Economic and Workforce Development: State Trends, Issues, and Challenges Ahead

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Northwest Academic Forum

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Human Capital Drives Economies in the Information Age

Improving Economies and Quality of Life Is Dependent on the Stock of Human Capital

A Policy Issue for All States
But the Nature of the Policy Issues Differs Greatly from State to State

- In Some States, the Primary Need Is to Educate a Workforce for Available Jobs
- In Many States, the Challenge Is to Create High-Value Jobs for an Available Workforce
Net Migration of Residents Age 22-29 with a College Degree (Associate or Higher), 1995-2000

Source: U.S. Census Bureau, Public Use Microdata Samples, 2000
State Workforce and Economy

Who’s Entering the State’s Workforce?

Characteristics of In-Migrants

Entrants into the Workforce

The State Workforce and Economy

Characteristics of the Workforce

Economic Conditions

Who’s Leaving the State Workforce?

Characteristics of Out-Migrants

Retirees Leaving the Workforce

Net Gain/Loss

Net Gains/Losses – Retirement – Migration
Things to Know About the Workforce

- Incumbent Workforce
  - Demographics
  - Employment—Occupations

- Entrants
  - Demographics
  - Education

- Retirees
  - Demographics
  - Occupations

- In- and Out-Migrants
  - Occupations
The Incumbent Workforce

- For Most States, 80% of the Workforce of 2015 Is Already in the Workforce

- For Most States, Issues Will Be Those of:
  - Enhancing Skills of Current Workers
  - Increasing Productivity
  - Increasing Workplace Participation
  - Creating More High-Value Jobs for Existing Population
Percent of Civilian Population (Age 16 and Older)
Participating in the Workforce, 2003

Source: U.S. Census Bureau
Percent of Population Age 25-64 with Less than a High School Diploma, 2000

Source: U.S. Census Bureau, 2000 Census
Percent of Population Age 18-24 with No High School Diploma

Source: U.S. Census Bureau, 2000 Census
Adults with a Bachelor’s Degree or Higher

Source: U.S. Census Bureau
Difference Among the Two Largest Racial/Ethnic Groups in Percent of Population Age 25-64 with a Bachelor’s Degree or Higher, 2000

Source: U.S. Census Bureau's Public Use Samples, based on 2000 Census
Educational Attainment of Population Age 25-64
By Race/Ethnicity—Washington, 2000 (Percent)

Source: U.S. Census Bureau, 2000 Census
Percent of Total Gross State Product by Industry and Comparison to U.S.—North Dakota

Percent of Total Gross State Product by Industry and Comparison to U.S.—Washington

Percent Employment in Managerial and Professional Occupations

Source: U.S. Census Bureau
### Fastest Growing Occupations Requiring a Bachelor’s Degree or Higher—North Dakota, 2002-12

