hand	395	535	145	3.7	20	20.15	41,905
53-1031	First-Line Supvs of Trans/Material-Moving Mach/Vehicle Operators	590	705	115	1.9	25	26.91	55,959
53-3022	Bus Drivers, School or Special Client	1,430	1,470	40	0.3	30	17.36	36,113
53-3031	Driver/Sales Workers	1,215	1,375	160	1.3	40	13.42	27,905
53-3032	Heavy and Tractor-Trailer Truck Drivers	7,895	9,530	1,635	2.1	320	20.31	42,258
53-3033	Light Truck or Delivery Services Drivers	2,395	2,865	470	2.0	95	14.99	31,174
53-3099	Motor Vehicle Operators, All Other	695	690	-10	-0.1	15	15.07	31,354
53-6099	Transportation Workers, All Other	1,630	1,970	345	2.1	85	N.A.	N.A.
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 12 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	7,660	7,865	205	0.3	185	\$39.64	\$82,435
11-1021	General and Operations Managers	615	630	20	0.3	15	42.64	88,697
11-9013	Farmers, Ranchers, and Other Agricultural Managers	4,855	4,750	-105	-0.2	95	N.A.	N.A.
11-9199	Managers, All Other	240	280	35	1.5	10	42.98	89,396
13-0000	Business and Financial Operations Occupations	2,755	3,155	405	1.5	95	26.44	54,997
13-1199	Business Operations Specialists, All Other	520	560	40	0.8	15	24.26	50,472
13-2072	Loan Officers	210	240	30	1.4	10	29.23	60,805
25-0000	Education, Training, and Library Occupations	4,420	4,705	285	0.6	130	19.24	40,017
25-2011	Preschool Teachers, Except Special Education	195	220	30	1.5	10	12.59	26,193
25-9041	Teacher Assistants	550	590	40	0.7	15	10.15	21,120
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	1,010	1,155	150	1.5	45	14.72	30,622
27-2022	Coaches and Scouts	160	200	40	2.5	10	11.80	24,535
29-0000	Healthcare Practitioners and Technical Occupations	4,695	5,555	860	1.8	180	29.91	62,216
29-1141	Registered Nurses	1,805	2,125	320	1.8	65	22.51	46,823
29-2052	Pharmacy Technicians	225	280	55	2.4	10	12.05	25,075
29-2061	Licensed Practical and Licensed Vocational Nurses	445	520	75	1.7	20	17.89	37,204
31-0000	Healthcare Support Occupations	2,405	3,025	620	2.6	95	11.98	24,938
31-1014	Nursing Aides, Orderlies, and Attendants	1,160	1,335	180	1.6	35	11.59	24,100
33-0000	Protective Service Occupations	1,300	1,405	105	0.8	50	20.81	43,273
33-3051	Police and Sheriff's Patrol Officers	260	270	10	0.4	10	27.45	57,096
33-9032	Security Guards	360	410	50	1.4	10	14.60	30,374
35-0000	Food Preparation and Serving Related Occupations	7,460	8,250	790	1.1	345	9.28	19,296
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	405	445	40	1.0	15	13.45	27,980
39-0000	Personal Care and Service Occupations	2,365	2,850	485	2.1	110	10.70	22,253
39-5012	Hairdressers, Hairstylists, and Cosmetologists	460	540	75	1.6	15	10.29	21,401
39-9011	Childcare Workers	740	870	125	1.7	35	9.25	19,228
41-0000	Sales and Related Occupations	10,020	11,130	1,110	1.1	420	14.00	29,128
41-1011	First-Line Supervisors of Retail Sales Workers	990	1,105	115	1.2	35	19.30	40,156
41-1012	First-Line Supervisors of Non-Retail Sales Workers	300	330	30	1.0	10	26.97	56,095
41-3021	Insurance Sales Agents	320	380	65	2.0	15	26.58	55,286
41-3099	Sales Representatives, Services, All Other	240	275	40	1.7	10	20.16	41,928
41-4012	Sales Reps, Wholesale and Mfg, Except Technical and Scientific Products	895	1,010	115	1.3	35	25.89	53,865
41-9099	Sales and Related Workers, All Other	245	290	45	1.8	10	14.92	31,029
43-0000	Office and Administrative Support Occupations	11,930	13,125	1,195	1.0	390	14.23	29,582
43-1011	First-Line Supervisors of Office and Administrative Support Workers	460	505	50	1.1	15	20.94	43,560
43-3021	Billing and Posting Clerks	235	270	35	1.5	10	14.34	29,831
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,230	1,375	145	1.2	30	14.65	30,465
43-3071	Tellers	460	470	10	0.2	20	11.93	24,825
43-4051	Customer Service Representatives	845	1,010	165	2.0	40	14.15	29,444
43-4081	Hotel, Motel, and Resort Desk Clerks	165	185	20	1.2	10	9.35	19,441
43-4171	Receptionists and Information Clerks	615	720	100	1.6	30	12.26	25,497
43-4199	Information and Record Clerks, All Other	265	300	35	1.3	10	16.83	35,017
43-6011	Executive Secretaries and Executive Administrative Assistants	530	585	55	1.0	10	18.30	38,062
43-6013	Medical Secretaries	320	410	95	3.0	15	13.02	27,075
43-6014	Secretaries and Admin Assistants, Except Legal, Medical, and Executive	875	895	20	0.2	15	13.31	27,691
43-9061	Office Clerks, General	1,940	2,245	300	1.5	65	13.22	27,493
43-9199	Office and Administrative Support Workers, All Other	450	545	95	2.1	20	14.27	29,673

