Connecting Higher Education with the Future of Iowa

October 30, 2008
Ames, Iowa

National Center for Higher Education Management Systems
3035 Center Green Drive, Suite 150
Boulder, Colorado 80301
PERSPECTIVES ON PLANNING
Strategic Management - The allocation of resources to programmed activities calculated to achieve a set of goals.
The Management Cycle

- Planning
- Resource Allocation
- Accountability
- Institution
- State
THE PRIORITY ISSUES FACING THE STATE & ITS CITIZENS THAT HIGHER EDUCATION IS CALLED UPON TO ADDRESS.
The Objective

- Identify 3-5 key issues that the Regents Universities should address in developing their institutional strategic plans.
WHY EDUCATION MATTERS
Relationship Between Educational Attainment, Personal Income, and Economic Strength

The chart illustrates the relationship between personal income per capita and the percentage of adults age 25-64 with a Bachelor’s Degree or Higher. It categorizes states into four tiers based on the State New Economy Index (2002):

- **Top Tier** (High Income, High Educational Attainment)
- **Middle Tier** (High Income, Low Educational Attainment)
- **Low Tier** (Low Income, Low Educational Attainment)
- **Low Income, High Educational Attainment**

The states are color-coded to represent their tier placements:
- Green: Top Tier
- Blue: Middle Tier
- Red: Low Tier

The chart also shows the distribution of states based on personal income per capita and the percentage of adults with a Bachelor’s Degree or Higher.
Educational Attainment and Income

Correlation = 0.64

Source: U.S. Census Bureau, Decennial Census’ and American Community Survey
Educational Attainment and Income

Correlation = 0.76

Source: U.S. Census Bureau, Decennial Census’ and American Community Survey
Educational Attainment and Income

Correlation = 0.80

Source: U.S. Census Bureau, Decennial Census’ and American Community Survey
Educational Attainment and Income

Correlation = 0.83

Source: U.S. Census Bureau, Decennial Census’ and American Community Survey
Percent of Civilians Age 25-64 Not in the Workforce, 2006 listed by Education Attainment

- Less than High School: Iowa 33.3%, United States 39.2%
- High School Graduate: Iowa 19.7%, United States 25.1%
- Some College, No Degree: Iowa 15.8%, United States 20.9%
- Associates Degree: Iowa 11.0%, United States 16.9%
- Bachelors Degree: Iowa 11.4%, United States 15.7%
- Graduate or Professional Degree: Iowa 11.3%, United States 13.6%

Source: U.S. Census Bureau, 2006 ACS PUMS
Relationship Between Educational Attainment and Health

Correlation = 0.69

Source: United Health Foundation, U.S. Census Bureau
Educational Attainment of 18 to 64 Year Olds – Total U.S. Population vs. the Prison Population

Percentage of Adults 18 to 64 Receiving Medicaid by Level of Education (2005 to 2007)

- Less than High School: 19.2%
- High School: 9.7%
- Some College: 7.0%
- Associates: 5.3%
- Bachelor's: 2.6%
- Graduate Professional: 1.7%

EDUCATION
AN IOWA SUCCESS STORY
Of 100 9th Graders, How Many…

- Graduate from High School
- Directly Enter College
- Enroll in Second Year
- Graduate Within 150% of Program Time
- Are Age 25-44 with a Bachelor's Degree

Student Pipeline, 2004

Source: NCES Common Core Data 2004; Tom Mortenson, Postsecondary Education Opportunity; NCES, IPEDS Fall 2004 Retention Rate File and Fall 2003 Enrollments, 2004 Graduation Rates; U.S. Census Bureau, 2005 ACS
High School Graduation Rates - Public High School Graduates as a Percent of 9th Graders Four Years Earlier, 2004

Source: Tom Mortenson, Postsecondary Opportunity (rev. 071106)
College-Going Rates—First-Time Freshmen Directly Out of High School as a Percent of Recent High School Graduates, 2004

Source: Tom Mortenson, Postsecondary Opportunity (2004 data update 02-06-07)
Iowa Net Migration of First-time College Students by Sector (Fall 2006)