<table>
<thead>
<tr>
<th>Rank</th>
<th>Occupation</th>
<th>Employment 2000</th>
<th>Employment 2010</th>
<th>Percent Change*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Industrial Engineers</td>
<td>220</td>
<td>330</td>
<td>48</td>
</tr>
<tr>
<td>2.</td>
<td>Management Analysts</td>
<td>250</td>
<td>370</td>
<td>48</td>
</tr>
<tr>
<td>3.</td>
<td>Network Systems and Data Communications Analysts</td>
<td>270</td>
<td>370</td>
<td>38</td>
</tr>
<tr>
<td>4.</td>
<td>Computer Systems Analysts</td>
<td>580</td>
<td>750</td>
<td>31</td>
</tr>
<tr>
<td>5.</td>
<td>Sales Managers</td>
<td>780</td>
<td>1,010</td>
<td>30</td>
</tr>
<tr>
<td>6.</td>
<td>Computer and Information Systems Managers</td>
<td>580</td>
<td>750</td>
<td>28</td>
</tr>
<tr>
<td>7.</td>
<td>Financial Analysts</td>
<td>120</td>
<td>150</td>
<td>28</td>
</tr>
<tr>
<td>8.</td>
<td>Database Administrators</td>
<td>250</td>
<td>320</td>
<td>27</td>
</tr>
<tr>
<td>9.</td>
<td>Interior Designers</td>
<td>170</td>
<td>220</td>
<td>27</td>
</tr>
<tr>
<td>10.</td>
<td>Network and Computer Systems Administrators</td>
<td>280</td>
<td>360</td>
<td>26</td>
</tr>
<tr>
<td>11.</td>
<td>Industrial Production Managers</td>
<td>280</td>
<td>350</td>
<td>24</td>
</tr>
<tr>
<td>12.</td>
<td>Medical and Public Health Social Workers</td>
<td>370</td>
<td>460</td>
<td>23</td>
</tr>
<tr>
<td>13.</td>
<td>Postsecondary Teachers</td>
<td>4,740</td>
<td>5,730</td>
<td>21</td>
</tr>
<tr>
<td>14.</td>
<td>Recreation Workers</td>
<td>760</td>
<td>920</td>
<td>21</td>
</tr>
<tr>
<td>15.</td>
<td>Chief Executives</td>
<td>1,040</td>
<td>1,250</td>
<td>20</td>
</tr>
<tr>
<td>16.</td>
<td>Marketing Managers</td>
<td>440</td>
<td>530</td>
<td>20</td>
</tr>
<tr>
<td>17.</td>
<td>Mechanical Engineers</td>
<td>290</td>
<td>350</td>
<td>20</td>
</tr>
<tr>
<td>18.</td>
<td>Medical and Health Services Managers</td>
<td>900</td>
<td>1,080</td>
<td>20</td>
</tr>
<tr>
<td>19.</td>
<td>Public Relations Specialists</td>
<td>270</td>
<td>320</td>
<td>20</td>
</tr>
<tr>
<td>20.</td>
<td>Environmental Engineers</td>
<td>130</td>
<td>160</td>
<td>19</td>
</tr>
<tr>
<td>21.</td>
<td>Physical Therapists</td>
<td>460</td>
<td>550</td>
<td>19</td>
</tr>
<tr>
<td>22.</td>
<td>Special Education Teachers</td>
<td>1,130</td>
<td>1,350</td>
<td>19</td>
</tr>
<tr>
<td>23.</td>
<td>Electrical Engineers</td>
<td>250</td>
<td>300</td>
<td>18</td>
</tr>
<tr>
<td>24.</td>
<td>Environmental Scientists and Specialists, Including Health</td>
<td>130</td>
<td>160</td>
<td>18</td>
</tr>
<tr>
<td>25.</td>
<td>Human Resources Managers</td>
<td>400</td>
<td>470</td>
<td>18</td>
</tr>
</tbody>
</table>

*Note: The national average percent change is 14.8 for the 2002-12 employment projection series.

Source: America's Career InfoNet 2004; North Dakota Department of Labor, Economic Data
# Fastest Growing Occupations Requiring a Bachelor’s Degree or Higher—