Iowa Workforce Development Region 12 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
47-0000	Construction and Extraction Occupations	3,785	4,610	825	2.2	165	18.04	37,531
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	290	360	70	2.4	15	26.26	54,627
47-2021	Brickmasons and Blockmasons	120	180	55	4.6	10	19.96	41,523
47-2031	Carpenters	435	535	100	2.3	20	18.94	39,393
47-2073	Operating Engineers and Other Construction Equipment Operators	270	325	55	2.0	10	20.75	43,159
47-2111	Electricians	245	290	45	1.8	10	21.87	45,493
47-2152	Plumbers, Pipefitters, and Steamfitters	325	410	85	2.6	15	20.64	42,943
47-4099	Construction and Related Workers, All Other	225	275	50	2.2	15	N.A.	N.A.
49-0000	Installation, Maintenance, and Repair Occupations	4,005	4,525	525	1.3	140	19.19	39,900
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	230	245	15	0.7	10	27.53	57,259
49-3023	Automotive Service Technicians and Mechanics	510	585	80	1.6	20	17.70	36,804
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	215	245	30	1.4	10	17.48	36,371
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	155	210	55	3.5	10	26.24	54,584
49-9041	Industrial Machinery Mechanics	290	380	90	3.1	15	17.00	35,357
49-9071	Maintenance and Repair Workers, General	775	840	65	0.8	20	17.33	36,050
49-9099	Installation, Maintenance, and Repair Workers, All Other	555	610	55	1.0	15	14.28	29,703
51-0000	Production Occupations	7,625	8,500	875	1.1	270	14.41	29,968
51-1011	First-Line Supervisors of Production and Operating Workers	520	555	40	0.8	10	24.55	51,062
51-2092	Team Assemblers	695	855	160	2.3	30	9.88	20,539
51-4121	Welders, Cutters, Solderers, and Brazers	430	495	65	1.5	20	14.81	30,807
51-9111	Packaging and Filling Machine Operators and Tenders	400	445	45	1.1	10	15.45	32,132
51-9199	Production Workers, All Other	435	470	35	0.8	15	12.70	26,413
53-0000	Transportation and Material Moving Occupations	8,200	9,365	1,165	1.4	320	14.96	31,105
53-3032	Heavy and Tractor-Trailer Truck Drivers	2,480	2,895	415	1.7	90	18.59	38,675
53-3033	Light Truck or Delivery Services Drivers	735	855	120	1.6	25	13.61	28,306
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 13 Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	7,955	8,075	120	0.2	185	\$36.44	\$75,801
11-1021	General and Operations Managers	520	535	15	0.3	10	42.11	87,597
11-9013	Farmers, Ranchers, and Other Agricultural Managers	5,495	5,395	-100	-0.2	105	N.A.	N.A.
13-0000	Business and Financial Operations Occupations	2,165	2,480	315	1.5	75	26.17	54,448
13-1199	Business Operations Specialists, All Other	400	430	30	0.8	10	21.39	44,488
21-0000	Community and Social Service Occupations	1,355	1,600	245	1.8	55	19.36	40,271
21-1093	Social and Human Service Assistants	415	445	30	0.7	10	17.44	36,280
23-0000	Legal Occupations	330	365	35	1.1	10	27.31	56,812
25-0000	Education, Training, and Library Occupations	4,965	5,460	495	1.0	165	18.79	39,095
25-9041	Teacher Assistants	800	885	85	1.1	25	10.13	21,061
29-0000	Healthcare Practitioners and Technical Occupations	4,320	5,085	765	1.8	165	30.89	64,253
29-1111	Registered Nurses	1,480	1,750	270	1.8	55	26.09	54,259
29-2052	Pharmacy Technicians	270	325	50	1.9	10	12.67	26,357
29-2061	Licensed Practical and Licensed Vocational Nurses	515	580	60	1.2	20	18.98	39,489
31-0000	Healthcare Support Occupations	3,450	4,350	900	2.6	135	13.33	27,728
31-1012	Nursing Aides, Orderlies, and Attendants	1,220	1,400	180	1.5	35	11.73	24,394
33-0000	Protective Service Occupations	1,365	1,495	130	1.0	50	18.56	38,606
33-3051	Police and Sheriff's Patrol Officers	235	245	10	0.4	10	25.41	52,853
33-9032	Security Guards	425	510	85	2.0	15	12.15	25,262
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	110	130	20	1.8	10	8.34	17,330
35-0000	Food Preparation and Serving Related Occupations	7,005	7,645	640	0.9	310	9.71	20,204
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	475	515	40	0.8	15	15.62	32,497
39-0000	Personal Care and Service Occupations	3,085	3,800	715	2.3	155	11.21	23,303
39-3011	Gaming Dealers	350	440	90	2.6	25	N.A.	N.A.
39-5012	Hairdressers, Hairstylists, and Cosmetologists	390	445	55	1.4	15	12.12	25,204
39-9011	Childcare Workers	770	930	160	2.1	40	9.33	19,406
41-0000	Sales and Related Occupations	8,880	9,660	780	0.9	360	13.31	27,690
41-1011	First-Line Supervisors of Retail Sales Workers	955	1,030	75	0.8	30	18.23	37,920
41-3021	Insurance Sales Agents	270	335	60	2.2	10	22.27	46,314
41-4012	Sales Reps, Wholesale and Mfg, Except Technical and Scientific Products	735	830	100	1.4	25	22.61	47,042
41-9799	Sales and Related Workers, All Other	415	455	40	1.0	15	13.20	27,451
43-0000	Office and Administrative Support Occupations	10,290	11,010	720	0.7	310	13.91	28,928
43-1011	First-Line Supervisors of Office and Administrative Support Workers	390	435	40	1.0	15	21.00	43,677
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,265	1,375	110	0.9	25	14.03	29,197
43-3071	Tellers	360	370	10	0.3	15	12.15	25,274
43-4051	Customer Service Representatives	860	970	110	1.3	35	11.70	24,342
43-4081	Hotel, Motel, and Resort Desk Clerks	290	340	55	1.9	15	9.07	18,872
43-4171	Receptionists and Information Clerks	435	515	75	1.7	20	12.61	26,243
43-5052	Postal Service Mail Carriers	230	200	-30	-1.3	10	23.72	49,329
43-6013	Medical Secretaries	200	255	60	3.0	10	13.89	28,899
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,055	1,050	-5	0.0	15	13.35	27,770
43-9061	Office Clerks, General	1,475	1,655	185	1.3	45	12.90	26,817
47-0000	Construction and Extraction Occupations	3,055	3,630	575	1.9	125	18.70	38,900
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	210	255	40	1.9	10	27.01	56,178
47-2031	Carpenters	325	380	55	1.7	15	17.11	35,586
47-2073	Operating Engineers and Other Construction Equipment Operators	205	240	35	1.7	10	17.10	35,562
47-2152	Plumbers, Pipefitters, and Steamfitters	215	265	50	2.3	10	26.19	54,481

Iowa Workforce Development Region 13 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
49-0000	Installation, Maintenance, and Repair Occupations	3,545	4,030	490	1.4	130	18.63	38,745
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	305	340	35	1.1	10	25.81	53,690
49-3023	Automotive Service Technicians and Mechanics	495	585	95	1.9	20	15.23	31,689
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	310	345	35	1.1	10	17.60	36,619
49-9041	Industrial Machinery Mechanics	225	295	70	3.1	10	17.30	35,977
49-9071	Maintenance and Repair Workers, General	715	800	85	1.2	20	16.22	33,742
51-0000	Production Occupations	6,550	7,445	895	1.4	235	15.20	31,613
51-1011	First-Line Supervisors of Production and Operating Workers	410	450	40	1.0	10	24.81	51,618
51-2092	Team Assemblers	600	690	90	1.5	20	14.55	30,269
51-4041	Machinists	295	370	75	2.5	15	17.14	35,641
51-4121	Welders, Cutters, Solderers, and Brazers	305	365	65	2.1	15	16.64	34,610
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	370	430	60	1.6	15	13.69	28,458
51-9399	Production Workers, All Other	710	785	75	1.1	25	12.77	26,568
53-0000	Transportation and Material Moving Occupations	6,465	7,265	800	1.2	235	14.22	29,575
53-3032	Heavy and Tractor-Trailer Truck Drivers	2,160	2,515	355	1.6	80	17.20	35,771
53-3033	Light Truck or Delivery Services Drivers	345	375	30	0.9	10	12.98	26,993
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 14 Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	6,070	6,055	-15	0.0	130	\$32.14	\$66,862
11-9013	Farmers, Ranchers, and Other Agricultural Managers	5,145	5,035	-110	-0.2	100	N.A.	N.A.
13-0000	Business and Financial Operations Occupations	1,000	1,145	145	1.5	35	24.82	51,618
13-1199	Business Operations Specialists, All Other	240	270	30	1.3	10	20.28	42,171
15-0000	Computer and Mathematical Occupations	180	220	45	2.5	10	24.34	50,624
25-0000	Education, Training, and Library Occupations	2,190	2,350	160	0.7	70	16.16	33,607
25-9041	Teacher Assistants	290	315	25	0.9	10	10.14	21,082
29-0000	Healthcare Practitioners and Technical Occupations	1,440	1,740	300	2.1	60	26.61	55,356
29-1141	Registered Nurses	515	630	120	2.3	20	24.14	50,222
29-2061	Licensed Practical and Licensed Vocational Nurses	210	245	35	1.7	10	17.40	36,207
31-0000	Healthcare Support Occupations	1,180	1,450	270	2.3	45	11.07	23,025
31-1014	Nursing Aides, Orderlies, and Attendants	680	790	110	1.6	20	10.97	22,835
39-0000	Personal Care and Service Occupations	955	1,160	210	2.2	45	11.14	23,164
39-9011	Childcare Workers	230	270	40	1.7	10	10.00	20,817
41-0000	Sales and Related Occupations	3,330	3,630	300	0.9	140	13.24	27,552
41-1011	First-Line Supervisors of Retail Sales Workers	440	470	30	0.7	15	14.99	31,184
41-4012	Sales Reps, Wholesale and Manufacturing, Except Technical and Scientific Products	305	325	15	0.5	10	21.12	43,935
41-9099	Sales and Related Workers, All Other	230	255	25	1.1	10	N.A.	N.A.
43-0000	Office and Administrative Support Occupations	4,000	4,280	280	0.7	120	13.79	28,673
43-3031	Bookkeeping, Accounting, and Auditing Clerks	530	590	60	1.1	10	13.01	27,067
43-4051	Customer Service Representatives	240	270	30	1.3	10	13.21	27,481
43-4061	Office Clerks, General	625	730	100	1.6	20	23.03	47,888
49-0000	Installation, Maintenance, and Repair Occupations	1,320	1,490	170	1.3	45	18.60	38,682
49-9071	Maintenance and Repair Workers, General	355	395	45	1.3	10	17.26	35,899
51-0000	Production Occupations	3,005	3,580	570	1.9	120	14.64	30,460
51-2092	Team Assemblers	345	425	80	2.3	15	12.75	26,518
51-4041	Machinists	100	210	110	11.0	15	16.02	33,312
51-4121	Welders, Cutters, Solderers, and Brazers	125	190	65	5.2	10	14.45	30,050
53-0000	Transportation and Material Moving Occupations	1,930	2,295	365	1.9	85	15.38	31,989
53-3032	Heavy and Tractor-Trailer Truck Drivers	525	660	135	2.6	25	19.00	39,512
Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.								
Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau								

