Iowa's Changing Labor Force Dynamics

Prepared by

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January 2008

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Executive Summary

- Iowa's working-age population could decrease by over 200,000 workers by 2030. An alternate scenario, based on Woods and Poole population projections, depicts relatively flat growth in the working-age population to 2030.
- The state's labor force grew at its fastest pace during the 1970's when the baby boom generation entered the job market for the first time, and large numbers of females began to enter the labor force.
- Iowa's 2006 labor force participation rate of 72.7 percent is among the highest in the nation. The state also has a higher percentage of multiple jobholding, which was 8.9 percent of total employed in 2006.
- Unemployment rates have been decreasing across the state, which has resulted in tighter labor markets.
- In spite of the recession of 2001, nonfarm employment has shown a net gain of 40,300 new jobs over the past seven years.
- Iowa will likely add an average of 2,000 new jobs per month over the next several years unless another economic slowdown occurs.
- Although manufacturing has not recovered its pre-recession employment level, manufacturing output continues to grow much as it has in the past. This is due to the automation of many manufacturing procedures that the average number of workers needed per unit of output has declined significantly in recent years.
- According to the industry employment projections, Iowa is expected to add close to 204,800 jobs between 2004 and 2014, an increase of 14 percent.
- Three broad industries are expected to account for over 60 percent of the state's job growth from 2004 to 2014. These industries are educational and health services; trade, transportation and utilities; and professional and business services.
- Manufacturing will add 13,800 jobs over the 2004 to 2014 period, but the industry is not expected to return to its employment level prior to the recession.
- Only three of Iowa's industries have declined in employment since 2001—information, manufacturing and trade.
- Wages in all sectors have increased by at least 9.9 percent since 2001. Finance and insurance reported the largest gain at 29 percent in the past five years.
- Iowa's labor force is aging. In 2006, workers age 45 and older accounted for 38.2 percent of the labor force compared to 33.3 percent in 2001.
- Immigration rates in the U.S. are at their highest levels since 1940, with one in ten people being foreign born.

Executive Summary

- Iowa's long-term occupational projections for 2004-2014 show an overall increase of 12.3 percent for the period.
- The ten fast-growing major occupational groups are Computer and Mathematical, Healthcare Support, Community and Social Services, Personal Care and Service, Business and Financial Operations, Healthcare Practitioners, Food Preparation and Serving, Architecture and Engineering, Building and Grounds Maintenance, and Legal. These groups are expected to generate over 40 percent of all new jobs annually.
- Iowa's largest Metropolitan Statistical Areas are driving many of the state's fast-growing occupations, including the Computer and Mathematics, Healthcare Support, and Personal Care and Service occupational groups.
- Labor market conditions affecting migration of workers from slower growth to faster growth industries can impact the availability of workers with necessary skills in certain industries.
- Iowa's public school enrollments (K-12) have steadily declined over the past ten school years. Projected enrollments extending out to the 2011-2012 school year, show that enrollments will remain at the current level for the next five years.

Introduction

The Iowa labor market is expected to face a very different set of opportunities and challenges over the next twenty years, primarily because of changes in demographic trends and the demand for workers with higher skills. The size and composition of the labor force will change due to the growing number of older workers, the inclusion of more immigrants and minorities, decreasing fertility rates among the state's native-born population, and labor force participation rates that have reached their practical limits. In addition, the gap between the skills needed by employers and the skill level of a large share of the state's workers poses a challenge for the Iowa economy. Without a sufficient supply of workers, Iowa's future economic prosperity will be threatened.

Although Iowa's population is growing according to the U.S. Census Bureau, the state is not keeping pace with the rest of the nation. The state's estimated population was 2,982,085 in 2006, which was only 1.9 percent higher than the 2000 figure. Iowa has many older residents than younger, a factor that has contributed to slow population growth. The problem is particularly pronounced in the state's rural counties, where an increasing number of rural schools are consolidating or closing, and rural towns are continually losing younger residents. Iowa's population growth is 60 percent of the national average rate, which has been a concern for many years.

Iowa currently stands at the front edge of a massive and important demographic shift, as the older members of the baby-boom generation (those born between 1946 and 1964) prepare to retire. The onset of retirement for this generation, coupled with longer life expectancy and relatively low fertility rates, will cause the share of older individuals in the population to rise substantially in the years ahead. According to the Hudson Institute, by the year 2010 the country as a whole will begin to notice the tightness in the labor markets, which will become a perpetual condition from that point on.

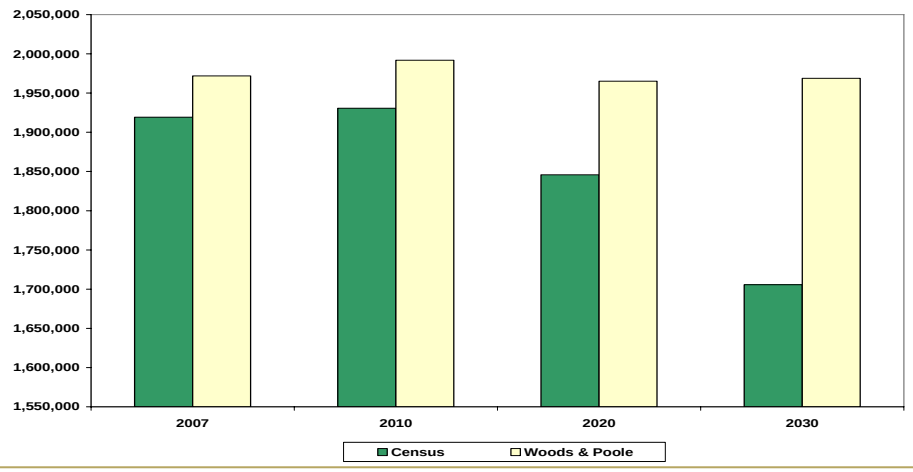
In addition to these demographic trends, several broad economic trends are changing the nature of the state's labor market and employment. Increasing global interdependence and technological change will have major implications for the future. The growth of the knowledge-based economy, accompanied by rapid advancements in technology, have contributed to the need for increased skill levels in many occupations. Also, because global competition has increased pressure on companies to streamline operations, employers are more likely to lay off workers and move operations to lower-cost locations domestically and internationally.

Projected Population Outlook

The U.S. Census Bureau has generated projections of the Iowa population by five-year age groups for each year through 2030. These projections paint a gloomy demographic picture for the state, showing that the working-age population (16-64) could decrease by over 200,000 workers by 2030. However, the population projections developed by Woods and Poole Economics, Inc., provide an entirely different view of the future. While these projections are not particularly optimistic, they depict relatively flat growth in the working-age population to 2030, rather than a large drop. What accounts for the vast difference in these projections? The U.S. Census Bureau bases its projections on a demographic model, while Woods and Poole Inc., uses an economic model.

The demographic model used by the Census Bureau relies heavily on the components of population change (fertility, mortality and international migration) to project population by age and sex. The economic model used by Woods & Poole Economics, Inc. incorporates detailed population data by age, sex and race; employment and earnings by major industry; personal income by source of income; retail sales by kind of business; and data on the number of households, their size, and their income. All of these variables are projected for each year through 2030.

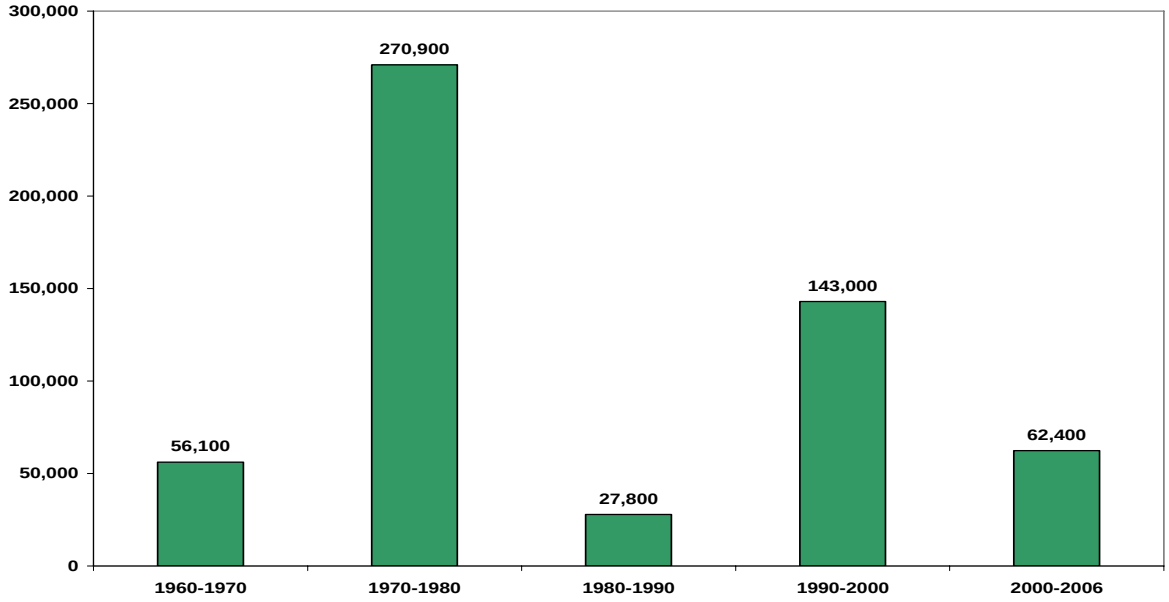
Projections for Iowa's Working-Age Population to 2030



Labor Force Growth, Past and Future

Iowa's labor force growth was most remarkable during the 1970's, as members of the baby boom generation found their first job, and large numbers of females and youth entered the labor force. The labor force grew by 270,900 workers over the 1970's, outpacing the growth of any decade in recent history. In sharp contrast, the 1980's experienced very little expansion in the labor force due to difficult economic conditions. The first half of the 1980's was marked by a severe recession that coincided with a farm crisis. The 1990's produced a much different economic environment due to a long and durable economic expansion, and a large influx of immigrants. Despite these factors, the labor force grew by about half the amount that was experienced during the 1970's.

Iowa's Labor Force Growth 1960-2006



Source: Workforce Data and Business Development Bureau, Iowa Workforce Development

Among the factors affecting the composition and growth of the Iowa labor force to 2030 are the aging of the baby boom generation, the stabilization of women's labor force participation rates, and increasing racial and ethnic diversity in the labor force. To project the size and age composition of the statewide labor force to 2030, two different scenarios were developed by applying current labor force participation rates by age cohort to both the Census and Woods and Poole population projections. As expected, the two scenarios produced very divergent results. Under the first scenario (Census), the labor force would decrease by over 180,000 workers by 2030. The alternative scenario (Woods and Poole) depicts a flat outlook for labor force growth. By 2030, the state's labor force would decrease by less than 10,000. Regardless of which of the two labor force scenarios prevails, Iowa will need to draw from previously underutilized groups to supplement its resident labor force over the next two decades.

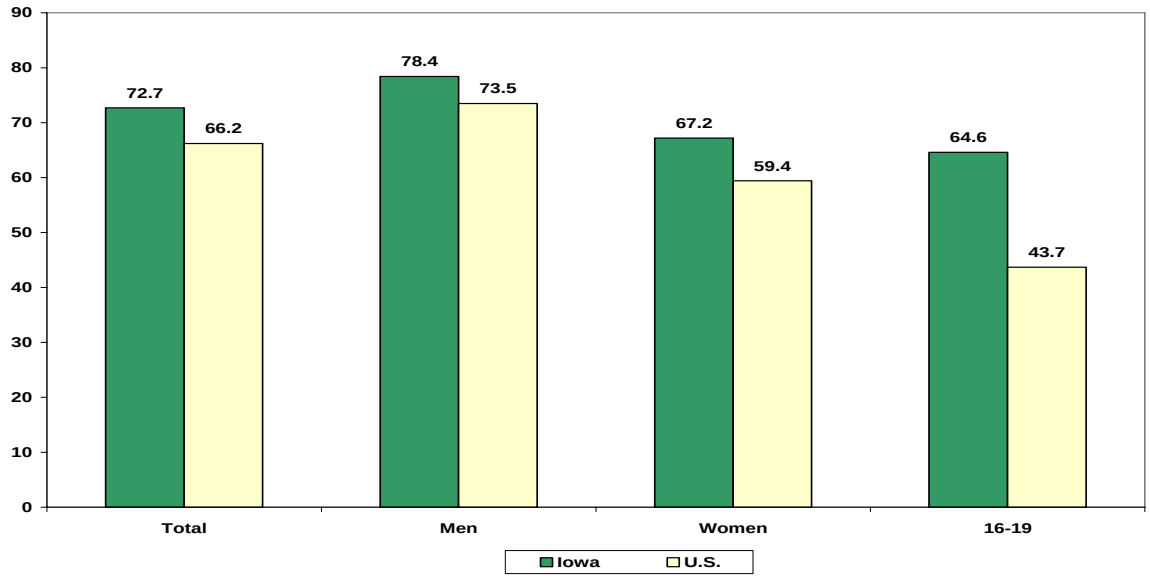
Labor Force Characteristics

Iowa has for many years been among the group of states that have experienced high labor force participation rates. The labor force participation rate is defined as the percentage of the civilian noninstitutional population 16 and over that is in the labor force. While a high participation rate is generally viewed as a sign of a healthy economy, it can also suggest a tight labor market if the state's unemployment rate is low. When a state has persistently low unemployment, along with a high participation rate, employers generally have difficulty hiring additional workers without bidding up wages.