Public 4-year: 1818
Private non-profit, 4-year: 2520
Private for-profit, 4-year: 3225
Public, 2-year: 1005
Private non-profit, 2-year: -61
Private for-profit, 2-year: -106
Public, less-than 2-year: -1
Private non-profit, less-than 2-year: -2
Private for-profit, less-than 2-year: -48
All Sectors: ...8350

Source: NCHEMS NCES IPEDS Enrollment Survey, Part C, Fall 2006
## Top Out-of-State Institutions Iowa Residents Attend, Fall 2006

<table>
<thead>
<tr>
<th>Institution</th>
<th>State</th>
<th>First-Time Freshman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest Missouri State University</td>
<td>MO</td>
<td>139</td>
</tr>
<tr>
<td>South Dakota State University</td>
<td>SD</td>
<td>120</td>
</tr>
<tr>
<td>Creighton University</td>
<td>NE</td>
<td>113</td>
</tr>
<tr>
<td>University of South Dakota</td>
<td>SD</td>
<td>107</td>
</tr>
<tr>
<td>University of Nebraska at Lincoln</td>
<td>NE</td>
<td>83</td>
</tr>
<tr>
<td>University of Wisconsin-Platteville</td>
<td>WI</td>
<td>70</td>
</tr>
<tr>
<td>Wayne State College</td>
<td>NE</td>
<td>68</td>
</tr>
<tr>
<td>University of Phoenix-Online Campus</td>
<td>AZ</td>
<td>67</td>
</tr>
<tr>
<td>American Intercontinental University Online</td>
<td>IL</td>
<td>61</td>
</tr>
<tr>
<td>Southeast Technical Institute</td>
<td>SD</td>
<td>54</td>
</tr>
<tr>
<td>Metropolitan Community College Area</td>
<td>NE</td>
<td>53</td>
</tr>
<tr>
<td>Truman State University</td>
<td>MO</td>
<td>52</td>
</tr>
<tr>
<td>Wyo Tech</td>
<td>WY</td>
<td>51</td>
</tr>
<tr>
<td>University of Nebraska at Omaha</td>
<td>NE</td>
<td>50</td>
</tr>
<tr>
<td>Western International University</td>
<td>AZ</td>
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<tr>
<td>Minnesota State University-Mankato</td>
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<td>46</td>
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<tr>
<td>Augustana College</td>
<td>SD</td>
<td>44</td>
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<tr>
<td>Augustana College</td>
<td>IL</td>
<td>34</td>
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<tr>
<td>St. Olaf College</td>
<td>MN</td>
<td>33</td>
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<tr>
<td>Western Illinois University</td>
<td>IL</td>
<td>32</td>
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<tr>
<td>University of Missouri-Columbia</td>
<td>MO</td>
<td>29</td>
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<tr>
<td>University of St Thomas</td>
<td>MN</td>
<td>28</td>
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<tr>
<td>University of Sioux Falls</td>
<td>SD</td>
<td>28</td>
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<tr>
<td>University of Kansas Main Campus</td>
<td>KS</td>
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<tr>
<td>Northwestern College</td>
<td>MN</td>
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<tr>
<td>Marquette University</td>
<td>WI</td>
<td>27</td>
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<tr>
<td>Black Hawk College</td>
<td>IL</td>
<td>26</td>
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<tr>
<td>Dana College</td>
<td>NE</td>
<td>26</td>
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<tr>
<td>Hamilton College-Omaha Campus</td>
<td>NE</td>
<td>25</td>
</tr>
<tr>
<td>Colorado Technical University Online</td>
<td>CO</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: NCES, IPEDS Fall 2006 Residence and Migration File; ef2006c Final Release Data File.
College Participation Rates by State for Students from Low-Income Families, 2006

Source: Postsecondary Education Opportunity #188, February 2008
Associate Degrees Awarded per 100 High School Graduates Three Years Earlier, 2004

Source: NCES-IPEDS Completions Survey, WICHE
Bachelor’s Degrees Awarded per 100 High School Graduates

Six Years Earlier, 2004

Source: NCES-IPEDS Completions Survey, WICHE
Educational Attainment of Population Age 25-64, 2006

Source: U.S. Census Bureau, 2006 ACS Public Use Microdata Samples (PUMS)
Percent of Population Age 25-64 with an Associate Degree or Higher, 2006 - PUMAs