## Washington, 2002-12

<table>
<thead>
<tr>
<th>Rank</th>
<th>Occupation</th>
<th>Employment 2000</th>
<th>Employment 2010</th>
<th>Percent Change*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Medical Scientists, except Epidemiologists</td>
<td>930</td>
<td>1,270</td>
<td>37</td>
</tr>
<tr>
<td>2.</td>
<td>Survey Researchers</td>
<td>450</td>
<td>610</td>
<td>36</td>
</tr>
<tr>
<td>3.</td>
<td>Veterinarians</td>
<td>1,210</td>
<td>1,640</td>
<td>36</td>
</tr>
<tr>
<td>4.</td>
<td>Computer Software Engineers, Applications</td>
<td>15,890</td>
<td>21,220</td>
<td>34</td>
</tr>
<tr>
<td>5.</td>
<td>Computer and Information Scientists, Research</td>
<td>450</td>
<td>600</td>
<td>32</td>
</tr>
<tr>
<td>6.</td>
<td>Technical Writers</td>
<td>3,030</td>
<td>3,990</td>
<td>31</td>
</tr>
<tr>
<td>7.</td>
<td>Architects, except Landscape and Naval</td>
<td>3,610</td>
<td>4,690</td>
<td>30</td>
</tr>
<tr>
<td>8.</td>
<td>Computer Software Engineers, Systems Software</td>
<td>12,970</td>
<td>16,900</td>
<td>30</td>
</tr>
<tr>
<td>9.</td>
<td>Multi-Media Artists and Animators</td>
<td>2,770</td>
<td>3,590</td>
<td>30</td>
</tr>
<tr>
<td>10.</td>
<td>Market Research Analysts</td>
<td>4,800</td>
<td>6,190</td>
<td>29</td>
</tr>
<tr>
<td>11.</td>
<td>Surveyors</td>
<td>1,080</td>
<td>1,400</td>
<td>29</td>
</tr>
<tr>
<td>12.</td>
<td>Art Directors</td>
<td>1,280</td>
<td>1,630</td>
<td>27</td>
</tr>
<tr>
<td>13.</td>
<td>Biochemists and Biophysicists</td>
<td>140</td>
<td>180</td>
<td>27</td>
</tr>
<tr>
<td>14.</td>
<td>Biomedical Engineers</td>
<td>50</td>
<td>70</td>
<td>27</td>
</tr>
<tr>
<td>15.</td>
<td>Computer Programmers</td>
<td>12,710</td>
<td>16,080</td>
<td>27</td>
</tr>
<tr>
<td>16.</td>
<td>Electronics Engineers, except Computer</td>
<td>3,760</td>
<td>4,780</td>
<td>27</td>
</tr>
<tr>
<td>17.</td>
<td>Geoscientists, except Hydrologists and Geographers</td>
<td>710</td>
<td>900</td>
<td>27</td>
</tr>
<tr>
<td>18.</td>
<td>Computer Hardware Engineers</td>
<td>1,600</td>
<td>2,020</td>
<td>26</td>
</tr>
<tr>
<td>19.</td>
<td>Employment, Recruitment, and Placement Specialists</td>
<td>2,720</td>
<td>3,430</td>
<td>26</td>
</tr>
<tr>
<td>20.</td>
<td>Landscape Architects</td>
<td>560</td>
<td>710</td>
<td>26</td>
</tr>
<tr>
<td>21.</td>
<td>Hydrologists</td>
<td>410</td>
<td>510</td>
<td>25</td>
</tr>
<tr>
<td>22.</td>
<td>Electrical Engineers</td>
<td>3,950</td>
<td>4,880</td>
<td>24</td>
</tr>
<tr>
<td>23.</td>
<td>Anthropologists and Archeologists</td>
<td>90</td>
<td>110</td>
<td>23</td>
</tr>
<tr>
<td>24.</td>
<td>Chemical Engineers</td>
<td>740</td>
<td>910</td>
<td>23</td>
</tr>
<tr>
<td>25.</td>
<td>Computer and Information Systems Managers</td>
<td>5,660</td>
<td>6,940</td>
<td>23</td>
</tr>
</tbody>
</table>

*Note: The national average percent change is 14.8 for the 2002-12 employment projection series.  
Source: America’s Career InfoNet 2004; North Dakota Department of Labor, Economic Data
### Occupations with the Most Openings Requiring a Bachelor’s Degree or Higher—North Dakota, 2002-12