Why has Iowa's labor force participation rate risen over time? The increase in the state's total labor force participation rate has increased primarily because of the increase in the female participation rate. The total participation rate for the state has increased from 69.3 percent in 1990 to 72.7 percent in 2006. The male participation rate has fluctuated over time. The rate was 78.0 percent in 1990, and just slightly above that level

(78.4 percent) in 2006. The youth participation rate has also reflected a slight increase, edging up from 62.9 percent in 1990 to 64.6 percent in 2006. On an historical basis, Iowa's labor force participation rate has consistently surpassed the U.S. equivalent.

Labor Force Participation Rates for Iowa and U.S. - 2006



Source: Workforce Data and Business Development Bureau, Iowa Workforce Development

Iowa has also gained a reputation for its high percentage of multiple jobholding. In 2006, 8.9 percent of the total number of employed in the state had more than one job. At the national level, only 5.2 percent of total employment fell into this category. Some of the research that has been conducted on the subject suggests that multiple jobholding is a common strategy among rural households as a way to supplement income. This may partially explain why many of the states that have high rates of multiple jobholding are also more rural in nature.

Top Ten States for Multiple Jobholding - 2006

State	Percent of Employed
Nebraska	9.9
South Dakota	9.9
Vermont	9.3
Wyoming	9.3
Alaska	9.0
Iowa	8.9
Minnesota	8.7
North Dakota	8.4
Idaho	8.3
Maine	8.2

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

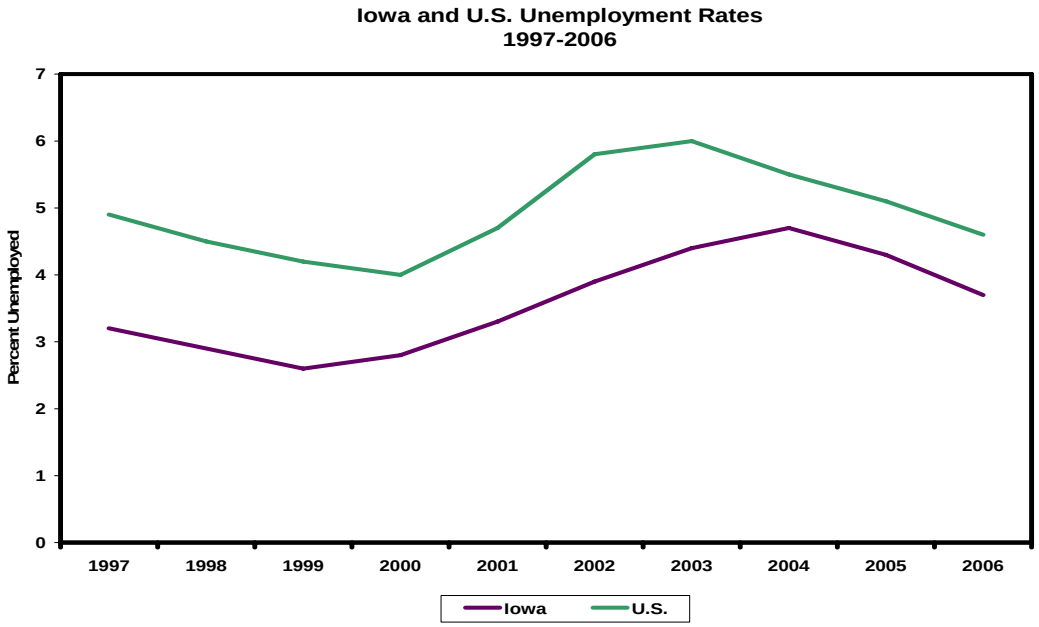
Unemployment

The statewide unemployment rate averaged 3.6 percent for the first three quarters of 2007, which was down slightly from the 2006 average of 3.7 percent. Meanwhile, the number of unemployed persons has averaged about 60,000 for the current year. Beginning in 2005, Iowa's unemployment rate began to trend downward from its post-recession high of 4.7 percent in 2004.

Historically, low unemployment results in a tighter labor market. As the state's unemployment rate drops below the 3.5 percent threshold, concerns about labor shortages begin to intensify. It appears that Iowa has again reached this point. However, unemployment was much lower than current levels in the late 1990's, and in the early years of the current decade.

In 1999, Iowa had the lowest unemployment rate in the nation at 2.6 percent. Iowa's 2006 unemployment rate ranked as the 15th lowest in the nation, and compared to a U.S. unemployment rate of 4.6 percent.

During 2006, unemployment rates declined in all fifteen Iowa Workforce Development regions. Four regions reported jobless rates that were well below the statewide average of 3.7 percent—Region 3-4 (3.2 percent), Region 8 (3.3 percent), Region 10 (3.3 percent), and Region 11 (3.4 percent). Region 16, located in the state's southeast corner, reported the highest unemployment rate in the state at 5.2 percent.



Source: Workforce Data and Business Development Bureau, Iowa Workforce Development

Iowa's Nonfarm Employment in the 21st Century

Over the past seven years Iowa's nonfarm employment has endured a roller-coaster ride of ups and downs due to the effects of the recession that afflicted the nation's economy in 2001. According to the National Bureau of Economic Research, this most recent recession began in March of that year and ended the following November. However, for the State of Iowa, the downturn began somewhat earlier—in August of 2000—and our current expansion did not begin until after June 2003. Iowa's economy thus anticipated the beginning of the recession nationally by about seven months, and did not really begin to recover until more than a year and a half after its official end.

In August 2000, Iowa's nonfarm employment (seasonally adjusted) totaled 1,482,300, the second highest number of jobs ever recorded in the state. (In March of that year employment was 1,200 higher—a one-month gain, reversed in April—due to the run-up to the decennial census.) From April through August, employment continued to grow, but after August the state's number of jobs began a more or less steady downward plunge; by June 2003 a total of 47,500 had been lost.

Since that time Iowa's nonfarm employment sector has experienced almost uninterrupted growth, adding 87,800 new jobs over the past four-plus years. This means that a net gain of 40,300 has occurred since August 2000 for nonfarm employment as a whole. Not all divisions can boast a net increase over the entire seven-year period. Some industries, while showing remarkable recovery since the end of the recession, have still not returned to their pre-recession levels. Prominent among these are manufacturing, retail trade, and information.

Manufacturing has lost a total of 20,500 jobs between August 2000 and the present time; 33,500 disappeared from August 2000 through June 2003, of which just 13,000 have been recovered. Retail trade not only lost 9,300 jobs during the recession, but has continued to decline statewide since June 2003 despite a few advances in the larger metropolitan areas, shedding an additional 1,300 more jobs in the past four years. Information likewise has continued downwards since June 2003; during the recession 6,900 information jobs were lost, and since that time another 500 have gone away.

But there have also been bright spots as well across the entire period. Health services has added 16,500 jobs since August 2000—4,200 during the recession and 12,300 since the recovery began—while construction has grown by 13,600 over the past seven years, most of which has occurred since June 2003. Professional and business services and financial activities have each added nearly 13,000 new jobs since August 2000.

Barring any new recessions or slowdowns in the near future, these are the industries that will continue to grow in Iowa. With the average age of Iowa's population continuing to rise every year, there will be an increasing need for health care services of all types, whether in hospitals, clinics, or extended care facilities. Iowa, and particularly the Des Moines metropolitan area, will also continue to be a major financial center for insurance and banking. Construction, too, will probably continue to grow even with the effects of the current housing slowdown. The state's infrastructure —highways, bridges, sewer systems, and the like—will need repair and replacement to avoid catastrophes such as the recent bridge collapse in Minneapolis.

Iowa's manufacturing sector will continue the gradual recovery it has enjoyed since its post-recession turnaround of June 2003, but it will take a long time to return to its August 2000 level of 252,100—much less the all-time high of 254,400 set in December 1998. It is often said that we are moving away from a manufacturing-based economy toward a more service-based economy. As far as the number of jobs is concerned, this is true. However, on the national level, and in Iowa as well, manufacturing *output* continues to grow much as it has in the past. The automation of many manufacturing procedures has caused the average number of workers needed per unit of output to decline significantly in recent years. This is what is behind the continuing gains in productivity for American manufacturing industries. It is also a major reason why the manufacturing sector in Iowa and elsewhere will experience, at most, only modest growth in the near future.

Another industry that has experienced a significant downturn since August 2000 is retail trade, which has lost 10,600 jobs over the past seven years. Most of this decline—about 9,300—was due to the effects of the recession and the resultant decrease in consumer spending levels. Another 1,300 jobs, however, have been lost since June 2003, even though consumer spending has been on the rise. Much of this decrease is likely due to the continuing consolidation of retail activity in the larger metropolitan areas, and the slow decline of main street businesses in Iowa's smaller towns and cities. Although small-town Iowa is attempting to fight back with innovative campaigns to increase public awareness of the advantages of shopping locally rather than traveling to the larger cities, the trend toward mega-malls in larger metropolitan areas will likely continue.

On the whole, however, nonfarm employment in Iowa will probably continue to grow during the next few years, though probably not at the rate seen during the 1990s. From 1992 through 1999 Iowa's nonfarm sector added an average of 2,600 new jobs per month. Since June of 2003, however, growth has averaged about 1,700 per month. This will probably increase to about 2,000 per month—possibly more—in the next few years unless another economic slowdown hits the national economy. If that happens Iowa will of course be affected as it has in downward cycles of the past.

Industry Employment Projections, 2004 - 2014

The three industry sectors that are expected to account for most of the state's job growth are: educational and health services; trade, transportation, and utilities; and professional and business services. (See table.)

The educational and health services are expected to add the most jobs at 56,000 jobs during the forecast period, growing by 17 percent. The majority of the growth will be in health services with ambulatory health care services (+12,900, 29 percent) and nursing and residential care (+12,100, 24 percent) showing the most rapid growth. Hospitals will add another 7,100 jobs. Growth in the health care industries is largely linked to the state's aging population.

The trade, transportation, and utilities sector is also expected to add a large number of jobs (+37,300, 12 percent), which is roughly in line with overall job growth. Retail trade makes up the bulk of this industry, and is expected to add 23,300 jobs. Within transportation and warehousing, there has been strong growth in warehousing and storage (+2,400, 28 percent). This growth is expected to continue, as more distribution warehouses open up or expand during the forecast period.

The leisure and hospitality industries are expected to add nearly 25,000 jobs, growing by 20 percent. The largest component of this industry is food services and drinking places (+15,000, 16 percent). The ever-increasing number of casinos in Iowa will add (+6,100, 36 percent) to the amusement, gaming, and recreation industry.

Manufacturing is expected to add 13,800 jobs or six percent, although growth rates will vary greatly by industry. For many manufacturing industries, employment has begun to grow after reaching a cyclical low point during the recent recession (computer and electronic equipment, transportation equipment, and machinery equipment). Each of these industries is expected to rebound with the overall economy, but not to the level of employment

experienced prior to the 2001 recession. Wood product manufacturing and chemical manufacturing are expected to add 4,900 jobs, but are dependent on the housing industry and ethanol production.

Some manufacturing industries are expected to continue to decline due to plant closings like the Maytag and Rubbermaid closings (e.g. electrical equipment, appliance and component manufacturing; and plastics and rubber products). It is not clear if the primary metals industry will rebound with the overall economy, as growth will be constrained by foreign competition and energy prices. As a result, this industry is expected to shed jobs. Overall, the state's manufacturing sector is expected to provide 237,000 jobs in 2014, well below the peak manufacturing employment levels in 1998 (251,500).

Financial activities will continue adding jobs (+18,000, 19 percent), buoyed by two industries in that sector, credit intermediation activities and insurance carriers, which are expected to add about 14,000 jobs between the two.

Construction has seen rapid growth recently, but is a highly cyclical industry. The industry is projected to add workers (+9,000, 13 percent) with most of that increase coming from the specialty trade industry. The construction industry is highly dependent on population growth and interest rates.

Growth in the **Information sector** is expected to be about in line with overall employment growth (+4,800, 14 percent), but growth varies considerably within the sector. While technology is expected to constrain growth in publishing industries such as newspapers and magazines as more information is available on the Web, technology is expected to bolster growth in software publishing. While advances in telecommunications will be astounding over the forecast period, employment in this industry will likely be moderate.