Iowa = 37.8

Source: U.S. Census Bureau, 2006 American Community Survey
Percent of Population Age 25-64 with an Associate Degree or Higher, 2006 – High and Low PUMAs

High = 64.4
Low = 27.5

Source: U.S. Census Bureau, 2006 American Community Survey
Differences in College Attainment (Associate & Higher) Between Younger & Older Adults—U.S. & OECD Countries, 2006

Percent of Adults with an Associate Degree or Higher by Age Group - Iowa, U.S. & Leading OECD Countries

Source: OECD, Education at a Glance 2008
Percent of Population Age 25-64 with an Associate Degree or Higher, 2006

Source: U.S. Census Bureau, 2006 ACS
The Goal: Iowa
Reaching International Competitiveness by 2025

55% of Population Age 25-64 with College Degrees
Reaching Top Performance by 2025 (55%) – Iowa

793,504 Number of Individuals to Match Best-Performing Countries (55%)
317,772 Number of Individuals (Age 25-44) Who Already Have Degrees
475,732 Additional Production Needed (2005 to 2025)
643,699 Degrees Produced at Current Annual Rate of Production
Educational Attainment in Iowa (%)

Current, in 2025 with Current Degree Production, and Best-Performing Countries in 2025

- Current % of Adults Age 25-64 with College Degrees, 2005: 37.4%
- Projected % in 2025 with Current Annual Degree Production: 66.6%
- Projected % in 2025 with Current Annual Degree Production and Net Migration: 59.4%
- % Needed to Reach Best-Performing Countries by 2025: 55.0%
How Can Iowa Reach International Competitiveness?

Current Degree Production Combined with Population Growth and Migration, and Improved Performance on Student Pipeline Measures

- Degrees Produced 2005-25 with Current Rate of Production: 643,699
- Additional Degrees from Population Growth: -21,983
- Additional Degrees from Net Migration of College-Educated Residents: -104,059
- Reaching Best Performance in High School Graduation Rates by 2025: 1,777
- Reaching Best Performance in College-Going Rates by 2025: 11,596
- Reaching Best Performance in Rates of Degree Production per FTE Student: 46,749
- Total Degrees Produced 2005-25 if All of the Above: 577,779
- Degrees Needed to Meet Best Performance (55%): 475,732

Source: 2005 ACS, PUMS
Additional Degrees Needed to Reach International Competitiveness (55%) by 2025

[Bar chart showing the additional degrees needed in various states, with California having the highest need, followed by Florida, Texas, and others.]
THE CHALLENGES FACING IOWA
1. Reducing the Education Attainment Gap
Projected Change in Iowa Population by Age & Race/Ethnicity, 2005-25 (in Thousands)

- White
- African American
- Hispanic
- Native American
- Asian

Source: U.S. Census Bureau
Percent Educational Attainment of Population Age 25-64
By Race/Ethnicity - Iowa, 2005

Source: U.S. Census Bureau, 2005 ACS PUMS
Percentage of Iowans with at Least an Associates Degree, by Race/Ethnicity, 2006

Source: U.S. Census Bureau, 2006 American Community Survey (ACS) Public Use Microdata Sample (PUMS) File.
Difference in High School Attainment Between Whites and Minorities,* 2006

* Minorities include African-American, Hispanic, and Native American

Source: U.S. Census Bureau, 2006 ACS PUMS
Difference in College Attainment Between Whites and Minorities,* 2006

* Minorities include African-American, Hispanic, and Native American

Source: U.S. Census Bureau, 2006 ACS (PUMS)
Counties Where 80% of Iowa’s African-Americans Reside, 2007

Source: Population Division, U.S. Census Bureau; County Resident Population Estimates File
Counties Where 80% of Iowa’s Hispanics Reside, 2007

Source: Population Division, U.S. Census Bureau; County Resident Population Estimates File
2. Expanding and Diversifying the Economy
Per Capita Personal Income as a Percent of U.S. Average - Iowa, 1960-2005

Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Dept. of Commerce
Iowa = $23,115

Source: U.S. Census Bureau, 2006 American Community Survey

Per Capita Income, 2006 – PUMAs

- $25,514 to $31,708
- $22,320 to $25,514
- $20,807 to $22,320
- $19,920 to $20,807

Iowa = $23,115
Per Capita Income, 2006 – High and Low PUMAs

Iowa = $23,115

High = $31,708
Low = $19,920

Source: U.S. Census Bureau, 2006 American Community Survey
Median Earnings of Population Age 25-64 by Level of Education, 2005

Source: U.S. Census Bureau, ACS
Difference in Median Earnings Between a High School Diploma and a Bachelor’s Degree, 2006 – PUMAs

Source: U.S. Census Bureau, 2006 American Community Survey
Percent of Total Gross State Product by Industry and Comparison to U.S.