Iowa Workforce Development Region 15 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	8,595	8,610	15	0.0	190	37.78	78,589
11-1021	General and Operations Managers	390	400	10	0.3	10	40.67	84,580
11-9013	Farmers, Ranchers, and Other Agricultural Managers	6,430	6,285	-145	-0.2	125	N.A.	N.A.
11-9199	Managers, All Other	290	320	35	1.2	10	33.64	69,960
13-0000	Business and Financial Operations Occupations	1,820	2,030	210	1.2	60	24.25	50,455
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	70	80	5	0.7	5	23.11	48,072
13-1199	Business Operations Specialists, All Other	425	465	35	0.8	10	24.27	50,478
13-2072	Loan Officers	165	190	25	1.5	5	30.93	64,326
15-0000	Computer and Mathematical Occupations	700	825	125	1.8	25	25.56	53,157
15-1151	Computer Support Specialists	125	140	15	1.2	5	21.93	45,612
19-0000	Life, Physical, and Social Science Occupations	535	545	5	0.1	20	22.92	47,678
19-4011	Agricultural and Food Science Technicians	100	100	0	0.0	5	N.A.	N.A.
21-0000	Community and Social Service Occupations	1,395	1,715	320	2.3	60	18.44	38,355
21-1093	Social and Human Service Assistants	190	235	50	2.6	10	11.02	22,919
25-0000	Education, Training, and Library Occupations	3,800	4,015	215	0.6	105	18.91	39,349
25-2011	Preschool Teachers, Except Special Education	100	120	20	2.0	5	12.71	26,435
25-4031	Library Technicians	70	75	5	0.7	5	12.58	26,168
25-9041	Teacher Assistants	490	520	30	0.6	15	9.89	20,572
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	765	855	95	1.2	30	13.50	28,090
27-2022	Coaches and Scouts	125	155	30	2.4	5	12.62	26,246
27-4021	Photographers	70	85	15	2.1	5	N.A.	N.A.
29-0000	Healthcare Practitioners and Technical Occupations	2,765	3,260	495	1.8	105	27.94	58,105
29-1141	Registered Nurses	1,115	1,315	200	1.8	40	23.55	48,985
29-2021	Dental Hygienists	90	110	20	2.2	5	32.70	68,007
29-2034	Radiologic Technologists and Technicians	85	100	15	1.8	5	18.25	37,963
29-2052	Pharmacy Technicians	135	180	45	3.3	5	13.64	28,352
29-2061	Licensed Practical and Licensed Vocational Nurses	240	270	30	1.3	10	16.65	34,649
31-0000	Healthcare Support Occupations	1,875	2,155	280	1.5	55	12.19	25,347
31-1014	Nursing Aides, Orderlies, and Attendants	1,090	1,240	150	1.4	30	10.17	21,154
31-9092	Medical Assistants	105	125	20	1.9	5	13.42	27,922
31-9099	Healthcare Support Workers, All Other	225	260	35	1.6	5	12.77	26,574
33-0000	Protective Service Occupations	655	685	30	0.5	25	17.25	35,883
33-3051	Police and Sheriff's Patrol Officers	190	195	10	0.5	5	20.85	43,359
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	95	105	10	1.1	5	8.87	18,459
33-9099	Protective Service Workers, All Other	45	50	5	1.1	5	12.46	25,914
35-0000	Food Preparation and Serving Related Occupations	4,095	4,375	280	0.7	170	9.25	19,241
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	120	135	15	1.3	5	12.30	25,570
39-0000	Personal Care and Service Occupations	1,695	1,955	260	1.5	65	11.41	23,739
39-5012	Hairdressers, Hairstylists, and Cosmetologists	460	480	20	0.4	10	N.A.	N.A.
39-9011	Childcare Workers	570	655	85	1.5	25	N.A.	N.A.
39-9031	Fitness Trainers and Aerobics Instructors	100	115	15	1.5	5	8.25	17,152
41-0000	Sales and Related Occupations	6,570	7,105	535	0.8	265	12.87	26,754
41-1011	First-Line Supervisors of Retail Sales Workers	850	915	70	0.8	25	15.27	31,757
41-1012	First-Line Supervisors of Non-Retail Sales Workers	280	315	35	1.3	10	26.21	54,520
41-3011	Advertising Sales Agents	75	85	10	1.3	5	17.14	35,655
41-3021	Insurance Sales Agents	245	320	70	2.9	15	21.53	44,776
41-3099	Sales Representatives, Services, All Other	85	95	10	1.2	5	32.97	68,583
41-4012	Sales Reps, Wholesale and Mfg, Except Technical and Scientific Products	540	580	40	0.7	15	24.89	51,762
41-9011	Demonstrators and Product Promoters	105	105	0	0.0	5	N.A.	N.A.
41-9099	Sales and Related Workers, All Other	220	250	30	1.4	10	23.35	48,564