Government employment will grow modestly (+5,000, 5.5 percent) with the federal government likely seeing negative employment (-400, -4.5 percent). State government will only see about 3 percent growth, or 600 jobs. Local government will see the largest growth in this sector (+4,700, 8 percent) with the majority of this increase taking place in the larger metropolitan areas in Iowa.

Iowa Employment Projections by Major Industry
2004-2014

Major Industry	2004	2014	Change	Percent Change
Total nonfarm employment	1,455,100	1,659,900	204,800	14.1%
Natural resources and mining	2,100	2,000	-100	-4.8%
Construction	68,500	77,700	9,200	13.4%
Manufacturing	223,100	236,900	13,800	6.2%
Trade, transportation, and utilities	315,300	352,600	37,300	11.8%
Information	33,500	38,300	4,800	14.3%
Financial activities	96,700	114,600	17,900	18.5%
Professional and business services	107,700	137,900	30,200	28.0%
Educational and health services	334,500	390,500	56,000	16.7%
Leisure and hospitality	126,900	151,800	24,900	19.6%
Other services	57,900	63,700	5,800	10.0%
Government	88,900	93,900	5,000	5.6%

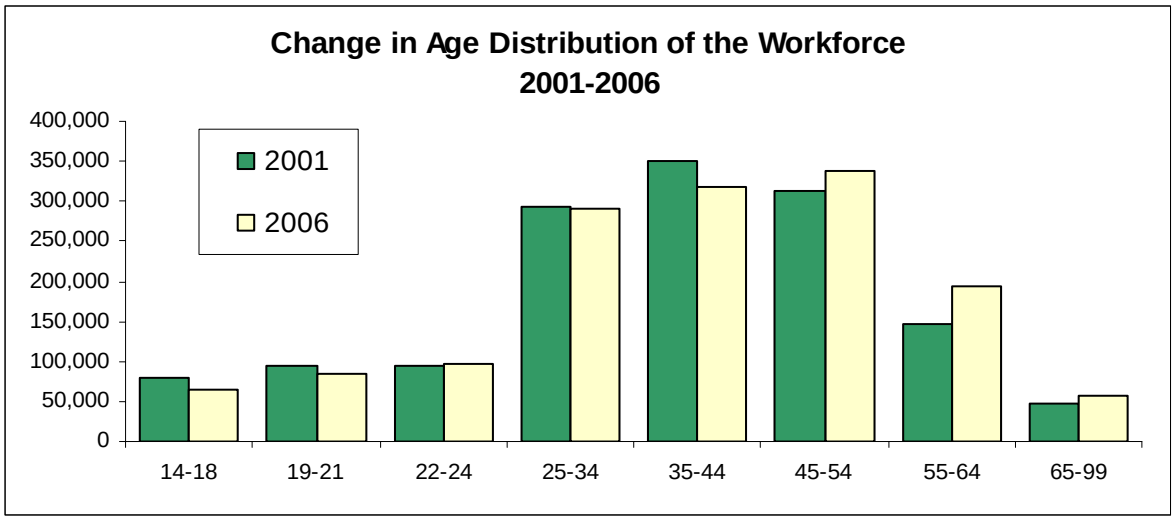
Source: Workforce Data and Business Development Bureau, Iowa Workforce Development

A Snapshot of Iowa's Workforce by Age and Gender

Labor market analysis is used to measure and assess the economic forces that impact the workforce in a particular area. There are many variables that affect the labor market: population growth and characteristics, industrial structure and development, new technologies, changes in consumer demand, recruitment procedures and conditions of employment. Analyzing labor market statistics can address a number of questions, such as:

- What are the local employment demographics?
- What parts of the economy have been growing?
- What industries have been declining?
- How does our local economy compare to similar communities, the state and the nation?
- How do we identify new opportunities for economic growth?
- What industries have the largest percentage of older/younger workers?

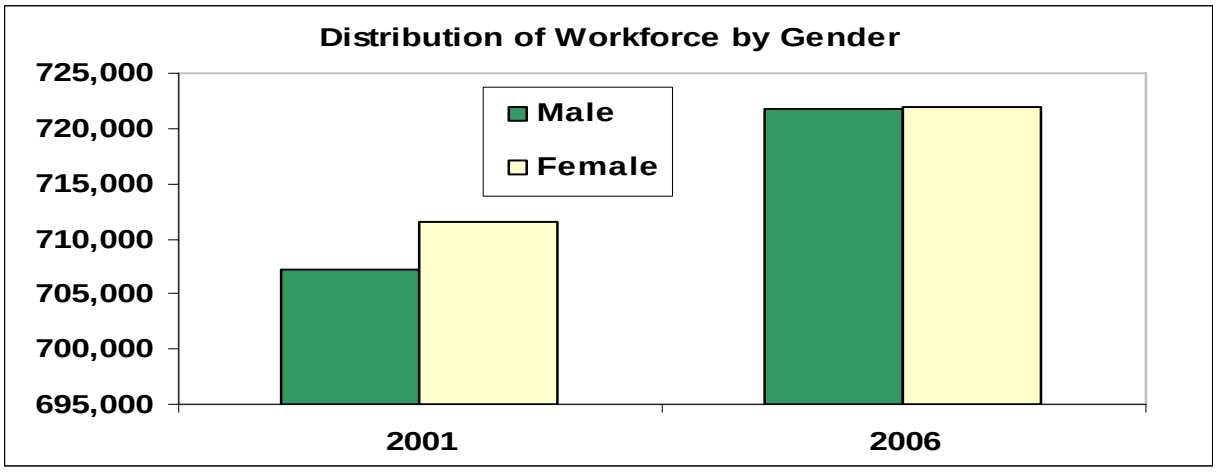
The answers to these questions can assist policy makers and developers identify industries to support or grow, help job seekers target growing occupations and industries, and ultimately, create a picture of future strengths and challenges in the labor market. The basic data needed to answer these questions are demographic information and employment statistics by industry and geography, both current and historic. Included in this discussion is an overview of statistics on Iowa's 2006 workforce by age, gender, industry and region which can be utilized for economic analysis.



Source: http://lehd.did.census.gov/led/ 2001Q3 Annual Average - 2006 Q3 Annual Average by Age Group

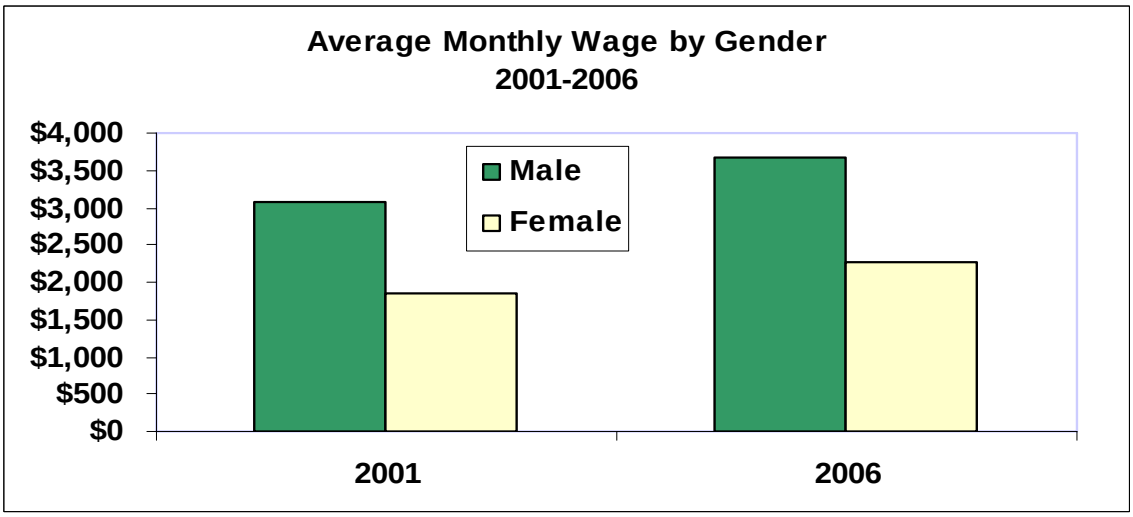
Iowa's workforce is aging. Since the 1990's, the percentage of workers in the youngest age groups, 14 to 18 and 19 to 21, has decreased. Since 2001, the rate has been 17.2 and 8.4 percent, respectively. The 35 to 44 age group declined by 9.1 percent since 2001, while the 45 to 54 group increased by 11.1 percent. The largest change in any age group was in the 55 to 64 group, which increased by 29.5 percent during the five-year period. The numbers in the 65 to 99 year old group also rose by 17.1 percent since 2001. There are many theories as to the reason for these changes. One hypothesis is that many jobs that were held by younger workers as part-time after school activities are now being actively sought out by older workers who need additional income to supplement wages or pensions. In 2006, 38.2 percent of all workers in covered employment in Iowa were age 45 or older, as compared to 2001, when the percentage was 33.3.

In 2001, males represented 49.8 percent of the workforce. By 2006, each gender accounted for 50.0 percent of the covered workforce, and increased jobs by 25,102. Iowa's largest industry, manufacturing, accounts for the largest majority of males in its' workforce, 71.4 percent. Women dominate the health care and social assistance industries, reporting 83.0 percent of workers. In two of the other larger industries, retail trade and educational services, the genders are more evenly divided, reporting 52.8 and 68.0 percent respectively, for women workers.



Source: Local Employment Dynamics, U.S. Census Bureau - Average Annual Q3 2001 - Q3 2006

However, the equality of the distribution of jobs by gender does not mean that the average monthly wage is near the same. The graph below shows the disparity of wages between the genders over a five-year period of time. Nonetheless, it is important to note that much of the wage differences are due to the different types of occupations held by each gender. For example, there are many more women holding lower paying jobs in health care and social services (i.e., nurses' aide) versus physicians and scientists. The same applies for secretarial workers versus managers and CEOs.



Source: Local Employment Dynamics, U.S. Census Bureau - Average Annual Q3 2001 - Q3 2006

Although the average monthly wage increased for both males and females over the five-year period, women gained some ground by raising the average to $2,266.75 from $1,864.75, a jump of 21.6 percent. Men raised their average wage by 18.7 percent, to $3,656.75.

Age plays a large factor in industry employment, also. The retail trade sector reports the most workers age 19-21 (20,840), age 22-24 (15,925) and also the most workers age 65-99 (9,356). Manufacturing, Iowa's largest industry, accounts for the most workers in three age groups, 25-34, 35-44, and 45-54. The industry with the most workers age 14-18 is accommodations and food services (22,565).

What the workers of the future look like will depend on many factors. Decision makers are looking at the economic and policy implications for a wide range of programs and institutions, including Social Security and Medicare; financial markets; the housing market; and recreation, transportation and healthcare systems.

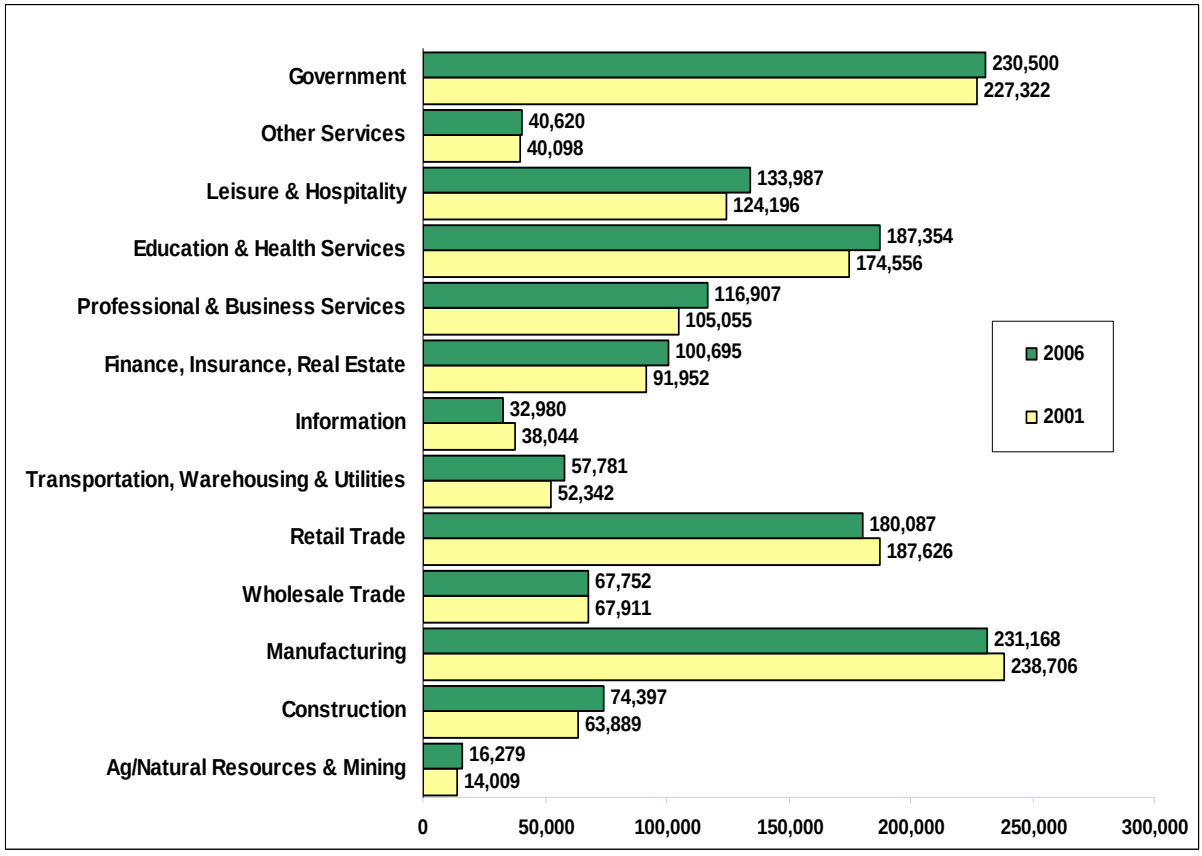
Planners in Iowa will be able to keep an eye on the impact of such factors and emerging trends by using the Local Employment Dynamics (LED) statistics. It is not known whether Iowa will undergo rapid and massive changes, or gradual changes in the workforce due to the retirement of the Baby Boom generation along with the movement of workers in and out of Iowa.