Source: Bureau of Labor Statistics
Percent Change in Gross State Product, 1997-2007

Source: Bureau of Economic Analysis, U.S. Department of Commerce
Gross Domestic Product – Percent Change
1997-2007

Source: Bureau of Economic Analysis, U.S. Department of Commerce
# Development Report Card for the States, 2006 - Iowa

## Overall Performance

<table>
<thead>
<tr>
<th>Performance</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>D</td>
</tr>
<tr>
<td>Earnings &amp; Job Quality</td>
<td>A</td>
</tr>
<tr>
<td>Equity</td>
<td>A</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>C</td>
</tr>
<tr>
<td>Resource Efficiency</td>
<td>C</td>
</tr>
</tbody>
</table>

## Business Vitality

| Competitiveness/Existing Businesses | C |
| Entrepreneurial Energy | F |

## Development Capacity

| Human Resources | C |
| Financial Resources | F |
| Infrastructure Resources | D |
| Amenity Resources & Natural Capital | A |
| Innovation Assets | C |

## Iowa Strengths (Top 10 Rankings)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Air Pollution</td>
</tr>
<tr>
<td>2</td>
<td>Income Distribution</td>
</tr>
<tr>
<td>4</td>
<td>Involuntary Part-Time Employment</td>
</tr>
<tr>
<td>5</td>
<td>High School Completion</td>
</tr>
<tr>
<td>5</td>
<td>Affordable Urban Housing</td>
</tr>
<tr>
<td>5</td>
<td>Business Closings</td>
</tr>
<tr>
<td>6</td>
<td>Rate of Recycled Waste</td>
</tr>
<tr>
<td>8</td>
<td>Voting Rate</td>
</tr>
<tr>
<td>9</td>
<td>Employer-Provided Health Insurance</td>
</tr>
<tr>
<td>9</td>
<td>Income Distribution Change</td>
</tr>
<tr>
<td>9</td>
<td>Working Poor</td>
</tr>
<tr>
<td>10</td>
<td>Royalties &amp; Licenses</td>
</tr>
<tr>
<td>10</td>
<td>Academic R&amp;D</td>
</tr>
</tbody>
</table>

## Iowa Weaknesses (Bottom 10 Rankings)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>SBIC Financing</td>
</tr>
<tr>
<td>43</td>
<td>Change in Unemployment Rate</td>
</tr>
<tr>
<td>43</td>
<td>Change in Uninsured Low-income Children</td>
</tr>
<tr>
<td>44</td>
<td>Manufacturing Investment</td>
</tr>
<tr>
<td>45</td>
<td>Change in Poverty Rate</td>
</tr>
<tr>
<td>45</td>
<td>Venture Capital Investments</td>
</tr>
<tr>
<td>47</td>
<td>SBIR Grants</td>
</tr>
<tr>
<td>48</td>
<td>Change in Homeownership Rate</td>
</tr>
<tr>
<td>49</td>
<td>Employment Growth: Long Term</td>
</tr>
<tr>
<td>50</td>
<td>New Companies</td>
</tr>
</tbody>
</table>

Source: 2006 Development Report Card for the States, CFED
Overall State Scores on Measures of Innovation Assets, 2004

Source: Development Report Card for the States, CFED
Employment in High-Technology Establishments as Share of Total Employment by State, 2004

Iowa = 32.6

Source: U.S. Census Bureau, 2006 American Community Survey
Federal Research & Expenditures
Iowa, 2006

Engineering: Rank 26
Physical Science: Rank 28
Math & Computer Science: Rank 26
Life Science: Rank 24
Medical Science: Rank 22
Total: Rank 26

Note: Population rank is 30th
Source: National Science Foundation
Federal Research & Expenditures per Capita
Iowa, 2005