Iowa Workforce Development Region 15 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
43-0000	Office and Administrative Support Occupations	8,500	9,135	635	0.7	255	14.27	29,672
43-1011	First-Line Supervisors of Office and Administrative Support Workers	325	355	30	0.9	10	21.25	44,209
43-3021	Billing and Posting Clerks	175	180	10	0.6	5	13.21	27,490
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,075	1,140	65	0.6	20	13.92	28,966
43-3071	Tellers	315	330	15	0.5	15	12.41	25,814
43-4051	Customer Service Representatives	465	485	20	0.4	15	12.59	26,197
43-4081	Hotel, Motel, and Resort Desk Clerks	90	100	10	1.1	5	N.A.	N.A.
43-4121	Library Assistants, Clerical	90	95	5	0.6	5	10.38	21,599
43-4171	Receptionists and Information Clerks	355	400	50	1.4	15	11.47	23,863
43-4199	Information and Record Clerks, All Other	135	135	5	0.4	5	15.44	32,130
43-5052	Postal Service Mail Carriers	215	190	-25	-1.2	5	23.34	48,554
43-5061	Production, Planning, and Expediting Clerks	125	140	15	1.2	5	16.32	33,963
43-5071	Shipping, Receiving, and Traffic Clerks	230	230	-5	-0.2	5	14.46	30,069
43-6011	Executive Secretaries and Executive Administrative Assistants	280	310	25	0.9	5	16.17	33,643
43-6013	Medical Secretaries	160	205	45	2.8	5	12.96	26,951
43-6014	Secretaries and Admin Assistants, Except Legal, Medical, and Executive	515	510	-5	-0.1	5	13.33	27,736
43-9061	Office Clerks, General	1,340	1,490	150	1.1	40	12.90	26,828
43-9199	Office and Administrative Support Workers, All Other	610	735	125	2.0	25	N.A.	N.A.
47-0000	Construction and Extraction Occupations	2,365	2,740	375	1.6	90	19.05	39,619
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	175	200	25	1.4	5	23.50	48,889
47-2021	Brickmasons and Blockmasons	100	140	40	4.0	5	N.A.	N.A.
47-2031	Carpenters	130	145	15	1.2	5	16.74	34,810
47-2073	Operating Engineers and Other Construction Equipment Operators	170	180	10	0.6	5	17.90	37,239
47-2111	Electricians	135	155	20	1.5	5	24.50	50,967
47-2142	Plumbers, Pipefitters, and Steamfitters	195	240	40	2.1	10	N.A.	N.A.
47-2211	Sheet Metal Workers	110	125	10	0.9	5	N.A.	N.A.
47-3015	Helpers--Pipefitters, Plumbers, Pipefitters, and Steamfitters	35	50	15	4.3	5	N.A.	N.A.
47-4051	Highway Maintenance Workers	150	150	0	0.0	5	16.37	34,060
47-4099	Construction and Related Workers, All Other	70	75	5	0.7	5	N.A.	N.A.
49-0000	Installation, Maintenance, and Repair Occupations	2,760	3,075	315	1.1	95	17.89	37,208
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	135	145	10	0.7	5	25.24	52,493
49-3021	Automotive Body and Related Repairers	75	85	15	2.0	5	14.84	30,857
49-3023	Automotive Service Technicians and Mechanics	395	435	40	1.0	15	13.91	28,943
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	155	170	10	0.6	5	14.77	30,742
49-9011	Mechanical Door Repairers	155	185	30	1.9	5	N.A.	N.A.
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	85	115	30	3.5	5	15.45	32,150
49-9041	Industrial Machinery Mechanics	205	255	50	2.4	10	20.52	42,689
49-9051	Electrical Power-Line Installers and Repairers	115	110	-5	-0.4	5	N.A.	N.A.
49-9071	Maintenance and Repair Workers, General	630	680	50	0.8	15	17.62	36,652
49-9099	Installation, Maintenance, and Repair Workers, All Other	220	255	35	1.6	10	13.85	28,818
51-0000	Production Occupations	7,330	8,075	750	1.0	235	15.76	32,770
51-1011	First-Line Supervisors of Production and Operating Workers	460	485	25	0.5	10	22.49	46,783
51-2011	Structural Metal Fabricators and Fitters	75	90	10	1.3	5	N.A.	N.A.
51-2092	Team Assemblers	730	810	80	1.1	20	16.55	34,422
51-3092	Food Batchmakers	120	125	0	0.0	5	N.A.	N.A.
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	75	90	15	2.0	5	N.A.	N.A.
51-4041	Machinists	300	360	60	2.0	10	16.43	34,158
51-4072	Molding/Coremaking/Casting Machine Setters & Operators, Metal/Plastic	210	225	15	0.7	5	12.00	24,968
51-4081	Multiple Machine Tool Setters, Operators, & Tenders, Metal/Plastic	115	140	25	2.2	5	N.A.	N.A.
51-4121	Welders, Cutters, Solderers, and Brazers	330	375	45	1.4	15	18.05	37,553
51-9012	Separating/Filtering/Clarifying/Precipitating/Still Machine Workers	175	190	15	0.9	5	N.A.	N.A.
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	155	165	10	0.6	5	17.10	35,571
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	290	335	45	1.6	10	15.23	31,679
51-9111	Packaging and Filling Machine Operators and Tenders	140	150	10	0.7	5	14.40	29,938
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	110	130	15	1.4	5	15.52	32,291
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	60	75	15	2.5	5	N.A.	N.A.
51-9199	Production Workers, All Other	400	435	40	1.0	15	N.A.	N.A.
53-0000	Transportation and Material Moving Occupations	5,145	5,860	715	1.4	195	14.04	29,200
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	75	110	30	4.0	5	21.46	44,631
53-1031	First-Line Supvs of Trans & Material-Moving Machine/Vehicle Operators	80	95	15	1.9	5	23.67	49,242
53-3022	Bus Drivers, School or Special Client	210	190	-20	-1.0	5	14.53	30,229
53-3031	Driver/Sales Workers	160	165	5	0.3	5	16.24	33,780
53-3032	Heavy and Tractor-Trailer Truck Drivers	1,120	1,265	145	1.3	35	14.79	30,765
53-3033	Light Truck or Delivery Services Drivers	510	595	85	1.7	20	13.57	28,222
53-6099	Transportation Workers, All Other	90	95	10	1.1	5	N.A.	N.A.
	Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.							
	Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau							

Iowa Workforce Development Region 16 Middle-Skill Occupations, 2010-2020								
Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
11-0000	Management Occupations	4,410	4,485	70	0.2	110	\$39.20	\$81,542
11-1021	General and Operations Managers	355	365	5	0.1	10	44.67	92,914
11-3011	Administrative Services Managers	85	100	20	2.4	5	32.49	67,566
11-9013	Farmers, Ranchers, and Other Agricultural Managers	2,495	2,390	-105	-0.4	50	N.A.	N.A.
11-9021	Construction Managers	95	115	20	2.1	5	41.81	86,963
11-9199	Managers, All Other	155	170	15	1.0	5	36.99	76,937
13-0000	Business and Financial Operations Occupations	1,870	2,150	280	1.5	65	25.14	52,293
13-1022	Wholesale and Retail Buyers, Except Farm Products	85	95	10	1.2	5	22.77	47,345
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	100	115	10	1.0	5	25.68	53,421
13-1199	Business Operations Specialists, All Other	550	620	70	1.3	15	23.29	48,441
13-2072	Loan Officers	80	90	10	1.3	5	29.05	60,407
15-0000	Computer and Mathematical Occupations	365	450	85	2.3	15	34.04	70,803
15-1151	Computer Support Specialists	75	85	5	0.7	5	18.11	37,681
21-0000	Community and Social Service Occupations	835	1,020	185	2.2	35	18.32	38,101
21-1011	Substance Abuse and Behavioral Disorder Counselors	80	90	10	1.3	5	21.93	45,622
21-1093	Social and Human Service Assistants	165	190	25	1.5	5	12.72	26,467
25-0000	Education, Training, and Library Occupations	3,020	3,280	260	0.9	95	19.23	39,999
25-2011	Preschool Teachers, Except Special Education	65	75	10	1.5	5	13.92	28,945
25-9041	Teacher Assistants	745	800	55	0.7	20	9.66	20,090
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	675	780	105	1.6	30	15.62	32,495
27-2022	Coaches and Scouts	105	135	30	2.9	5	11.14	23,173
29-0000	Healthcare Practitioners and Technical Occupations	3,000	3,560	565	1.9	120	28.38	59,046
29-1141	Registered Nurses	1,155	1,385	230	2.0	45	25.67	53,398
29-2034	Radiologic Technologists and Technicians	95	115	20	2.1	5	20.27	42,154
29-2041	Emergency Medical Technicians and Paramedics	155	195	40	2.6	5	15.76	32,780
29-2052	Pharmacy Technicians	120	135	15	1.3	5	12.77	26,575
29-2061	Licensed Practical and Licensed Vocational Nurses	315	370	55	1.7	15	16.97	35,292
29-2099	Health Technologists and Technicians, All Other	80	100	20	2.5	5	N.A.	N.A.
31-0000	Healthcare Support Occupations	1,880	2,255	370	2.0	65	11.75	24,441
31-1014	Nursing Aides, Orderlies, and Attendants	830	915	85	1.0	20	10.70	22,248
31-9091	Dental Assistants	90	110	20	2.2	5	16.58	34,497
31-9092	Medical Assistants	165	200	35	2.1	5	13.95	29,013
31-9099	Healthcare Support Workers, All Other	175	195	25	1.4	5	12.51	26,029
33-0000	Protective Service Occupations	1,235	1,280	40	0.3	40	19.70	40,979
33-3012	Correctional Officers and Jailers	490	465	-25	-0.5	10	N.A.	N.A.
33-3051	Police and Sheriff's Patrol Officers	155	155	0	0.0	5	23.12	48,095
33-9032	Security Guards	215	250	35	1.6	5	11.55	24,024
33-9092	Lifeguards, Ski Patrol, & Other Recreational Protective Service Workers	155	180	25	1.6	10	8.56	17,804
35-0000	Food Preparation and Serving Related Occupations	4,100	4,315	220	0.5	160	9.50	19,761
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	245	250	10	0.4	5	14.53	30,231
39-0000	Personal Care and Service Occupations	1,685	2,015	325	1.9	80	9.59	19,946
39-3011	Gaming Dealers	65	80	20	3.1	5	N.A.	N.A.
39-3099	Entertainment Attendants and Related Workers, All Other	35	40	5	1.4	5	N.A.	N.A.
39-5012	Hairdressers, Hairstylists, and Cosmetologists	270	310	40	1.5	10	9.78	20,354
39-9011	Childcare Workers	670	855	185	2.8	40	8.35	17,354
39-9031	Fitness Trainers and Aerobics Instructors	115	125	10	0.9	5	10.53	21,904
41-0000	Sales and Related Occupations	5,025	5,485	460	0.9	205	13.76	28,624
41-1011	First-Line Supervisors of Retail Sales Workers	785	855	65	0.8	25	17.43	36,239
41-1012	First-Line Supervisors of Non-Retail Sales Workers	135	145	5	0.4	5	29.36	61,056
41-3021	Insurance Sales Agents	175	205	30	1.7	5	N.A.	N.A.
41-3099	Sales Representatives, Services, All Other	120	125	5	0.4	5	25.09	52,193
41-4012	Sales Reps, Wholesale and Mfg, Except Technical and Scientific Products	385	410	25	0.6	10	23.72	49,347
41-9099	Sales and Related Workers, All Other	65	75	10	1.5	5	19.65	40,874
43-0000	Office and Administrative Support Occupations	7,915	8,535	615	0.8	245	14.53	30,213
43-1011	First-Line Supervisors of Office and Administrative Support Workers	320	355	35	1.1	10	20.79	43,244
43-3021	Billing and Posting Clerks	130	150	20	1.5	5	14.30	29,731
43-3031	Bookkeeping, Accounting, and Auditing Clerks	865	985	120	1.4	20	15.98	33,231
43-3071	Tellers	315	320	10	0.3	15	10.41	21,656