Profile of Iowa's Changing Industries

Iowa has a very diverse industrial base and a dynamic economy that exceeds national statistics, offers abundant resources and a superior quality of life for its' residents. Although manufacturing has been the state's prominent industry for decades, the landscape of Iowa's commerce is changing. Across the spectrum, more is being demanded of businesses and workers as the combined forces of technology, management innovations and global competition escalate the knowledge, skills and abilities required for job performance. An understanding of the dynamics of our economy is fundamental to making effective public policy and developing sound economic investment strategies.

The distribution of Iowa's industries since 2001 includes jobs in all North American Industry Classification System (NAICS) codes. The following chart displays the change in employment by industry sector between 2001 and 2006. Manufacturing still leads Iowa as the top private employer by industry and has represented at least 15 percent of Iowa's jobs for a decade or more. The construction sector has reported the largest percentage increase in employment since 2001, with a gain of 16.5 percent. While jobs in the heavy and civil engineering sector have increased 7.1 percent since 2001, there have been large increases in both building (residential and commercial) construction (15.2 percent) and specialty trade contractors (17.5 percent). The agriculture and mining sector also increased by over 16 percent since 2001. The largest subsector increases were reported in animal production (23.0 percent) and in support activities for agriculture (21.5 percent). This sector includes pre- and post-harvest activities, animal breeding and boarding, and farm management services.

Change in Employment by Industry in Iowa



Source: Workforce Data and Business Development Bureau, Iowa Workforce Development

Industries in Transition

Only three of Iowa's industry sectors have decreased in employment in the past five years. Jobs in the information sector have slipped by 13.3 percent, followed by manufacturing and trade, at 3.2 and 3.0 percent respectively. However, total employment in Iowa has increased by 3.1 since 2001.

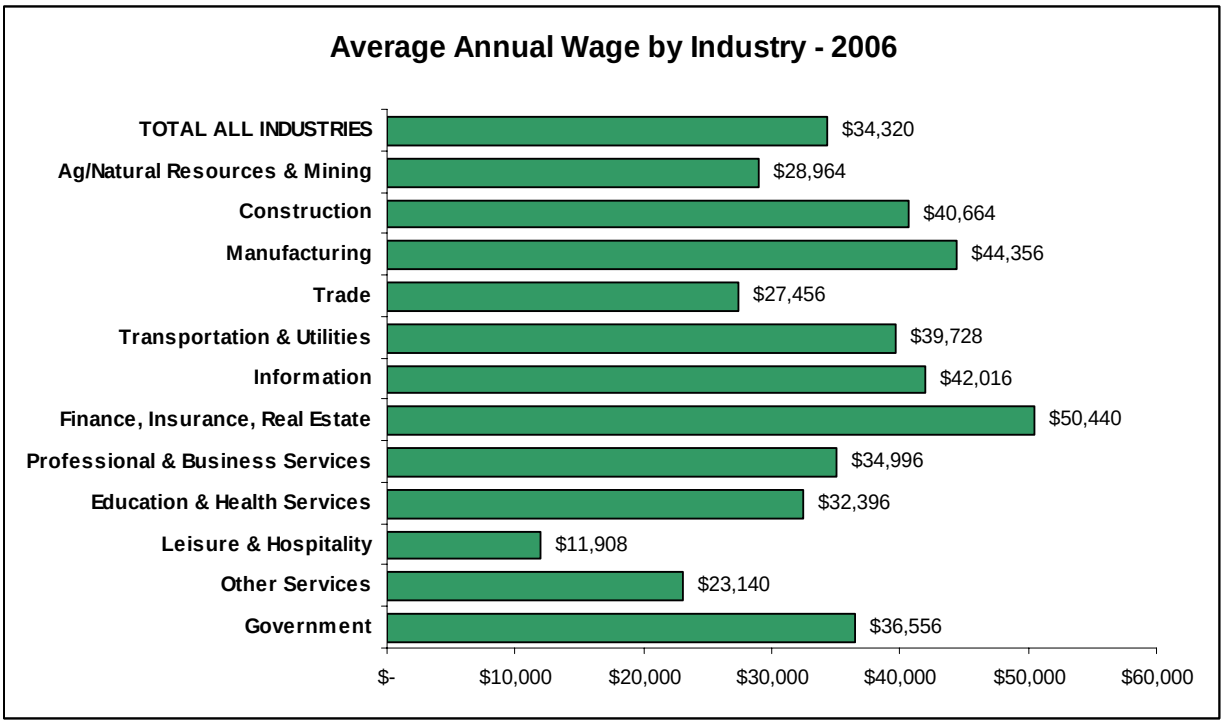
Certain industries within manufacturing have declined substantially during this period, including textile (-34.0 percent), leather products (-57.8 percent), petroleum and coal products (-32.3 percent) and appliances (-23.2 percent). However, increases in other manufacturing industries, such as wood products (5.8 percent), chemical (9.3 percent), machinery (4.0 percent), and furniture (10.5 percent) offset some of the losses, and kept the net loss at 3.2 percent for the five-year period. Actually, manufacturing employment has rebounded since 2004, after reaching the lowest point in 2003. Manufacturing jobs have increased by 5.1 percent since 2003.

The transportation industry has increased by 9.0 percent since 2001. The largest boost has been reported in the truck transportation industry. This industry, which represents almost one half of all the sector employment, has climbed by 15.2 percent. The information sector has declined by 12.0 percent during the same time period. A reason for this decrease could be attributed to the post Y2K economy.

The finance, insurance and real estate (FIRE) sector has continued to increase every year since 1997. Although the increase since 2001 was reported at 9.5 percent, the sector has increased by 23.0 percent since 1997. In 2006, the FIRE sector represented 6.8 percent of all private employment in Iowa; while in 1997, the sector reported only 6.0 percent of jobs in the state.

Impact of Wages

Wages in Iowa have followed the national trend during the past five years, by reporting double digit increases in all sectors, except retail trade. However, even though the retail trade industries showed a slip in the number of jobs, an increase in average weekly wage of 9.9 percent since 2001 was reported. Other sectors where employment has fallen, such as manufacturing and information, also showed wages that have continued to rise. The finance, insurance and real estate sector reported the largest increase (29.0 percent), followed closely by professional and business services (28.4 percent). The graph below displays the average weekly wage by industry and for all industries for 2006.



Source: Workforce Data and Business Development Bureau, Iowa Workforce Development

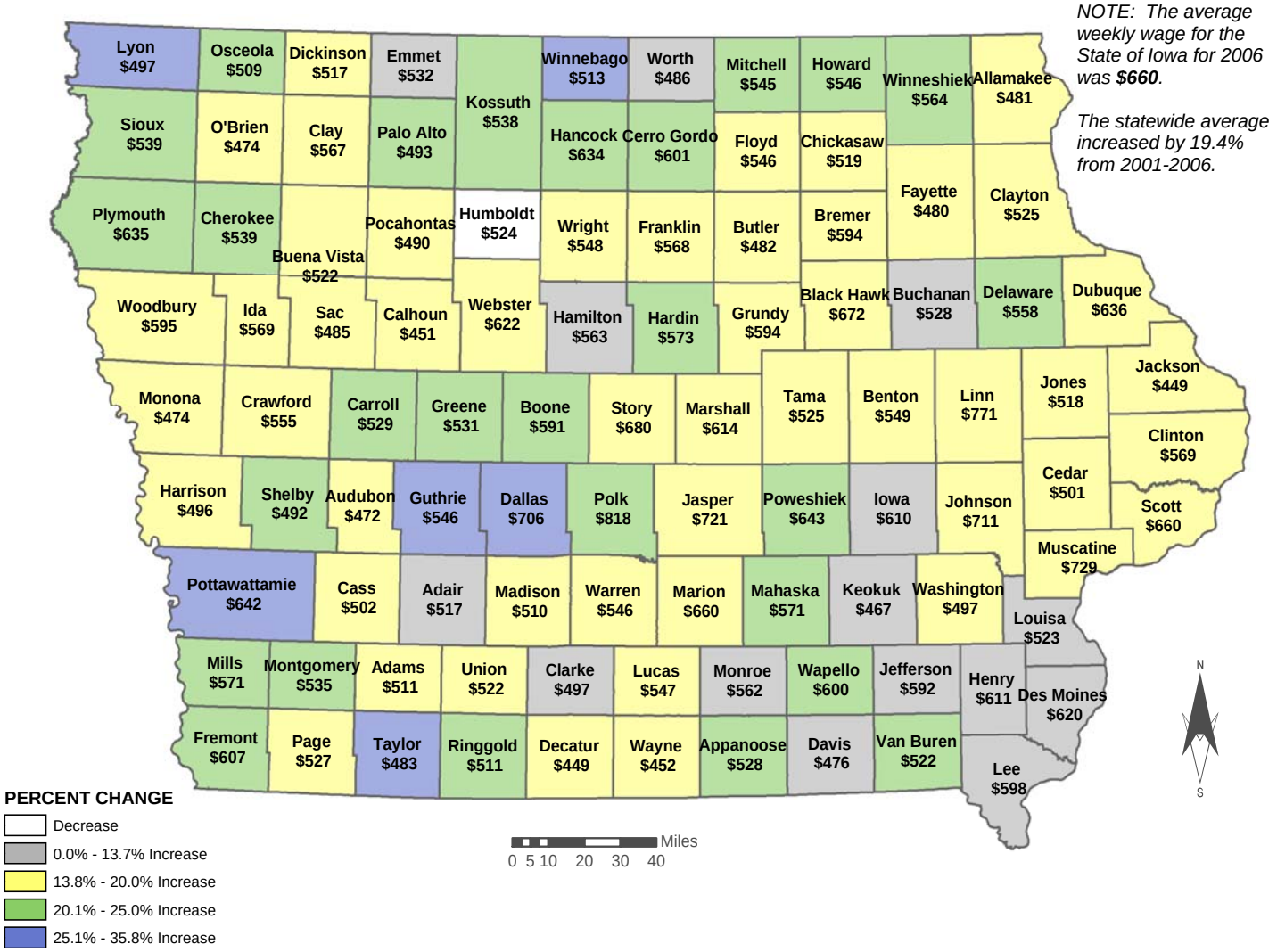
Wage Increase by County and the Cost-of-living

The map below illustrates the percentage change of the average annual weekly wage by county from 2001 to 2006. Every county except one—Humboldt—increased their wage during this period. The statewide average wage rose by 19.4 percent, from $553 to $660. Guthrie County reported the largest increase, at 35.8 percent, while Monroe County raised its average weekly wage by less than 1.0 percent.

The percentages used in the map are the actual changes in average wages that were paid to those employees covered by the Unemployment Insurance program. However, we can also factor in the cost-of-living data for these years, which would provide additional perspective on the increases. The cost-of-living, based on the Consumer Price Index for All Urban Consumers in the United States, increased 13.8 percent from 2001 to 2006. The counties shown in white and gray are those whose movements were less than the cost-of-living increase.

Thirty nine counties increased their wages more than the statewide average of 19.4% and 44 counties increased less than the state average but more than the average cost-of-living increase.

Percent Change in Average Weekly Wage by County
2001-2006



*NOTE: The average weekly wage for the State of Iowa for 2006 was **$660**.*

The statewide average increased by 19.4% from 2001-2006.

Source: Workforce Data and Business Development Bureau, Iowa Workforce Development
Retrieved: January 3, 2007

Immigration

In a survey conducted by the Technology Association of Iowa, sixty-three percent of the companies with Information Technology as their core said the labor market in Iowa is an impediment to the further growth of their businesses. Sixty-nine percent said they have considered outsourcing or relocating their operations.