Source: National Science Foundation
3. Meeting Workforce Needs in the Face of Changing Demographics
Population Projections—Percent Change, 2000-25

Source: U.S. Census Bureau
Percent of Civilian Population Age 25-64 Participating in the Workforce, 2005

Source: U.S. Bureau of Labor Statistics
Iowa Population Projections, Ages 25-64, 2000-2030

Source: U.S. Census Bureau, Population Division, Interim State Population Projections, 2005. Internet Release Date: April 21, 2005
Percent of Residents Age 25-64 with an Associate Degree Born In-State, 2005

Source: 2005 ACS
Percent of Residents Age 25-64 with a Bachelor’s Degree or Higher Born In-State, 2005

Source: 2005 ACS
Iowa Net Migration by Occupation, Ages 22-29
1995-2000

-2459
-1990
-1682
-1524
-1503
-1227
-867
-805
-794
-729
-685
-627
-620
-564
-521
-502
-482
-384
-351

Postsecondary Teachers

Source: US Census Bureau, 2000 Census; 5% Public Use Microdata Sample (PUMS) Files.
Iowa Net Migration by Occupation, Ages 30-64
1995-2000

-3345
-1118
-683
-560
-502
-446
-431
-370
-337
-315
-312
-274
-254
-250

Health Diagnosing/Treating Practitioners
Computer Specialists
Other Management Occupations
Retail Sales Workers
Business Operations Specialists
Top Executives
Financial Specialists
Advertising, Mkting, PR, and Sales Mgrs
Sales Representatives, Services
Engineers
Supervisors, Sales Workers
Media and Communication Workers
Operations Specialties Managers
Lawyers, Judges, and Related Workers

Life, Physical, and Social Science Technicians 216
Other Education, Training, and Library 220
Financial Clerks 224
Nursing, Psychiatric, and Home Health Aides 295
Physical Scientists 350
Postsecondary Teachers 501

Source: US Census Bureau, 2000 Census; 5% Public Use Microdata Sample (PUMS) Files.
Iowa Net Migration of Residents Age 22-64 by Level of Education, 2005-06

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Net Migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than High School</td>
<td>1,651</td>
</tr>
<tr>
<td>High School</td>
<td>2,698</td>
</tr>
<tr>
<td>Some College</td>
<td>2,342</td>
</tr>
<tr>
<td>Associate</td>
<td>225</td>
</tr>
<tr>
<td>Bachelor's</td>
<td>3,927</td>
</tr>
<tr>
<td>Graduate/Professional</td>
<td>2,158</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13,001</strong></td>
</tr>
</tbody>
</table>

Source: 2006 ACS (PUMS)
Projected Percent Change in Occupations Requiring Some Postsecondary Training, 2002-2012

Note: Some college, Associate, Bachelor’s and higher.
Source: ACINet, Career InfoNet
Occupations with Most Average Annual Openings, from 2004-2014, No Post-secondary Education Required, Iowa

- Cooks, institution and cafeteria
- Receptionists and information clerks
- Slaughterers and meat packers
- Maintenance and repair workers, general
- Farmers and ranchers
- Maids and housekeeping cleaners
- Tellers
- Secretaries, except legal, medical, and executive
- Teacher assistants
- Sales reps, wholesale & manuf., except technical/scientific products
- First-line supervisors/managers of retail sales workers
- Bookkeeping, accounting, and auditing clerks
- Stock clerks and order fillers
- Child care workers
- Food preparation workers
- Customer service representatives
- Janitors and cleaners, except maids and housekeeping cleaners
- Office clerks, general
- Laborers and freight, stock, and material movers, hand
- Team assemblers
- Truck drivers, heavy and tractor-trailer
- Combined food prep/serving workers, including fast food
- Waiters and waitresses
- Cashiers, except gaming
- Retail salespersons

Source: ACINET
Occupations with Most Average Annual Openings, from 2004-2014, Some College or Associate Degree Required, Iowa