Iowa Workforce Development Region 16 Middle-Skill Occupations, 2010-2020

Standard Occupational Classification (SOC)	Occupational Title	Employment			Annual Growth Rate (%)	Total Annual Openings	2012 Mean Hourly Wage	2012 Mean Annual Salary
		2010 Estimated	2020 Projected	2010-20 Change				
43-4051	Customer Service Representatives	370	400	35	0.9	15	12.69	26,406
43-4081	Hotel, Motel, and Resort Desk Clerks	110	130	20	1.8	5	9.87	20,523
43-4151	Order Clerks	80	90	10	1.3	5	16.76	34,853
43-4171	Receptionists and Information Clerks	290	330	45	1.6	15	11.16	23,219
43-4199	Information and Record Clerks, All Other	240	265	25	1.0	10	16.36	34,047
43-5052	Postal Service Mail Carriers	135	115	-20	-1.5	5	24.77	51,520
43-5061	Production, Planning, and Expediting Clerks	170	195	30	1.8	5	21.47	44,653
43-5071	Shipping, Receiving, and Traffic Clerks	345	350	5	0.1	10	15.25	31,725
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	75	80	5	0.7	5	15.16	31,526
43-6011	Executive Secretaries and Executive Administrative Assistants	260	280	20	0.8	5	18.12	37,683
43-6013	Medical Secretaries	155	200	45	2.9	5	13.01	27,060
43-6014	Secretaries and Admin Assistants, Except Legal, Medical, and Executive	640	660	20	0.3	10	12.33	25,639
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	165	200	35	2.1	5	11.57	24,071
43-9061	Office Clerks, General	1,025	1,165	140	1.4	30	14.00	29,131
43-9199	Office and Administrative Support Workers, All Other	320	365	50	1.6	10	14.97	31,139
47-0000	Construction and Extraction Occupations	2,680	3,135	450	1.7	100	20.91	43,510
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	230	275	45	2.0	10	29.16	60,663
47-2021	Brickmasons and Blockmasons	45	60	15	3.3	5	N.A.	N.A.
47-2031	Carpenters	505	595	90	1.8	20	19.15	39,828
47-2073	Operating Engineers and Other Construction Equipment Operators	120	145	20	1.7	5	19.10	39,729
47-2111	Electricians	190	215	25	1.3	10	23.35	48,568
47-2151	Pipelayers	55	65	10	1.8	5	N.A.	N.A.
47-2152	Plumbers, Pipefitters, and Steamfitters	145	170	25	1.7	5	23.24	48,345
47-2211	Sheet Metal Workers	140	160	20	1.4	5	27.21	56,590
47-4099	Construction and Related Workers, All Other	80	95	10	1.3	5	N.A.	N.A.
49-0000	Installation, Maintenance, and Repair Occupations	2,730	3,100	370	1.4	95	18.61	38,708
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	170	185	15	0.9	5	27.16	56,476
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	80	100	20	2.5	5	11.05	22,986
49-3023	Automotive Service Technicians and Mechanics	320	375	55	1.7	15	14.86	30,909
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	145	165	15	1.0	5	19.03	39,600
49-9041	Industrial Machinery Mechanics	320	390	70	2.2	15	22.64	47,108
49-9043	Maintenance Workers, Machinery	95	105	10	1.1	5	17.06	35,477
49-9071	Maintenance and Repair Workers, General	825	910	85	1.0	25	17.74	36,883
49-9099	Installation, Maintenance, and Repair Workers, All Other	150	165	10	0.7	5	N.A.	N.A.
51-0000	Production Occupations	8,120	9,055	940	1.2	275	15.48	32,213
51-1011	First-Line Supervisors of Production and Operating Workers	495	545	50	1.0	10	25.06	52,128
51-2092	Team Assemblers	1,000	1,165	160	1.6	35	15.40	32,039
51-2099	Assemblers and Fabricators, All Other	240	290	50	2.1	10	9.30	19,338
51-3092	Food Batchmakers	290	295	5	0.2	10	N.A.	N.A.
51-3093	Food Cooking Machine Operators and Tenders	200	205	5	0.3	5	N.A.	N.A.
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	70	100	25	3.6	5	15.76	32,770
51-4031	Cutting/Punching/Press Machine Setters & Operators, Metal/Plastic	220	255	35	1.6	5	18.40	38,264
51-4041	Machinists	180	210	30	1.7	5	16.99	35,324
51-4071	Foundry Mold and Coremakers	50	65	20	4.0	5	N.A.	N.A.
51-4072	Molding/Coremaking/Casting Machine Workers, Metal/Plastic	140	155	15	1.1	5	13.63	28,361
51-4121	Welders, Cutters, Solderers, and Brazers	310	375	65	2.1	15	16.90	35,155
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	70	80	10	1.4	5	16.85	35,063
51-5112	Printing Press Operators	180	180	0	0.0	5	16.44	34,195
51-8031	Water and Wastewater Treatment Plant and System Operators	145	150	5	0.3	5	18.64	38,769
51-8091	Chemical Plant and System Operators	155	180	30	1.9	10	N.A.	N.A.
51-9012	Separating/Filtering/Clarifying/Precipitating/Still Machine Workers	130	140	10	0.8	5	N.A.	N.A.
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	70	75	5	0.7	5	20.04	41,684
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	150	155	5	0.3	5	15.38	31,990
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	260	300	45	1.7	10	15.75	32,751
51-9111	Packaging and Filling Machine Operators and Tenders	90	95	5	0.6	5	12.82	26,680
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	75	85	15	2.0	5	13.56	28,213
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	280	295	15	0.5	10	12.89	26,824
51-9199	Production Workers, All Other	470	490	20	0.4	15	13.75	28,583
53-0000	Transportation and Material Moving Occupations	5,865	6,715	850	1.4	230	14.98	31,148
53-1031	First-Line Supvs of Trans/Material-Moving Machine & Vehicle Operators	125	150	25	2.0	5	22.78	47,390
53-2011	Bus Drivers, School or Special Client	170	185	20	1.2	5	N.A.	N.A.
53-2012	Driver/Sales Workers	275	305	25	0.9	10	N.A.	N.A.
53-2021	Heavy and Tractor-Trailer Truck Drivers	1,650	2,015	365	2.2	70	N.A.	N.A.
53-2022	Light Truck or Delivery Services Drivers	350	380	30	0.9	10	N.A.	N.A.
53-4011	Locomotive Engineers	135	140	10	0.7	5	N.A.	N.A.
53-4021	Railroad Brake, Signal, and Switch Operators	140	135	-5	-0.4	5	N.A.	N.A.
53-4031	Railroad Conductors and Yardmasters	85	90	5	0.6	5	N.A.	N.A.
53-6099	Transportation Workers, All Other	300	365	70	2.3	15	N.A.	N.A.