While some companies have sent their work abroad, others have solved the problem by hiring immigrants. Currently, immigration rates in the country are at their highest levels since 1940, with one in ten people being foreign born. In Iowa, 92,445 people are foreign born. They came to Iowa for a better way of life. While here, they earn an education, obtain employment, pay taxes, purchase homes, and start their own businesses. And like many other Iowans, they work in a variety of occupations.

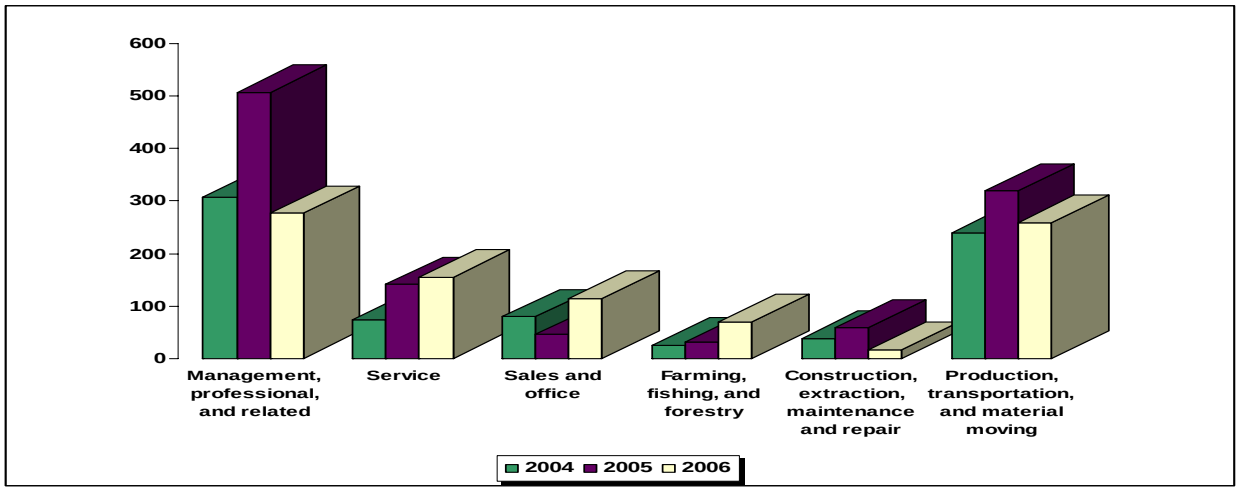
- **Legal Permanent Residents**

In Fiscal Year (FY) 2006, 4,086 people in Iowa obtained their Legal Permanent Resident (LPR) status. Ten percent of those were admitted on employment-based preferences ranked one through five:

Priority workers
Professionals with advanced degrees or aliens of exceptional ability
Skilled workers, professionals, and needed unskilled workers
Special immigrants (ministers, religious workers, and employees of the U.S. government abroad)
Employment creation workers (investors)

The employment-based preference limit is equal to 140,000 plus any unused family preferences (immediate family members) from the previous year.

Legal Permanent Resident Occupations



Source: U.S. Department of Homeland Security

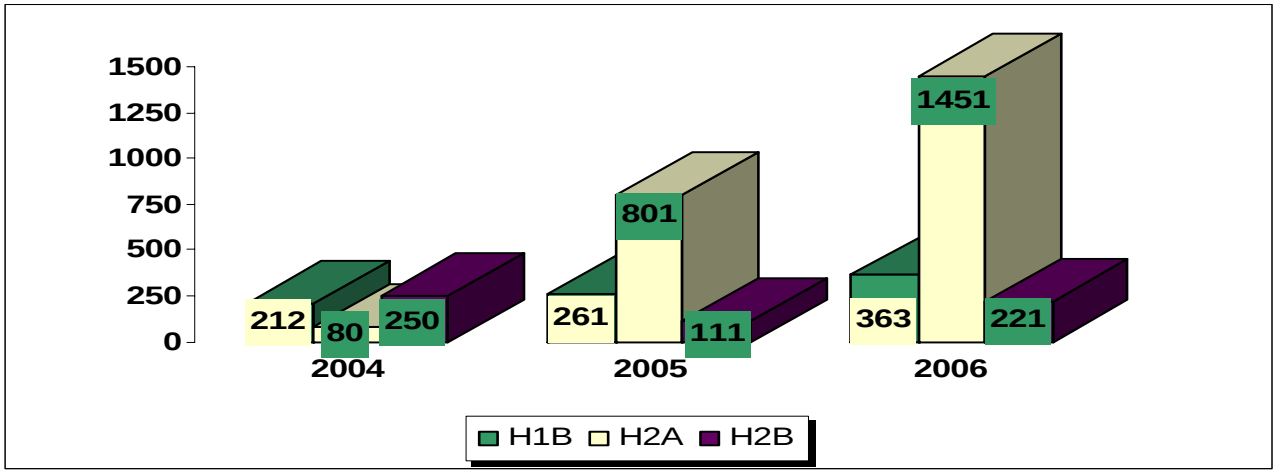
The chart above displays occupations for people who obtained LPR status during FY 2004, 2005 and 2006. During 2004, 3,984 people obtained LPR status with the figure increasing to 4,536 in 2005 and decreasing to 4,086 for 2006. Those having no occupation include homemakers, students or children, retirees and unemployed. Almost half of the people who obtained LPR status in 2006 were immediate relatives of U.S. citizens.

- **Alien Labor Certification**

Employers may use Alien Labor Certification to hire foreign workers on a temporary or permanent basis. All foreign workers should receive a prevailing wage for the job they work. (The minimum wage rate U.S. Department of Labor has determined must be paid by U.S. employers to similarly employed workers for a requested occupation.) In 2007, there was a total of 819 prevailing wage determinations made. Iowa State University and the University of Iowa hired many of these workers in professional and technical fields such as medicine, engineering, education and research.

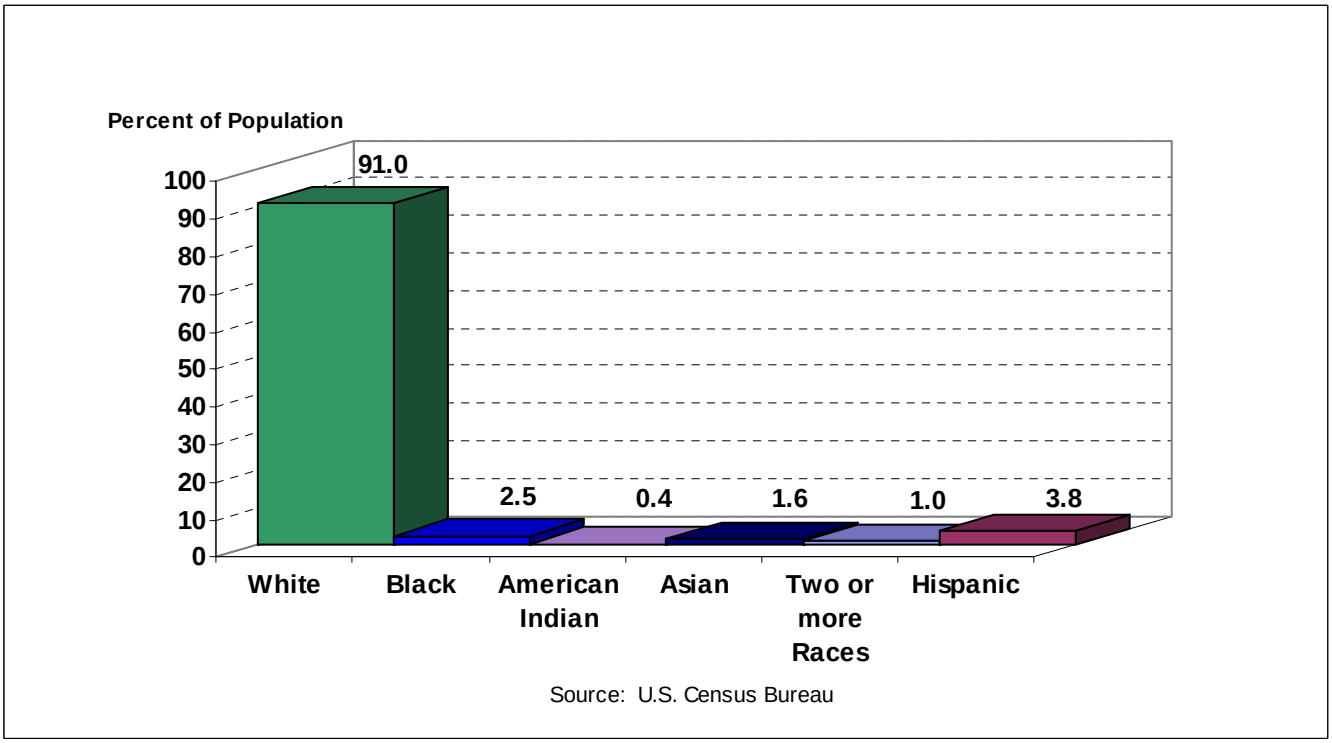
Alien certification is an important factor that impacts worker shortages in Iowa. The chart below demonstrates the fluctuation of employment among aliens in Iowa from 2004 to 2006. About eighty-five percent of documented and foreign-born workers with visas in Iowa are employed within the agricultural sector, while fifteen percent are employed in the professional and nonfarm sectors.

Worker Alien Certifications



Source: Workforce Data and Business Development Bureau, Iowa Workforce Development

Iowa Population by Race and Ethnicity 2006



Source: Census Bureau, U. S. Department of Commerce

Worker Training Programs

A real challenge in a dynamic economy is increasing the skills of the workforce to keep it viable and productive. Iowa's training programs have continued to evolve to meet the demands of an ever-changing labor market. In response to the increased need for training, Iowa has developed a series of industry-driven training programs which form a comprehensive system available to all Iowa businesses. The following is a short summary of the key components of this system, which reveals its scope and breath:

Accelerated Career Education Program - Assists Iowa's community colleges in establishing/ expanding programs that train individuals in the occupations most needed by Iowa businesses.

Apprenticeship Program - Funds projects that increase the skills of workers through a combination of classroom and on-the-job training.

Community College Consortium - Provides funding assistance for community college-sponsored employee training projects in which two or more businesses participate.

Iowa Industrial New Jobs Training Program (260E) - Provides no-cost or reduced cost job training services to new employees of eligible businesses through Iowa's community college system.

Iowa Jobs Training Program (260F) - Provides job training services to current employees of eligible businesses that are located in Iowa.

Promise Jobs (PJ) This is a federal and state funded employment and training program that is mandatory for most Family Investment Program (welfare) recipients. The employment and training services enable participants to successfully obtain employment and leave the welfare roles.

Trade Adjustment Act (TAA): program provides employment and training benefits to individuals displaced from their jobs because of foreign competition and jobs are lost because the work activity was either moved out of the U.S. or as a direct result of foreign imports.

Workforce Investment Act (WIA) provides training programs through service providers located in Iowa's sixteen regions for Adults, Youth and Dislocated Workers in a course of study that upon successful completion leads to a certificate, baccalaureate degree an associate degree, and or competency skill.

Iowa Occupational Projections, 2004-2014

Iowa's statewide long-term occupational projections of 2004-2014 show an overall increase of 12.3% for the period. This translates into 61,500 total annual job openings; over 22,000 (35%) are new jobs and the remaining 65% are attributed to replacements. Table 1 provides a summary including the fastest growing and the greatest occupational group openings.

Table 1 Iowa 2004-2014 Occupational Projections by Major Occupational Groups

Occupational Group	2004 Estimated Employment	2014 Projected Employment	2004-2014 Employment Change	Annual Growth Rate (%)	Annual New Jobs	Annual Replace-ments	Total Annual Openings
Total, All Occupations	**1,693,395**	**1,901,935**	**208,540**	**1.2**	**22,350**	**39,130**	**61,480**
Computer and Mathematical	28,040	36,090	8,050	2.9	805	385	1,190
Healthcare Support	43,985	53,950	9,960	2.3	995	665	1,660
Community and Social Services	19,785	23,995	4,210	2.1	420	380	800
Personal Care and Service	48,595	57,560	8,965	1.8	900	1,195	2,095
Business and Financial Operations	64,475	76,335	11,865	1.8	1,185	1,160	2,345
Healthcare Practitioners and Technical	77,510	91,380	13,875	1.8	1,385	1,495	2,885
Food Preparation and Serving Related	131,850	155,350	23,500	1.8	2,350	5,225	7,575
Architecture and Engineering	14,880	17,495	2,615	1.8	260	345	605
Building and Grounds Cleaning and Maintenance	56,265	66,000	9,735	1.7	970	1,110	2,075
Legal	10,340	11,930	1,590	1.5	160	120	280
Transportation and Material Moving	130,775	149,110	18,335	1.4	1,875	2,810	4,690
Construction and Extraction	82,925	94,035	11,110	1.3	1,115	1,565	2,680
Installation, Maintenance, and Repair	62,435	70,315	7,880	1.3	805	1,430	2,235
Arts, Design, Entertainment, Sports, and Media	25,170	28,315	3,145	1.2	315	470	790
Sales and Related	165,300	185,380	20,075	1.2	2,035	5,380	7,415
Life, Physical, and Social Science	12,035	13,275	1,240	1.0	125	280	405
Protective Service	20,095	22,125	2,025	1.0	205	645	850
Office and Administrative Support	247,110	270,745	23,635	1.0	2,705	5,815	8,520
Education, Training, and Library	102,345	111,750	9,405	0.9	1,005	2,200	3,205
Production	172,830	186,470	13,640	0.8	1,590	4,175	5,765
Management	164,560	168,160	3,595	0.2	1,115	1,955	3,065
Farming, Fishing, and Forestry	12,090	12,165	80	0.1	25	325	350

The ten fast-growing major occupational groups are Computer and Mathematical, Healthcare Support, Community and Social Services, Personal Care and Service, Business and Financial Operations, Healthcare Practitioners, Food Preparation and Serving, Architecture and Engineering, Building and Grounds Maintenance, and Legal. All exceed the state of Iowa's 1.2 percent annual growth rate. These ten major occupational groups account for over 40 percent of all new jobs created in Iowa. Farming, Fishing, and Forestry represent the slowest-growing occupational group.