- Registered nurses
- Nursing aides, orderlies, and attendants
- Automotive service technicians and mechanics
- Licensed practical and licensed vocational nurses
- Welders, cutters, solderers, and brazers
- Hairdressers, hairstylists, and cosmetologists
- Bus and truck mechanics and diesel engine specialists
- Medical transcriptionists
- Medical records and health information technicians
- Library technicians
- Dental hygienists
- Preschool teachers, except special education
- Legal secretaries
- Computer support specialists
- Dental hygienists
- Medical records and health information technicians
- Library technicians
- Dental hygienists
- Preschool teachers, except special education
- Legal secretaries
- Computer support specialists
- Radiologic technologists and technicians

Source: ACINET
Occupations with Most Average Annual Openings, from 2004-2014, Bachelor’s Degree or Higher Required, Iowa

- Computer programmers
- Child, family, and school social workers
- Sales managers
- Mechanical engineers
- Loan officers
- Computer and information systems managers
- Administrative services managers
- Pharmacists
- Network and computer systems administrators
- Chief executives
- Management analysts
- Physicians and surgeons
- Lawyers
- Computer software engineers, systems software
- Computer software engineers, applications
- Medical and health services managers
- Insurance sales agents
- Financial managers
- Computer systems analysts
- Middle school teachers, except special and vocational education
- Accountants and auditors
- Postsecondary teachers
- General and operations managers
- Secondary school teachers, except special and vocational education
- Elementary school teachers, except special education

Source: ACINET
Iowa Average Annual Openings in High Demand Occupations

- Registered Nurses: 1,185
- Secondary/Middle School Teachers, Except Special and Career: 830
- Food Preparation Supervisors/Managers, Chefs, Cooks: 610
- General & Operations Managers, Management Analysts, Chief: 755
- First-Line Supervisors/Managers of Sales Workers: 740
- Nursing Aides, Orderlies, and Attendants: 700
- Business Operations Specialists, All Other: 665
- Elementary School Teachers, Except Special Education: 580
- Farmers, Ranchers, Agricultural Managers: 565
- Network and Computer Systems Administrators and Analysts: 515
- Auto Service Technicians & Mechanics, Auto Body & Related: 430
- Carpenters: 425
- Licensed Practical and Licensed Vocational Nurses: 365
- Accountants, Auditors, Tax & Financial Examiners, Collectors, and Billing Clerks: 360
- First-Line Supervisors/Managers of Office and Administrative Support Workers: 340
- First-Line Supervisors/Managers of Production and Operating Workers: 330
- Welders, Cutters, solderers, and Brazers: 305
- Managers, All Other: 285
- Electricians: 250
- Hairdressers, Hairstylists, and Cosmetologists: 245

*Annual openings due to growth and replacement may not add to total due to rounding in the occupation projections.

Iowa Supply Gap in High Demand Occupations

- Hairdressers, Hairstylists, and Cosmetologists: 707
- Electricians: 690
- Managers, All Other: 628
- Welders, Cutters, Solderers, and Brazers: 504
- First-Line Supervisors/Managers of Production and Service Workers: 319
- First-Line Supervisors/Managers of Office and Administrative Support Workers: 304
- Accountants, Auditors, Tax & Financial Examiners: 304
- Licensed Practical and Licensed Vocational Nurses: 295
- Carpenters: 200
- Auto Service Technicians & Mechanics, Auto Body & Tires: 182
- Network and Computer Systems Administrators and Support Workers: 104
- Farmers, Ranchers, Agricultural Managers: 75
- Elementary School Teachers, Except Special Education Teachers: 33
- Business Operations Specialists, All Other: -600
- Nursing Aides, Orderlies, and Attendants: -631
- First-Line Supervisors/Mgrs of Sales and Service Workers: -907
- General & Ops Managers, All Other: -907
- Food Preparation Supervisors: -1,151
- Secondary/Middle School Teachers, Except Special Education Teachers: -1,231
- Registered Nurses: -2,052