Middle-skill jobs require more than a high school diploma or equivalent, but not a four-year degree.
 Source: Iowa Workforce Development, Labor Force and Occupational Analysis Bureau

Technical Notes

In the May 2012 edition, the 2008-2018 titles found in the occupational projections were assigned one of 11 education and training categories, using Bureau of Labor Statistics (BLS) information. Each occupation was assigned a category based on the “most significant source” of education or training, which combined education and work-related experience.

With the release of the 2010-2020 occupational projections, BLS revised their system and assigned each occupation three distinct categories: entry-level education, related work experience, and typical on-the-job training. The new measures for education and training resulted in a shift among the low, middle and high skill occupations in the lowa data. Seventeen occupations left the middle-skill classification, nine were reassigned to the low-skill classification and eight were assigned to high-skill. Also, two low-skill occupations were reassigned to high-skill, and 76 low-skill occupations became middle-skill occupations.

The Occupational Employment Statistics (OES) Wage Survey is an input used to create the occupational projections. OES generally samples the same employer only once every three years and asks for information on the number of occupations and the corresponding wages. The employers sampled for the 2008-2018 occupational projections were not the same employers sampled to create the 2010-2020 occupational projections.

Iowa LED Data

QWI Quick Facts - All Education Levels		Iowa Average (April 1, 2011-March 31, 2012)		QWI Quick Facts - All Education Levels MALE		Iowa Average (April 1, 2011-March 31, 2012)		QWI Quick Facts - All Education Levels FEMALE		Iowa Average (April 1, 2011-March 31, 2012)	
Total Employment		1,225,579		Total Employment		616,948		Total Employment		608,630	
Net Job Flows		-1,719		Net Job Flows		595		Net Job Flows		-2,308	
Job Creation		50,452		Job Creation		29,880		Job Creation		24,383	
New Hires		112,940		New Hires		61,057		New Hires		51,882	
Separations		149,125		Separations		80,184		Separations		68,940	
Turnover		6.80%		Turnover		7.10%		Turnover		6.50%	
Avg Monthly Earnings		\$3,786.25		Avg Monthly Earnings		\$4,604.25		Avg Monthly Earnings		\$2,968.00	
Avg New Hire		\$2,469.00		Avg New Hire		\$2,971.75		Avg New Hire Earnings		\$1,925.00	
QWI Quick Facts - Less than High School		Iowa Average (April 1, 2011-March 31, 2012)		QWI Quick Facts - Less than High School MALE		Iowa Average (April 1, 2011-March 31, 2012)		QWI Quick Facts - Less than High School FEMALE		Iowa Average (April 1, 2011-March 31, 2012)	
Total Employment		110,345		Total Employment		67,398		Total Employment		42,947	
Net Job Flows		273		Net Job Flows		309		Net Job Flows		-36	
Job Creation		7,405		Job Creation		5,053		Job Creation		2,947	
New Hires		15,967		New Hires		10,088		New Hires		5,879	
Separations		19,502		Separations		12,406		Separations		7,096	
Turnover		9.20%		Turnover		9.50%		Turnover		8.90%	
Avg Monthly Earnings		\$2,703.00		Avg Monthly Earnings		\$3,126.50		Avg Monthly Earnings		\$2,047.50	
Avg New Hire		\$2,099.25		Avg New Hire		\$2,411.25		Avg New Hire Earnings		\$1,602.75	
QWI Quick Facts - High School or Equivalent		Iowa Average (April 1, 2011-March 31, 2012)		QWI Quick Facts - High School or Equivalent MALE		Iowa Average (April 1, 2011-March 31, 2012)		QWI Quick Facts - High School or Equivalent FEMALE		Iowa Average (April 1, 2011-March 31, 2012)	
Total Employment		374,114		Total Employment		200,023		Total Employment		174,090	
Net Job Flows		-501		Net Job Flows		367		Net Job Flows		-866	
Job Creation		17,565		Job Creation		10,955		Job Creation		8,010	
New Hires		36,807		New Hires		21,061		New Hires		15,745	
Separations		48,153		Separations		27,241		Separations		20,911	
Turnover		7.10%		Turnover		7.40%		Turnover		6.90%	
Avg Monthly Earnings		\$3,069.00		Avg Monthly Earnings		\$3,706.25		Avg Monthly Earnings		\$2,345.50	
Avg New Hire		\$2,226.25		Avg New Hire		\$2,669.50		Avg New Hire Earnings		\$1,681.25	
QWI Quick Facts - Some college or associate's degree		Iowa Average (April 1, 2011-March 31, 2012)		QWI Quick Facts - Some college or associate's degree MALE		Iowa Average (April 1, 2011-March 31, 2012)		QWI Quick Facts - Some college or associate's degree FEMALE		Iowa Average (April 1, 2011-March 31, 2012)	
Total Employment		416,730		Total Employment		195,345		Total Employment		221,384	
Net Job Flows		-628		Net Job Flows		186		Net Job Flows		-811	
Job Creation		17,729		Job Creation		9,826		Job Creation		9,347	
New Hires		37,126		New Hires		18,669		New Hires		18,457	
Separations		48,806		Separations		24,434		Separations		24,372	
Turnover		6.60%		Turnover		6.90%		Turnover		6.40%	
Avg Monthly Earnings		\$3,544.75		Avg Monthly Earnings		\$4,356.75		Avg Monthly Earnings		\$2,836.50	
Avg New Hire		\$2,390.75		Avg New Hire		\$2,932.00		Avg New Hire Earnings		\$1,885.25	
QWI Quick Facts - Bachelor's Degree or above		Iowa Average (April 1, 2011-March 31, 2012)		QWI Quick Facts - Bachelor's Degree or above MALE		Iowa Average (April 1, 2011-March 31, 2012)		QWI Quick Facts - Bachelor's Degree or above FEMALE		Iowa Average (April 1, 2011-March 31, 2012)	
Total Employment		324,387		Total Employment		154,180		Total Employment		170,208	
Net Job Flows		-864		Net Job Flows		-268		Net Job Flows		-594	
Job Creation		12,658		Job Creation		6,800		Job Creation		6,859	
New Hires		23,039		New Hires		11,238		New Hires		11,800	
Separations		32,662		Separations		16,102		Separations		16,560	
Turnover		5.70%		Turnover		5.70%		Turnover		5.70%	
Avg Monthly Earnings		\$5,255.00		Avg Monthly Earnings		\$6,670.00		Avg Monthly Earnings		\$3,986.00	
Avg New Hire		\$3,151.75		Avg New Hire		\$3,953.75		Avg New Hire Earnings		\$2,424.00	