Nearly one half of new job creation will come from the Office and Administrative Support, Food Preparation and Serving Related, Sales and Related, Production, and Transportation and Material Moving occupational groups. Farming, Fishing, and Forestry and the Legal occupational groups will generate the smallest number.

Occupational projections can be broken down for further review by individual occupations as demonstrated on Tables 2 and 3. Table 2 lists the twenty occupations that are projected to experience the largest growth rate during the 2004-2014 time period. Most of these will be in the Computer and Mathematical, Healthcare Support, and Personal Care and Service groups. The occupations included are computer software engineers (applications and systems software), home health aides, gaming change and booth cashiers, network systems and data communications analysts, gaming dealers, gaming cage workers, slot key persons, physician assistants, amusement and recreation attendants, personal and home care aides, network and computer systems administrators, database administrators, computer systems analysts, medical assistants, dental hygienists, industrial engineers, dental assistants, paralegals and legal assistants, and pharmacy technicians.

Table 3 provides the twenty occupations projected to have the largest number of total annual openings. Occupations expected to yield the most openings include retail salespersons, cashiers, waiters and waitresses, combined food preparation and serving workers, truck drivers (heavy and tractor-trailer), team assemblers, registered nurses, general office clerks, laborers and freight, stock, and material movers, janitors and cleaners, customer service representatives, food preparation workers, child care workers, stock clerks, bookkeeping, accounting, and auditing clerks, nursing aides, orderlies, and attendants, retail sales supervisors, sales representatives (wholesale), elementary school teachers, and teacher assistants.

Table 2 Iowa 2004-2014 Occupational Projections by Growth Rate

Occupational Title	2004 Estimated Employment	2014 Projected Employment	2004-2014 Employment Change	Annual Growth Rate (%)
Computer Software Engineers, Applications	2,840	4,210	1,370	4.8
Computer Software Engineers, Systems Software	2,750	4,040	1,290	4.7
Home Health Aides	7,310	10,680	3,370	4.6
Gaming Change Persons and Booth Cashiers	345	495	150	4.3
Network Systems and Data Communications Analysts	1,885	2,640	755	4.0
Gaming Dealers	670	915	240	3.6
Gaming Cage Workers	380	515	135	3.6
Slot Key Persons	595	795	205	3.4
Physician Assistants	700	935	235	3.4
Amusement and Recreation Attendants	3,460	4,570	1,110	3.2
Personal and Home Care Aides	4,430	5,845	1,415	3.2
Network and Computer Systems Administrators	2,765	3,640	875	3.2
Database Administrators	655	860	205	3.1
Computer Systems Analysts	6,310	8,270	1,965	3.1
Medical Assistants	1,875	2,450	575	3.1
Dental Hygienists	2,240	2,920	680	3.0
Industrial Engineers	1,925	2,500	575	3.0
Dental Assistants	2,830	3,670	840	3.0
Paralegals and Legal Assistants	1,375	1,775	400	2.9
Pharmacy Technicians	3,210	4,120	905	2.8

Source: Workforce Data and Business Development Bureau, Iowa Workforce Development

Table 3 Iowa 2004-2014 Occupational Projections by Annual Openings

Occupational Title	2004 Estimated Employment	2014 Projected Employment	2004-2014 Employment Change	Total Annual Openings
Retail Salespersons	47,895	56,035	8,135	2,555
Cashiers	39,105	41,645	2,540	2,155
Waiters and Waitresses	26,830	31,305	4,475	1,830
Combined Food Preparation and Serving Workers, Including Fast Food	25,520	30,010	4,495	1,555
Truck Drivers, Heavy and Tractor-Trailer	40,030	47,810	7,780	1,430
Team Assemblers	31,580	36,655	5,075	1,325
Registered Nurses	31,940	37,105	5,165	1,185
Office Clerks, General	33,235	37,080	3,845	1,120
Laborers and Freight, Stock, and Material Movers, Hand	26,425	28,965	2,540	1,115
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	28,800	33,710	4,910	1,035
Customer Service Representatives	22,695	28,495	5,800	920
Food Preparation Workers	15,970	18,950	2,975	865
Child Care Workers	16,630	19,605	2,975	750
Stock Clerks and Order Fillers	20,070	19,525	-550	745
Bookkeeping, Accounting, and Auditing Clerks	25,230	27,570	2,340	705
Nursing Aides, Orderlies, and Attendants	24,370	28,160	3,790	700
First-Line Supervisors/Managers of Retail Sales Workers	21,625	23,680	2,055	595
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	14,735	16,745	2,010	590
Elementary School Teachers, Except Special Education	19,295	20,850	1,560	580
Teacher Assistants	16,490	19,115	2,620	580

Source: Workforce Data and Business Development Bureau, Iowa Workforce Development

Iowa Regional Occupational Projections, 2004-2014

Iowa Workforce Development's regional occupational projections of 2004-2014 provide an interesting comparison with the state. The regions are very much in line with the state regarding the Top 20 occupations expected to yield the most annual openings. However, each of the regions is unique in terms of the fast-growing occupations. Table 4 displays the state's Top 20 Growth Occupations, and the corresponding rank for the Iowa Workforce Development Regions.

Fast-growing occupations prevalent in the remaining regions, but not included in the table; can be primarily found in the Business and Financial Operations, Community and Social Services, Education, Healthcare Practitioner, Food Preparation and Serving, Building and Grounds Cleaning and Maintenance, Installation, Maintenance, and Repair, and Transportation groups. The specific occupations include accountants and auditors, social and human service assistants, teacher assistants, registered nurses, licensed practical nurses, first-line supervisors of food preparation and serving workers, food preparation workers, combined food preparation and serving workers, maids and housekeeping cleaners, child care workers, automotive service technicians and mechanics, general maintenance and repair workers, team assemblers, and truck drivers (heavy and tractor-trailer). Home health aides, institution and cafeteria cooks, and customer service representatives are occupations found to be fast-growing in all IWD regions.

Table 4 Statewide an Iowa Workforce Development Regional Comparison of Top 20 Growth Occupations, 2004-2014

Occupation Title	Iowa	1	2	3-4	5	6	7	8	9	10	11	12	13	14	15	16
Computer Software Engineers, Applications	1								2	2	2					
Computer Software Engineers, Systems Software	2										1					
Home Health Aides	3	1	1	1	1		1		1	1	3	1	1			1
Gaming Change Persons and Booth Cashiers	4															
Network Systems and Data Communications Analysts	5									5	4					
Gaming Dealers	6															
Gaming Cage Workers	7															
Slot Key Persons	8	2														
Physician Assistants	9										6					
Amusement and Recreation Attendants	10	3							14	3	5		2	2		
Personal and Home Care Aides	11	4		3			2	1		4	9	2	3			
Network and Computer Systems Administrators	12									9	13					
Database Administrators	13															
Computer Systems Analysts	14	5					8		12	15	17					
Medical Assistants	15								4	12	8					
Dental Hygienists	16								8	6	11					
Industrial Engineers	17	11					3		3		7					
Dental Assistants	18	12					5		13	8	12	5				
Paralegals and Legal Assistants	19									18						
Pharmacy Technicians	20	14					11		6	11	20	4	5			

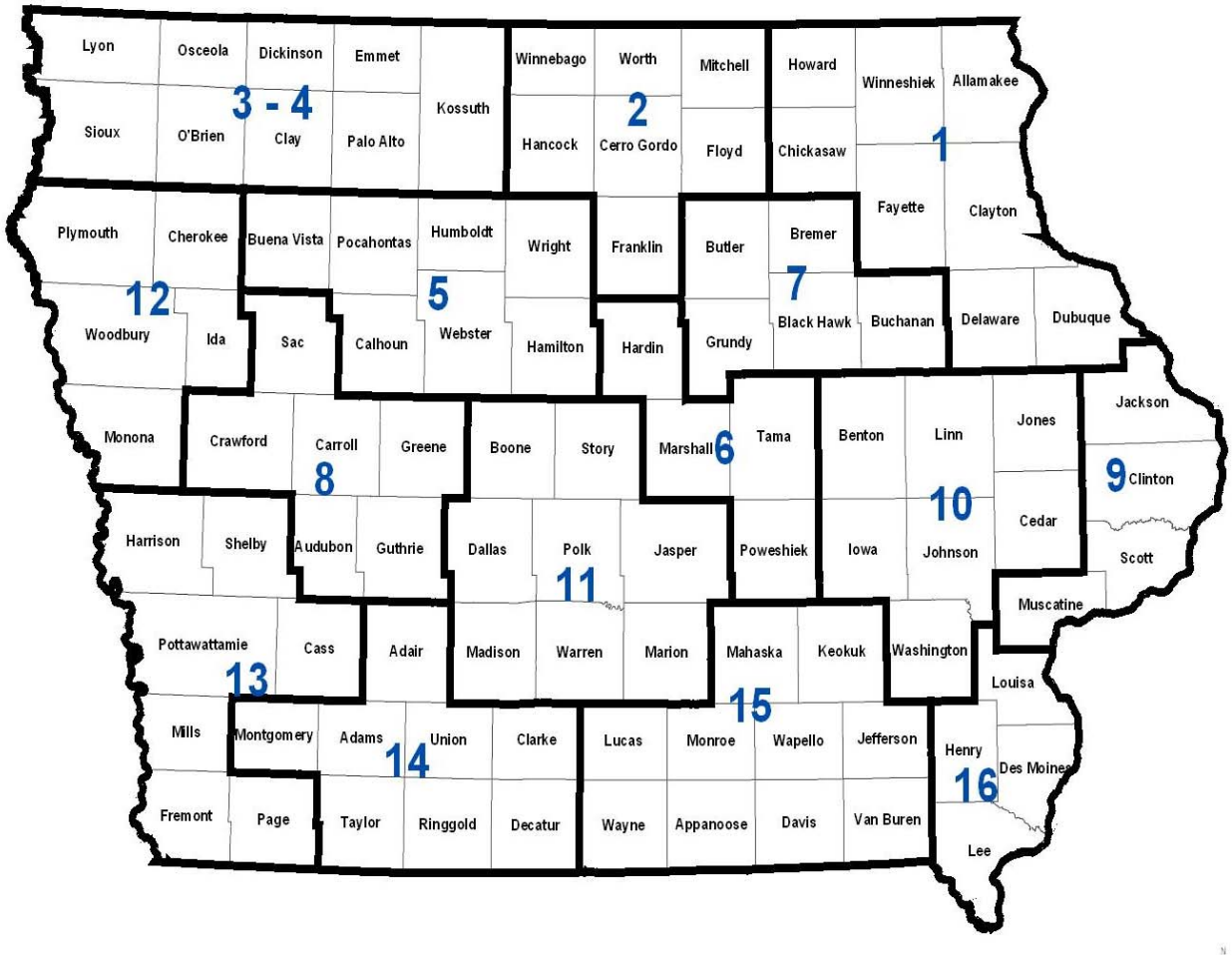
Source: Workforce Data and Business Development Bureau, Iowa Workforce Development Bureau

Skills

With Iowa's economy expected to produce over 208,000 job openings between 2004 and 2014, many skill sets must be identified to fill them. The Occupational Information Network (O*NET) has established six skill sets—Basic, Complex Problem Solving, Resource Management, Social, Systems, and Technical for individual occupations. Each occupation may require a combination of one or more skill sets.

Both the fast-growing occupations and occupations with the most annual openings require Basic and Social skills. What separates the two groups are the additional Complex Problem Solving and Technical skills required in some of the fast-growing occupations such as computer software engineers, network systems and data communications analysts, network and computer systems administrators, computer systems analysts, and industrial engineers. Explanations of these skill sets can be found on Table 5.