## Gap Between Supply & Demand in Selected Occupations
(Average Annual Openings 2004-14 vs. Current Annual Degree Production)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Average Annual Openings - Growth</th>
<th>Average Annual Openings - Replacement</th>
<th>Average Annual Openings - Total*</th>
<th>Average Annual Applicable Awards</th>
<th>Supply Gap - Openings Less Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Preparation Supervisors/Managers, Chefs, Cooks</td>
<td>320</td>
<td>490</td>
<td>810</td>
<td>103</td>
<td>707</td>
</tr>
<tr>
<td>First-Line Supervisors/Managers of Sales Workers</td>
<td>250</td>
<td>490</td>
<td>740</td>
<td>50</td>
<td>690</td>
</tr>
<tr>
<td>Business Operations Specialists, All Other</td>
<td>400</td>
<td>270</td>
<td>665</td>
<td>37</td>
<td>628</td>
</tr>
<tr>
<td>Nursing Aides, Orderlies, and Attendants</td>
<td>380</td>
<td>320</td>
<td>700</td>
<td>196</td>
<td>504</td>
</tr>
<tr>
<td>Secondary/Middle School Teachers, Except Special and Vocational Education</td>
<td>260</td>
<td>570</td>
<td>830</td>
<td>511</td>
<td>319</td>
</tr>
<tr>
<td>Carpenters</td>
<td>200</td>
<td>225</td>
<td>425</td>
<td>121</td>
<td>304</td>
</tr>
<tr>
<td>First-Line Supervisors/Managers of Production and Operating Workers</td>
<td>90</td>
<td>240</td>
<td>330</td>
<td>26</td>
<td>304</td>
</tr>
<tr>
<td>First-Line Supervisors/Managers of Office and Administrative Support Workers</td>
<td>105</td>
<td>240</td>
<td>340</td>
<td>45</td>
<td>295</td>
</tr>
<tr>
<td>Electricians</td>
<td>120</td>
<td>135</td>
<td>250</td>
<td>50</td>
<td>200</td>
</tr>
<tr>
<td>Welders, Cutters, Solderers, and Brazers</td>
<td>95</td>
<td>210</td>
<td>305</td>
<td>123</td>
<td>182</td>
</tr>
<tr>
<td>Managers, All Other</td>
<td>100</td>
<td>185</td>
<td>285</td>
<td>181</td>
<td>104</td>
</tr>
<tr>
<td>Farmers, Ranchers, Agricultural Managers</td>
<td>10</td>
<td>550</td>
<td>565</td>
<td>490</td>
<td>75</td>
</tr>
<tr>
<td>Auto Service Technicians &amp; Mechanics, Auto Body &amp; Related Repairers</td>
<td>170</td>
<td>260</td>
<td>430</td>
<td>397</td>
<td>33</td>
</tr>
<tr>
<td>Hairdressers, Hairstylists, and Cosmetologists</td>
<td>85</td>
<td>155</td>
<td>245</td>
<td>845</td>
<td>-600</td>
</tr>
<tr>
<td>Network and Computer Systems Administrators and Analysts</td>
<td>375</td>
<td>125</td>
<td>515</td>
<td>1,146</td>
<td>-631</td>
</tr>
<tr>
<td>Accountants, Auditors, Tax &amp; Financial Examiners, Collectors, and Revenue Agents</td>
<td>140</td>
<td>215</td>
<td>360</td>
<td>1,267</td>
<td>-907</td>
</tr>
<tr>
<td>Elementary School Teachers, Except Special Education</td>
<td>155</td>
<td>425</td>
<td>580</td>
<td>1,487</td>
<td>-907</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>515</td>
<td>670</td>
<td>1,185</td>
<td>2,336</td>
<td>-1,151</td>
</tr>
<tr>
<td>Licensed Practical and Licensed Vocational Nurses</td>
<td>190</td>
<td>175</td>
<td>365</td>
<td>1,596</td>
<td>-1,231</td>
</tr>
<tr>
<td>General &amp; Operations Managers, Management Analysts, Chief Executives, Legislators</td>
<td>370</td>
<td>385</td>
<td>755</td>
<td>2,807</td>
<td>-2,052</td>
</tr>
</tbody>
</table>

4. Keeping Higher Education Affordable in Difficult Economic Times
Total Public Higher Education Revenue per FTE
Indexed to US Average

Source: SHEEO SHEF State Higher Education Finance FY 2007
Perspectives on State and Local Government Higher Education Funding Effort
Indexed to US Average

Source: SHEEO SHEF State Higher Education Finance FY 2007
Educational Appropriations per FTE, % Change by State, Fiscal 2002-2007

Source: SHEEO SHEF State Higher Education Finance FY 2007

Net Tuition Revenue per FTE and State-Funded Tuition Aid per FTE, FY2007 (Public Institutions only)