Source: Local Employment Dynamics (LED), U.S. Census Bureau

Contact Information

Iowa Workforce Development
Labor Force and Occupational Analysis Bureau
1000 E. Grand Avenue
Des Moines, Iowa 50319-0209
Phone: 515-281-8182
Fax: 515 281-8203
E-mail: iwd.lmi@iwd.state.ia.us
Websites: www.iowaworkforce.org
<http://iwin.iwd.state.ia.us>

Equal Opportunity Employer/Program. Auxiliary aids and services are available upon request to individuals with disabilities. For deaf and hard of hearing, use Relay 711 (800) 831-1399





Iowa

[Return To National Map](#)

[Compare States](#)

Select a State

HERE'S HOW IOWA STACKS UP

39.69%
Current % of adults with college degrees (2010)

60%
Goal for 2025

49.5%
Projected rate in 2025

10.5%
Projected gap for 2025

21st
Rank among states in terms of college attainment

62%
Percentage of jobs requiring a college credential by 2018

TRACKING THE TREND IN IOWA

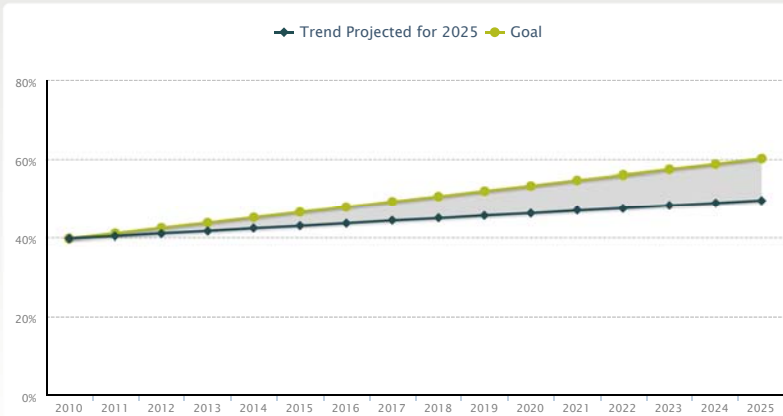
39.69% of the state's 1.6 million working-age adults (25-64 years old) hold at least a two-year degree.

2008	38.8%
2009	40.1%
2010	39.7%

The national average is **38.3%** (According to 2010 Census data).

National Average	38.3%
------------------	-------

Projected Degree Gap



THE QUICK BREAKDOWN

60%
Goal for 2025

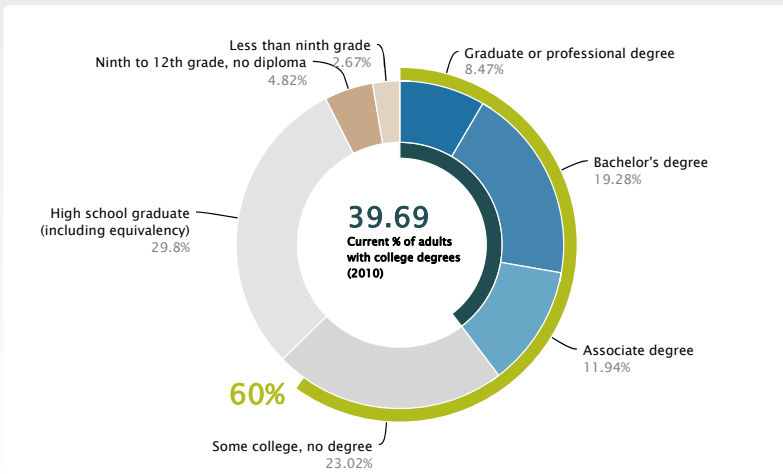
10.5%
Projected gap

151,487
Additional degrees required to meet workforce needs in 2025

49.5%
Projected rate in 2025

Levels of Education

FOR IOWA 2010 | AGE 25-64



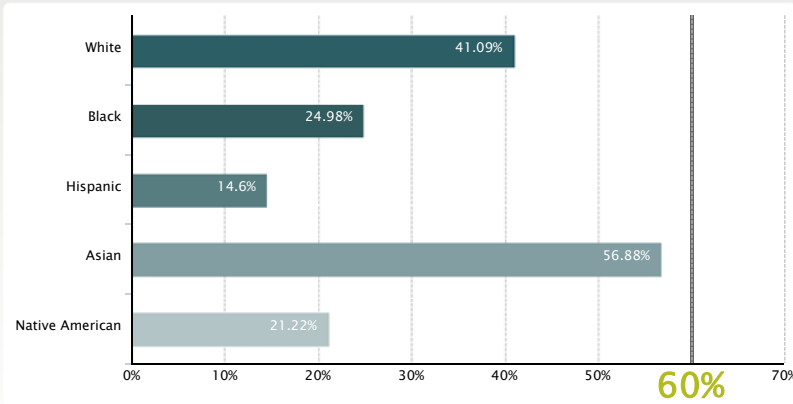
THE QUICK BREAKDOWN

- Graduate or professional degree**
8.47% | 132,604
- Bachelor's degree**
19.28% | 301,909
- Associate degree**
11.94% | 186,915
- Some college, no degree**
23.02% | 360,481
- High school graduate (including equivalency)**
29.80% | 466,729
- Ninth to 12th grade, no diploma**
4.82% | 75,436
- Less than ninth grade**
2.67% | 41,888

THE QUICK BREAKDOWN

Adults With College Degrees

FOR IOWA 2010 | AGE 25-64



39.69%

Adults with college degrees (2010):

Of the 39.69% of adults with college degrees, this is the breakdown by various ethnic groups in the state's population.

Reaching the Big Goal

PERCENTAGE OF IOWA ADULTS (AGES 25-64) WITH AT LEAST AN ASSOCIATE DEGREE, BY COUNTY

Sort by: County | Attainment Rate

THE QUICK BREAKDOWN

Highest Attainment Rate
Johnson: 62.72%

Lowest Attainment Rate
Lucas: 19.64%

Adair	31.07	Adams	27.97	Allamakee	25.78
Appanoose	30.83	Audubon	32.54	Benton	32.17
Black Hawk	38.69	Boone	34.33	Bremer	43.71
Buchanan	34.49	Buena Vista	33.26	Butler	29.66
Calhoun	33.84	Carroll	34.54	Cass	26.37
Cedar	34.72	Cerro Gordo	41.76	Cherokee	35.75
Chickasaw	28.43	Clarke	25.01	Clay	33.79
Clayton	26.77	Clinton	32.21	Crawford	23.21
Dallas	55.32	Davis	33.18	Decatur	27.93
Delaware	30.31	Des Moines	30.86	Dickinson	42.48
Dubuque	37.78	Emmet	35.8	Fayette	30.29
Floyd	30.82	Franklin	29.85	Fremont	27.48
Greene	35.96	Grundy	40.56	Guthrie	33.92
Hamilton	34.39	Hancock	33.25	Hardin	40.59
Harrison	29.91	Henry	33.07	Howard	25.83
Humboldt	32.54	Ida	31.19	Iowa	35.5
Jackson	25.6	Jasper	28.62	Jefferson	45.08
Johnson	62.72	Jones	29.03	Keokuk	27.43
Kossuth	35.32	Lee	26.04	Linn	45.67
Louisa	24.17	Lucas	19.64	Lyon	31.38
Madison	32.31	Mahaska	30.15	Marion	38.59
Marshall	32.92	Mills	37.83	Mitchell	33.61
Monona	26.85	Monroe	30.96	Montgomery	33.08
Muscatine	33.13	O'Brien	35.62	Osceola	29.48
Page	28.19	Palo Alto	33.6	Plymouth	34.85
Pocahontas	32.49	Polk	45.81	Pottawattamie	30.4
Poweshiek	34.62	Ringgold	41.46	Sac	32.7
Scott	43.26	Shelby	32.92	Sioux	36.35
Story	60.09	Tama	31.93	Taylor	29.71
Union	28.53	Van Buren	24.35	Wapello	26.59
Warren	41.71	Washington	31.89	Wayne	25.66
Webster	33.35	Winnebago	34.73	Winneshiek	41.78
Woodbury	31.24	Worth	34.93	Wright	29.04

Source: U.S. Census Bureau, 2010 American Community Survey

A stronger nation through higher education — and Iowa's role in that effort

In Iowa, nearly 39 percent of the state's 1.5 million working-age adults (25-64 years old) hold at least a two-year degree, according to 2008 Census data. This compares to a national average of around 38 percent.