Iowa Workforce Development Regions



Source: Workforce Data and Business Development Bureau, Iowa Workforce Development Bureau

Table 5

Basic Skills-Develop capacities that facilitate learning, or the more rapid acquisition of knowledge.

Active Learning-Understanding the implications of new information for both current and future problem-solving and decision-making.

Active Listening-Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Critical Thinking-Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Learning Strategies-Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.

Mathematics-Using mathematics to solve problems.

Monitoring-Monitoring/assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

Reading Comprehension-Understanding written sentences and paragraphs in work-related documents.

Science-Using scientific rules and methods to solve problems.

Speaking-Talking to others to convey information effectively.

Writing-Communicating effectively in writing as appropriate for the needs of the audience.

Complex Problem Solving Skills-Develop capacities used to solve novel, ill-defined problems in complex, real-world settings.

Identify complex problems, and review related information to develop and evaluate options and implement

Resource Management Skills-Develop capacities used to allocate resources efficiently.

Management of Financial Resources-Determining how money will be spent to get the work done, and accounting for these expenditures.

Management of Material Resources-Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.

Management of Personnel Resources-Motivating, developing, and directing people as they work, identifying the best people for the job.

Time Management-Managing one's own time and the time of others.

Social Skills-Develop capacities used to work with people to achieve goals.

Coordination-Adjusting actions in relation to others' actions.

Instructing-Teaching others how to do something.

Negotiation-Bringing others together and trying to reconcile differences.

Persuasion-Persuading others to change their minds or behavior.

Service Orientation-Actively looking for ways to help people.

Social Perceptiveness-Being aware of others' reactions and understanding why they react as they do.

Systems Skills-Develop capacities used to understand, monitor, and improve socio-technical systems.

Judgment and Decision Making-Considering the relative costs and benefits of potential actions to choose the most appropriate one.

Systems Analysis-Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

Systems Evaluation-Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

Technical Skills-Develop capacities used to design, set-up, operate, and correct malfunctions involving application of machines or technological systems.

Equipment Maintenance-Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.

Equipment Selection-Determining the kind of tools and equipment needed to do a job.

Installation-Installing equipment, machines, wiring, or programs to meet specifications.

Operation and Control-Controlling operations of equipment or systems.

Operation Monitoring-Watching gauges, dials, or other indicators to make sure a machine is working properly.

Operations Analysis-Analyzing needs and product requirements to create a design.

Programming-Writing computer programs for various purposes.

Quality Control Analysis-Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

Repairing-Repairing machines or systems using the needed tools.

Technology Design-Generating or adapting equipment and technology to serve user needs.

Troubleshooting-Determining causes of operating errors and deciding what to do about it.

Source: O*NET (Occupational Information Network) http://online.onetcenter.org/

Determining the expected skill sets from the fast-growing and the most annual opening jobs is less difficult than anticipating to what extent skills may be in short supply in the future. Labor market models are helpful but not entirely definitive. Unknown labor market adjustments are one reason why tracking future skill shortages are difficult. This is born out partly by the labor market adjusting to changes in demand through wage fluctuations.

For example, to attract necessary workers with skills in short supply, employers can opt to use the carrot approach by offering higher compensation. In turn, workers and jobseekers with the necessary skills are more likely to seek positions with higher wages and better working conditions and/or become encouraged to attain additional skills, education, and training. However, these labor market adjustments may take time for some occupations. When skill development training periods are long, many economists point to a “cobweb model” to explain any significant lag between skill supply and demand that can result in both being out of sync for prolonged periods. This refers to the length of time needed for supply to meet demand due to needed training which can be long in duration, hence the term “cobweb.”

The business environment adds another component to making long term skill supply projections difficult. Overseas competition influences an industry’s well-being by establishing wage structures significantly lower than those found in the U.S. This forces American companies to rely on alternative methods such as keeping wages low or increasing worker output to remain competitive and keep per unit labor costs down. The latter may result in lower employment through reorganization and/or higher automation.

When industries like manufacturing and agriculture face stiff worker competition, the result is often lower wages and weaker employment conditions. Such a scenario serves as a deterrent for jobseekers pursuing careers (and hence skill development) in these areas. Prospective workers will become more attracted to developing the skills required in the growth-oriented industries such as computer and information technology and services. Workers will be driven from manufacturing and agriculture, and challenge themselves to learn new skill sets,

thus leading to employment in growth-oriented industries that provide increased pay and better working environments. Future changes in the business environment, including the value of the dollar, trade agreements, and government regulations may offset labor shortages in manufacturing and agriculture.

Migration of workers from slow growth to fast growth industries can impact the availability of workers with necessary skills. This movement is due to workers following the money from lower-paying jobs where the skills are in greater supply to higher-paying positions where the skills are in short supply. Employers who recognize this economic principle of supply and demand and plan accordingly will be in a better position to weather any labor shortages. Essentially, a proactive position on the use of human resources through better pay, more training, and creativity will benefit an employer far more than a reactive response that may be too late.

Program Completers and Migration

A measure of skill set attainment in Iowa is the program completion rates derived from education and apprenticeship programs. Workplace training not withstanding, higher education and apprenticeship programs, have long been key to producing a competent workforce. Table 6 provides preliminary data on program completers earning degrees and certificates from 2005-2006 by major program disciplines.

Table 6

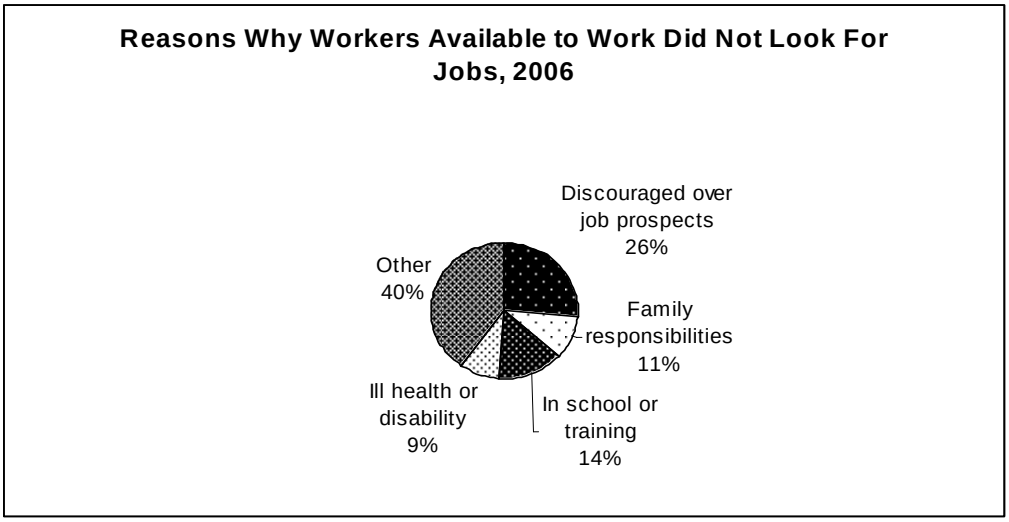
2005-2006 Program Completers by Degrees/Certificates

Discipline	4-Year College*	2-Year College/Other**	Total Degrees/Certificates
Agriculture	556	448	1,004
Architecture and Engineering	1,737	391	2,128
Area, Ethnic and Cultural Studies	116	0	116
Biological/Biomedical Sciences	1,172	4	1,176
Accounting, Finance, Management, Marketing	6,469	1,407	7,876
Communications/Journalism	1,462	4	1,466
Communications/Tech	19	114	133
Computer and Information Sciences	564	407	971
Construction Trades	0	966	966
Education	3,573	3	3,576
English	932	0	932
Family and Consumer Sciences	217	187	404
Foreign Language	557	15	572
Health	2,476	5,293	7,769
History	492	0	492
Legal	496	61	557
Liberal Arts	578	4,868	5,446
Library Science	53	0	53
Mathematics and Statistics	395	0	395
Mechanic and Repair Tech	0	747	747
Multi/Interdisciplinary Studies	332	129	461
Natural Resources and Conservation	143	57	200
Parks, Recreation, Leisure and Fitness	867	9	876
Personal and Culinary	0	142	142
Philosophy and Religious Studies	335	0	335
Physical Studies	419	0	419
Precision Production	0	312	312
Psychology	1,362	0	1,362
Public Administration and Social Services	687	92	779
Science Tech	0	12	12
Security and Protective Services	254	286	540
Social Sciences	1,807	0	1,807
Theology and Religious Vocations	241	0	241
Transportation and Materials Moving	51	71	122
Visual and Performing Arts	1,470	130	1,600

Source: Iowa College Student Aid Commission, IPEDS Completions, U.S. Dept. of Labor/Bureau of Apprenticeship
*Includes graduate and undergraduate degrees
**Includes apprenticeships (except Omaha area)

Creating a one-to-one match between skill sets obtained from educational and training programs with job market availability is imprecise at best. The labor pool is affected by many socioeconomic market conditions or factors that can impress or inhibit individuals working in certain occupations, industries, or from seeking employment all together. Figure 1 provides a portrayal as to the reasons why workers who are available to work did not look for jobs. Education, skills, and training determine job marketability and their fluidity, or transferability, from one job to another is evident with a highly mobile society. All things being equal, skill sets generally gravitate into occupations with better pay and working conditions.

Figure 1



Source: Bureau of Labor Statistics, Current Population Survey

However, realizing the effect market conditions place on the labor pool, program completers from postsecondary educational institutions and apprenticeship programs can provide a snapshot view of readily available skill sets. A closer examination of Table 6 with Table 1, illustrates a sufficient supply of program completers to satisfy projected demand across most occupational groups. There are some occupational groups growing faster than the state that warrant attention such as the deficiency of program completers in the Construction, Production, and Transportation occupational groups. A breakdown of programs into subprograms (i.e., Education into elementary and secondary teachers, Health into registered nurses and pharmacists, Construction into carpenters and electricians, etc.) was not available.

A state's labor force is largely determined by its population. Migration is the most volatile component of population change, and the most difficult to accurately measure. While records on births and deaths are readily available, migration data must be estimated from indirect sources.

Table 7 shows that Iowa lost 50,248 residents to other states from April 1, 2000 to July 1, 2007. For this time period, Iowa ranked 40th in the nation based on net domestic migration. Of the seven Plains States, only Missouri and South Dakota reflected positive net domestic migration trends. Over the same time period, the state gained 36,217 international migrants, which resulted in a net migration rate of –14,031.

Table 7. Domestic Net Migration Estimates by State, 2000-2007

Area	Migration	Area	Migration
Alabama	59,843	Montana	30,446
Alaska	-5,125	Nebraska	-36,717
Arizona	655,354	Nevada	364,683
Arkansas	62,982	New Hampshire	35,682
California	-1,223,992	New Jersey	-377,159
Colorado	132,566	New Mexico	24,955
Connecticut	-78,064	New York	-1,449,169
Delaware	39,573	North Carolina	490,907
District of Columbia	-43,431	North Dakota	-19,531
Florida	1,286,175	Ohio	-301,848
Georgia	484,919	Oklahoma	11,901
Hawaii	-20,583	Oregon	136,376
Idaho	100,415	Pennsylvania	-44,416
Illinois	-551,311	Rhode Island	-30,249
Indiana	-16,431	South Carolina	228,133
Iowa	**-50,248**	South Dakota	2,516
Kansas	-67,315	Tennessee	217,129
Kentucky	63,791	Texas	582,078
Louisiana	-335,216	Utah	30,709
Maine	31,390	Vermont	-379
Maryland	-54,415	Virginia	155,205
Massachusetts	-305,690	Washington	155,491
Michigan	-359,758	West Virginia	7,802
Minnesota	-34,997	Wisconsin	-5,618
Mississippi	-30,039	Wyoming	9,601
Missouri	41,079		

Source: Census Bureau, U.S. Department of Commerce

Delving deeper into the age make-up of migrants reveals additional information regarding migrant behavior. Table 8 highlights the most current data on migrants five years of age and over by five-year groups. The data does not indicate educational achievement, but the majority of migrants leaving the state fall into the college age cohort (persons in their twenties and early thirties who are commonly referred to as the brain drain). Although less pronounced, a negative domestic net migration pattern exists for persons heading into their retirement years as well.

Table 8

1995-2000 Iowa Domestic Net Migration by Age Groups

Age Group	Migrants	Percent of Total
5-19 years	5,593	-16.9%
20-24 years	-9,167	27.8%
25-29 years	-14,609	44.3%
30-34 years	-4,021	12.2%
35-44 years	775	-2.3%
45-54 years	-3,421	10.4%
55-69 years	-5,173	15.7%
70-84 years	-3,030	9.2%
85+ years	41	-0.1%
TOTAL	**-33,012**	

Source: Census Bureau, U. S. Department of Commerce

Conclusions

The term “labor shortage” is often used to describe a variety of situations, some of which are not generally considered to be actual shortages. When labor is in abundant supply, employers become accustomed to being able to select from a wide variety of candidates with higher levels of training or experience. When the labor market tightens, the pool of candidates shrinks, and employers have fewer qualified candidates to choose from. Under these labor market conditions, the issue becomes one of the quality of job candidates, not necessarily the quantity of people available to do the job.