Fiscal 2007 Net Tuition Revenue per FTE

Source: SHEEO SHEF State Higher Education Finance FY 2007
## Affordability

### AFFORDABILITY

<table>
<thead>
<tr>
<th></th>
<th>IOWA 1992*</th>
<th>IOWA 2006</th>
<th>Top States 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FAMILY ABILITY TO PAY (50%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent of income (average of all income groups) needed to pay for college expenses minus financial aid:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>at community colleges</td>
<td>18%</td>
<td>26%</td>
<td>15%</td>
</tr>
<tr>
<td>at public 4-year colleges/universities</td>
<td>18%</td>
<td>30%</td>
<td>16%</td>
</tr>
<tr>
<td>at private 4-year colleges/universities</td>
<td>46%</td>
<td>59%</td>
<td>32%</td>
</tr>
<tr>
<td><strong>STRATEGIES FOR AFFORDABILITY (40%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State investment in need-based financial aid as compared to the federal investment.</td>
<td>40%</td>
<td>33%</td>
<td>89%</td>
</tr>
<tr>
<td>At lowest priced colleges, the share of income that the poorest families need to pay for tuition.</td>
<td>16%</td>
<td>23%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>RELIANCE ON LOANS (10%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average loan amount that undergraduate students borrow each year</td>
<td>$2,782</td>
<td>$3,112</td>
<td>$2,619</td>
</tr>
</tbody>
</table>

Source: Measuring Up 2006
Percentage of Income Needed to Pay for College at Public Two- & Four-Year Institutions, 2000-2008

Public Two-Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Iowa</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-00</td>
<td>20.3</td>
<td>18.6</td>
</tr>
<tr>
<td>2007-08</td>
<td>27.8</td>
<td>23.8</td>
</tr>
</tbody>
</table>

Public Four-Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Iowa</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-00</td>
<td>22.55</td>
<td>19.7</td>
</tr>
<tr>
<td>2007-08</td>
<td>32.57</td>
<td>27.8</td>
</tr>
</tbody>
</table>

Share of Income that the Poorest Families Need to Pay for Tuition at the Lowest Priced Colleges

Average Loan Amount Students Borrow Each Year, 2004

Proportion of Need-Based Aid Distributed to Part-Time Students 2004-05

Source: NCHEMS Student Financial Aid Survey
Change in College Participation Rates for Students from Low-Income Families by State, 1999-2006

Source: Postsecondary Education Opportunity #188, February 2008
State Tax Capacity & Effort
Iowa Indexed to U.S. Average

Source: State Higher Education Executive Officers (SHEEO)
State Tax Capacity & Effort
Iowa Indexed to U.S. Average

Source: State Higher Education Executive Officers (SHEEO)
Projected State and Local Budget Surplus (Gap) as a Percent of Revenues, 2013

Source: NCHEMS; Don Boyd (Rockefeller Institute of Government), 2005
Savings if Iowa Reaches Top Performance in Degree Production

**Performance:** Undergraduate Degrees Awarded Per 100 Full-Time Equivalent Students

Reduced costs to Iowa would be **$126 million** by improving efficiency of degree production to level of top states.

<table>
<thead>
<tr>
<th>Performance Type</th>
<th>Iowa</th>
<th>Top States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Two-Year</td>
<td>17.4</td>
<td>22.4</td>
</tr>
<tr>
<td>Public Four-Year</td>
<td>21.8</td>
<td>24.7</td>
</tr>
</tbody>
</table>

| Status Quo Costs       | 851  | 725        |
| Additional Costs Needed |     |            |
| Current Budget Costs   | 851  |            |
| Best Performance       | 725  |            |

(In $ Millions)
Bachelor’s Degrees Per FTE Undergrads, 2002-03
Public Baccalaureate and Masters

Performance vs. Total Funding Per FTE
Changes in educational spending per student: 1998 – 2006

Green = Student Share of Costs
Purple = Costs subsidized by
the state or the Institution

Source: Delta Cost Project IPEDS database, 10-year matched set.
The National Education Issue Environment

• A focus on productivity improvement
  – More output
  – Better quality
  – Without proportionate increases in funding

• Assessment of student learning as the indicator of quality

• The cost of college – affordability
  – To students
  – To state