Attainment rates in Iowa are increasing modestly, even though the proportion of degree-holding young adults — those 25-34 years old — mirrors that of the overall adult population. If Iowa continues to increase attainment at the rate it did over the last decade (2000-2008), the state will have a college-attainment rate of 51 percent in 2025 — still short of the Big Goal of 60 percent.

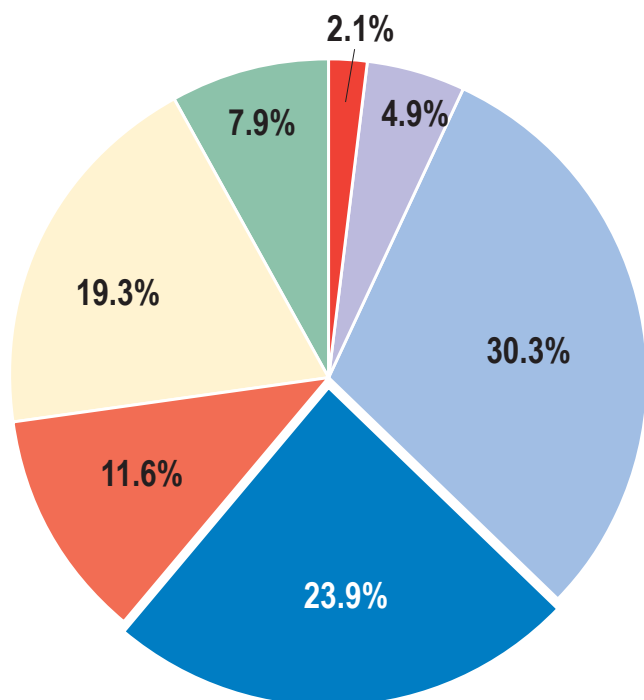
However, this gap *can* be closed. The key is to begin increasing degree production, and to continue to increase it each year until 2025. By increasing production by 2,248 associate or bachelor's degrees each year between now and 2025 — an annual increase of 4.1 percent — Iowa will reach the Big Goal.

One excellent place to begin looking for these additional graduates is in the ranks of Iowa residents who have completed some college without earning a degree. In 2008, 370,000 Iowa residents fit into this category

— representing about 24 percent of the state's adult population. If only a small portion of this group could be enticed to return to college to complete either a two- or four-year degree, it would go a long way to helping Iowa reach the goal of 60 percent higher education attainment.

Also, by looking at the geographic distribution of college graduates within the state (see chart on reverse), policymakers and other stakeholders can begin to work strategically and systematically to close achievement gaps. They can target counties and regions that show the greatest need and focus their efforts on those specific areas.

How do we know that Iowa's economy will demand more college graduates? A recent analysis by the Georgetown University Center on Education and the Workforce provides the answer. According to the center's analysis of occupation data and workforce trends, 62 percent of Iowa's jobs will require postsecondary education by 2018. Between now and 2018, Iowa will need to fill about 527,000 vacancies resulting from job creation, worker retirements and other factors. Of these job vacancies, 319,000 will require postsecondary credentials, while only 208,000 are expected to be filled by high school graduates or dropouts.



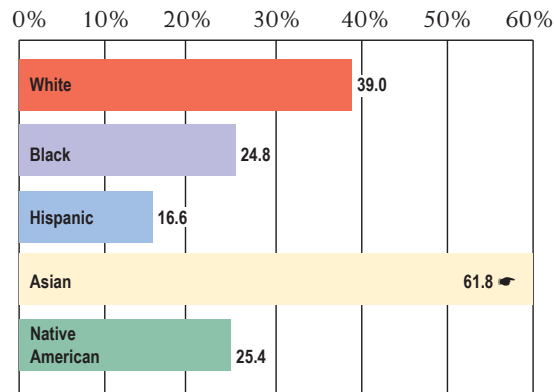
Levels of education for Iowa residents, ages 25-64

Less than ninth grade	31,892	2.1%
Ninth to 12th grade, no diploma	75,262	4.9%
High school graduate (including equivalency)	465,131	30.3%
Some college, no degree	367,402	23.9%
Associate degree	177,831	11.6%
Bachelor's degree	296,876	19.3%
Graduate or professional degree	121,189	7.9%
TOTAL	1,535,583	100%

Source: U.S. Census Bureau, 2008 American Community Survey

It will be impossible to reach the Big Goal without significantly increasing college success among the groups that can accurately be called 21st century students, including working adults, low-income and first-generation students and students of color. Closing attainment gaps among racial and ethnic groups is a particular challenge in Iowa, as in other states. The current higher education attainment rates in Iowa are displayed in the accompanying bar graph.

Degree-attainment rates among Iowa adults (ages 25-64), by population group



Source: U.S. Census Bureau, 2008 American Community Survey

These gaps have persisted for decades, and closing them is obviously a big challenge. Still, it can and *must* be done. It will require concerted and strategic efforts over many years — efforts based on solid evidence about what works to increase attainment. Information about successful strategies to increase the number of students who complete higher

education is available on Lumina Foundation's Web site. The site also provides specific information about Iowa's degree-attainment rates at www.luminafoundation.org/state_data/. From there, you can find links to data from all 50 states. Still more information is available at a Web-based resource created by the National Center for Higher Education Management Systems (NCHEMS). The NCHEMS Information Center provides detailed comparative data for all states and counties, as well as other contextual information that can help higher education policymakers and analysts make sound policy decisions. We urge you to visit the site (www.higheredinfo.org).

Percentage of Iowa adults (25-64) with a two- or four-year degree, by county:

Benton	31.5	Des Moines	29.2	Linn	44.8	Sioux	37.4
Black Hawk	39.2	Dubuque	37.4	Mahaska	28.6	Story	59.6
Boone	32.8	Fayette	29.4	Marion	38.6	Wapello	25.3
Bremer	41.9	Henry	32.1	Marshall	30.4	Warren	40.8
Buchanan	36.3	Jackson	25.4	Muscatine	34.8	Washington	29.7
Carroll	35.4	Jasper	27.9	Plymouth	33.7	Webster	32.7
Cerro Gordo	42.4	Johnson	64.0	Polk	45.8	Winneshiek	42.9
Clinton	30.9	Jones	26.0	Pottawattamie	29.4	Woodbury	31.2
Dallas	50.5	Lee	26.1	Scott	42.9	Other counties	31.1*

*This percentage is an average for the 64 Iowa counties with fewer than 20,000 residents.

Source: U.S. Census Bureau, 2008 American Community Survey

Lumina Foundation for Education is committed to enrolling and graduating more students from college — especially low-income students, students of color, first-generation students and adult learners. Our goal is to increase the percentage of Americans who hold high-quality degrees and credentials to 60 percent by 2025.

Lumina pursues this goal in three ways: by identifying and supporting effective practice, through public policy advocacy, and by using our communications and convening power to build public will for change. For more details on the Foundation, visit our Web site at www.luminafoundation.org.