Many discussions about labor shortages are based on the assumption that the rate of growth in the economy is determined by the rate of growth in the labor force. However, historical patterns do not support this theory. Not only do economies grow faster than the labor force, they need to do so to increase the standard of living. When productivity is growing, the economy as a whole can produce more from the same group of workers. Productivity rises when employers invest in equipment and technology that help workers do their jobs, or when workers receive the training that is necessary to improve their job performance. Currently, the U.S. economy is roughly eight times larger than it was in the late 1940’s, but the nation’s labor force is only twice as large.

Although no none knows whether future labor markets will be tight or slack, employers will face a wide range of challenges because of demographic trends and the demand for higher skills. The aging of the baby boom generation, and that generation’s impending retirement, could lead to tight labor markets. This situation could be eased by putting incentives into place that would encourage this group of workers to leave the labor force gradually, lessening the impact on their workplaces. Older workers vary in the amount of hours they want to work before retiring. However, many pension plans do not offer older workers the flexibility to work part-time. To retain the expertise and skills of these workers, the barriers to phased retirement need to be removed.

The move toward a knowledge-based economy requires workers to have more advanced skills and higher levels of education than in the past. Employers need not only workers with strong math skills and good technical skills, but they also need employees who have good communication and team building skills. To increase the number of skilled workers, young adults need a variety of education and training opportunities. This is particularly important for youth who do not plan to attend college. To increase the number of skilled workers, more emphasis needs to be placed on career education and apprenticeship training.

While labor force participation rates are generally high in Iowa, they are low among certain populations. More steps need to be taken to include certain underutilized groups in the labor force. These groups include disabled individuals, ex-offenders, high school dropouts, minorities and older workers. These individuals could serve as an additional source of labor in the future, particularly since the labor force participation rates for traditional groups of labor have reached their practical limits.

The trend toward the offshoring of jobs is on the rise as advances in technology, lower transportation costs, and innovations in communications systems have greatly facilitated the practice. Businesses will continue to offshore jobs as a way to hold down labor costs. The high cost of health care in the United States, and the fact that it is factored into employer costs, is many times behind a company’s decision to offshore certain functions. Although the concept of outsourcing has a negative connotation, it can also produce positive results. As costs fall, businesses can expand and create new jobs.

Finally, there are economists who have studied the labor shortage issue, and hold the view that in an unconstrained market, supply will equal demand at the “true” market price. If demand exceeds supply, salaries will be bid up until the market clears. In theory, most labor shortages should disappear as employers increase wages to attract more workers. The economic exuberance of the late 1990’s is frequently cited as an example. As wages rose, older workers came out of retirement and young people dropped out of college to take advantage of the available job opportunities. Higher wages also encouraged greater efficiencies within companies, as they developed innovative strategies to respond to the tight conditions of the labor market.

References

Economic Growth & Immigration. Immigration Policy Center.
Retrieved from: http://www.ailf.org/ipc/special_report/special_report2005_bridging.shtml
October 11, 2007.

Jefferys, K. (2007, March) U.S. Legal Permanent Residents: 2006. *Annual Flow Report*.
Retrieved from http://www.dhs.gov/xlibrary/assets/statistics/publications/IS-4496_LPRFlowReport_04vaccessible.pdf

Prevailing Wage Determination for Foreign Labor Certification program, Fiscal Year 2007.

Retrieved from: http://www.businessrecord.com/main.asp, September 11, 2007.

Retrieved from: http://faq.visapro.com/H2A-Visa-FAQ2.asp, September 17, 2007.

Cappelli, P. (2003, August) Will There Really Be a Labor Shortage?
Retrieved September 17 2007 from http://www.nga.org/cda/files/wf03Cappelli.pdf

Retrieved from: http://quickfacts.census.gov/qfd/, October 1, 2007.

Retrieved from: http://www.dhs.gov/xlibrary/assets/statistics/ImmProfiles/2006/STBook18.xls
October 1, 2007

Retrieved from: http://www.iowaworkforce.org/centers/newiowan/services.htm, October 4, 2007.

Retrieved Program Data from:

Local Employment Dynamics (LED), U.S. Bureau of the Census, U.S. Department of Commerce
Quarterly Census of Employment and Wages (QCEW), Bureau of Labor Statistics, U.S. Department of Labor
Current Employment Statistics (CES), Bureau of Labor Statistics, U.S. Department of Labor
Local Area Unemployment Statistics, Bureau of Labor Statistics, U.S. Department of Labor
Industry Employment Projections, 2004-2014
Iowa Occupational Projections, 2004-2014
Iowa Department of Economic Development (IDED)
Iowa Prison Industries (IPI)
U.S. Department of Homeland Security
Iowa College Student Aid Commission
IPEDS Completions
Bureau of Apprenticeship/U.S. Department of Labor
Woods & Poole Economics, Inc.

APPENDIX

Statewide Labor Force Projections 2007-2030

Age	2007 Population	2007 Labor Force Participation Rate	2007 Labor Force	2010 Population	2010 Labor Force Participation Rate	2010 Labor Force	2015 Population	2015 Labor Force Participation Rate	2015 Labor Force
16-19	168,756	64.6	109,016	164,978	64.6	106,576	157,726	64.6	101,891
20-24	196,876	82.9	163,210	192,168	82.9	159,307	188,171	82.9	155,994
25-34	389,571	88.3	343,991	399,617	88.3	352,862	379,554	88.3	335,146
35-44	393,291	89.8	353,175	374,019	89.8	335,869	386,076	89.8	346,696
45-54	439,314	89.4	392,747	432,910	89.4	387,022	394,354	89.4	352,552
55-64	331,398	71.9	238,275	366,868	71.9	263,778	399,249	71.9	287,060
Total	1,919,206		1,600,414	1,930,560		1,605,414	1,905,130		1,579,339

Age	2020 Population	2020 Labor Force Participation Rate	2020 Labor Force	2025 Population	2025 Labor Force Participation Rate	2025 Labor Force	2030 Population	2030 Labor Force Participation Rate	2030 Labor Force
16-19	155,604	64.6	100,520	154,873	64.6	100,048	151,722	64.6	98,012
20-24	178,436	82.9	147,923	173,846	82.9	144,118	172,127	82.9	142,693
25-34	354,608	88.3	313,119	338,294	88.3	298,714	322,642	88.3	284,893
35-44	401,069	89.8	360,160	376,222	89.8	337,847	350,287	89.8	314,558
45-54	360,378	89.4	322,178	369,866	89.4	330,660	382,026	89.4	341,531
55-64	395,624	71.9	284,454	358,352	71.9	257,655	326,864	71.9	235,015
Total	1,845,719		1,528,354	1,771,453		1,469,042	1,705,668		1,416,702

Source: Prepared by Workforce Data and Business Development Bureau, Iowa Workforce Development.
Note: Labor force projections were obtained for each age group by applying labor force participation rates from the 2006 Current Population Survey to population projections for selected age groups for Iowa: 2000-2030, U.S. Bureau of the Census.

Statewide Labor Force Projections 2007-2030

Age	2007 Population	2007 Labor Force Participation Rate	2007 Labor Force	2010 Population	2010 Labor Force Participation Rate	2010 Labor Force	2015 Population	2015 Labor Force Participation Rate	2015 Labor Force
16-19	164,240	64.6	106,000	156,170	64.6	101,000	146,050	64.6	94,000
20-24	215,840	82.9	179,000	209,080	82.9	173,000	196,440	82.9	163,000
25-34	397,010	88.3	351,000	419,240	88.3	370,000	414,880	88.3	366,000
35-44	394,890	89.8	355,000	370,670	89.8	333,000	388,350	89.8	349,000
45-54	457,230	89.4	409,000	453,440	89.4	405,000	414,500	89.4	371,000
55-64	342,660	71.9	246,000	383,290	71.9	276,000	425,500	71.9	306,000
Total	1,971,870		1,646,000	1,991,890		1,658,000	1,985,720		1,649,000

Age	2020 Population	2020 Labor Force Participation Rate	2020 Labor Force	2025 Population	2025 Labor Force Participation Rate	2025 Labor Force	2030 Population	2030 Labor Force Participation Rate	2030 Labor Force
16-19	155,900	64.6	101,000	164,310	64.6	106,000	174,040	64.6	112,000
20-24	185,400	82.9	154,000	198,620	82.9	165,000	211,850	82.9	176,000
25-34	387,330	88.3	342,000	367,820	88.3	325,000	373,700	88.3	330,000
35-44	430,830	89.8	387,000	428,120	89.8	384,000	405,130	89.8	364,000
45-54	374,350	89.4	335,000	394,780	89.4	353,000	440,980	89.4	394,000
55-64	431,320	71.9	310,000	396,740	71.9	285,000	363,020	71.9	261,000
Total	1,965,130		1,629,000	1,950,390		1,618,000	1,968,720		1,637,000

Population Projections based on Woods and Poole

Actual Enrollments for 1997-1998 through 2006-2007
Estimates for 2007-2008 through 2011-2012

PUBLIC SCHOOL ENROLLMENTS-STATE

Year	K	1	2	3	4	5	6	7	8	9	10	11	12	BEDS K-12	Other	Certified Item 7
1997-1998	36,486	35,982	36,314	35,521	34,950	34,921	36,680	38,136	37,631	40,806	39,679	38,235	36,808	482,149	22,981	505,130
1998-1999	35,772	35,699	35,866	36,500	35,776	35,106	35,429	37,529	38,374	40,741	39,652	38,275	37,166	481,885	20,649	502,534
1999-2000	34,596	35,137	35,666	36,162	36,766	36,147	35,819	36,307	37,966	41,394	39,159	37,829	37,124	480,072	18,535	498,607
2000-2001	33,977	33,946	34,952	35,818	36,448	36,975	36,576	36,704	36,458	40,660	39,929	37,592	36,892	476,927	17,364	494,291
2001-2002	34,249	32,979	33,957	35,204	36,106	36,729	37,548	37,666	37,115	39,818	39,126	38,443	36,469	475,409	14,114	489,523
2002-2003	34,090	33,047	32,767	33,653	34,803	35,861	36,581	37,693	37,281	39,434	37,958	38,027	36,728	467,923	19,098	487,021
2003-2004	35,295	33,296	33,330	33,326	34,290	35,539	36,701	37,919	38,428	40,486	38,451	36,794	36,834	470,689	14,322	485,011
2004-2005	36,713	33,916	33,626	33,588	33,743	34,716	36,141	37,521	38,097	41,196	39,580	36,940	36,434	472,211	11,124	483,335
2005-2006	37,435	34,499	34,341	34,064	34,160	34,270	35,380	37,040	38,145	41,059	40,151	38,501	37,611	476,656	6,449	483,105
2006-2007	37,592	34,981	34,698	34,540	34,245	34,329	34,576	35,971	37,031	40,126	39,556	38,774	38,448	474,867	7,717	482,584

PROJECTED ENROLLMENTS

2007-2008	37,539	34,471	35,259	34,997	34,905	34,610	34,771	35,298	36,230	39,624	38,927	38,293	38,591	473,515	7,576	481,091
2008-2009	37,866	34,811	34,745	35,563	35,367	35,277	35,056	35,497	35,553	38,767	38,440	37,684	38,112	472,738	7,091	479,829
2009-2010	38,507	35,130	35,088	35,045	35,939	35,744	35,731	35,788	35,753	38,043	37,609	37,213	37,506	473,096	6,623	479,719
2010-2011	38,284	35,754	35,410	35,391	35,416	36,322	36,204	36,477	36,046	38,257	36,906	36,408	37,037	473,912	6,161	480,073
2011-2012	37,964	35,537	36,039	35,716	35,765	35,794	36,790	36,960	36,740	38,570	37,114	35,728	36,236	474,953	5,699	480,652

The public school enrollment projections are based upon trends observed in the number of students moving from grade to grade.
The trend, calculated as an average cohort survival ratio, was used to estimate enrollments for first through twelfth grade.
Kindergarten enrollments were estimated from an average ratio of kindergarten enrollments to the cohort born five years prior.
'Certified Item 7' was taken from the Certified Enrollment form as reported to the Division of Financial and Information Services.
'Other' refers primarily to special education students not associated with a given grade level. This is not a count of the number of special education students in the state. Due to the continuing trend of districts reporting special education students within specific grade levels, fewer special education students are represented in the 'other' category in recent years. Beginning in 2004-2005, districts report all special education students within a given grade level. 'Other' also contains full time equivalent (FTE) of tuitioned out resident public students to a community college and FTE of shared-time students attending nonpublic schools located within a public school district enrolled for instructional services.

Source: Iowa Department of Education, May 2007
2006-2007 Iowa Public School Enrollment Projections for 2007-2008 through 2011-2012
http://www.iowa.gov/educate/component/option,com_docman/task,cat_view/gid,511/

Notes