<table>
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<th>Rank</th>
<th>Occupation</th>
<th>2000 Employment</th>
<th>Average Annual Job Openings*</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Postsecondary Teachers</td>
<td>4,740</td>
<td>210</td>
</tr>
<tr>
<td>2.</td>
<td>General and Operations Managers</td>
<td>5,760</td>
<td>200</td>
</tr>
<tr>
<td>3.</td>
<td>Elementary School Teachers, except Special Education</td>
<td>5,030</td>
<td>140</td>
</tr>
<tr>
<td>4.</td>
<td>Secondary School Teachers, except Special and Vocational Education</td>
<td>2,830</td>
<td>100</td>
</tr>
<tr>
<td>5.</td>
<td>Accountants and Auditors</td>
<td>2,170</td>
<td>80</td>
</tr>
<tr>
<td>6.</td>
<td>Insurance Sales Agents</td>
<td>2,230</td>
<td>50</td>
</tr>
<tr>
<td>7.</td>
<td>Special Education Teachers</td>
<td>1,130</td>
<td>50</td>
</tr>
<tr>
<td>8.</td>
<td>Chief Executives</td>
<td>1,040</td>
<td>40</td>
</tr>
<tr>
<td>9.</td>
<td>Financial Managers</td>
<td>1,260</td>
<td>40</td>
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<tr>
<td>10.</td>
<td>Medical and Health Services Managers</td>
<td>900</td>
<td>40</td>
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<td>11.</td>
<td>Sales Managers</td>
<td>780</td>
<td>40</td>
</tr>
<tr>
<td>12.</td>
<td>Clergy</td>
<td>1,520</td>
<td>30</td>
</tr>
<tr>
<td>13.</td>
<td>Computer and Information Systems Managers</td>
<td>580</td>
<td>30</td>
</tr>
<tr>
<td>14.</td>
<td>Computer Programmers</td>
<td>1,030</td>
<td>30</td>
</tr>
<tr>
<td>15.</td>
<td>Loan Officers</td>
<td>870</td>
<td>30</td>
</tr>
<tr>
<td>16.</td>
<td>Recreation Workers</td>
<td>760</td>
<td>30</td>
</tr>
<tr>
<td>17.</td>
<td>Administrative Services Managers</td>
<td>650</td>
<td>20</td>
</tr>
<tr>
<td>19.</td>
<td>Civil Engineers</td>
<td>690</td>
<td>20</td>
</tr>
<tr>
<td>21.</td>
<td>Construction Managers</td>
<td>640</td>
<td>20</td>
</tr>
<tr>
<td>22.</td>
<td>Education Administrators, Elementary and Secondary School</td>
<td>480</td>
<td>20</td>
</tr>
<tr>
<td>23.</td>
<td>Educational, Vocational, and School Counselors</td>
<td>690</td>
<td>20</td>
</tr>
<tr>
<td>24.</td>
<td>Industrial Engineers</td>
<td>220</td>
<td>20</td>
</tr>
<tr>
<td>25.</td>
<td>Lawyers</td>
<td>800</td>
<td>20</td>
</tr>
</tbody>
</table>

*Note: Openings due to growth and net replacements.

Source: America's Career InfoNet 2004; North Dakota Department of Labor, Economic Data
### Occupations with the Most Openings Requiring a Bachelor’s Degree or Higher—Washington, 2002-12

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<th>2000 Employment</th>
<th>Average Annual Job Openings*</th>
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</thead>
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<tr>
<td>1.</td>
<td>Postsecondary Teachers</td>
<td>29,200</td>
<td>1,370</td>
</tr>
<tr>
<td>2.</td>
<td>Elementary School Teachers, except Special Education</td>
<td>27,550</td>
<td>1,280</td>
</tr>
<tr>
<td>3.</td>
<td>Accountants and Auditors</td>
<td>22,910</td>
<td>830</td>
</tr>
<tr>
<td>4.</td>
<td>Secondary School Teachers, except Special and Vocational Education</td>
<td>15,380</td>
<td>810</td>
</tr>
<tr>
<td>5.</td>
<td>General and Operations Managers</td>
<td>21,290</td>
<td>780</td>
</tr>
<tr>
<td>6.</td>
<td>Computer Software Engineers, Applications</td>
<td>15,890</td>
<td>710</td>
</tr>
<tr>
<td>7.</td>
<td>Computer Programmers</td>
<td>12,710</td>
<td>670</td>
</tr>
<tr>
<td>8.</td>
<td>Middle School Teachers, except Special and Vocational Education</td>
<td>12,590</td>
<td>580</td>
</tr>
<tr>
<td>9.</td>
<td>Computer Software Engineers, Systems Software</td>
<td>12,970</td>
<td>540</td>
</tr>
<tr>
<td>10.</td>
<td>Management Analysts</td>
<td>15,790</td>
<td>440</td>
</tr>
<tr>
<td>11.</td>
<td>Physicians and Surgeons</td>
<td>12,870</td>
<td>440</td>
</tr>
<tr>
<td>12.</td>
<td>Civil Engineers</td>
<td>10,630</td>
<td>410</td>
</tr>
<tr>
<td>13.</td>
<td>Rehabilitation Counselors</td>
<td>9,860</td>
<td>400</td>
</tr>
<tr>
<td>14.</td>
<td>Construction Managers</td>
<td>10,680</td>
<td>380</td>
</tr>
<tr>
<td>15.</td>
<td>Special Education Teachers</td>
<td>7,940</td>
<td>380</td>
</tr>
<tr>
<td>16.</td>
<td>Lawyers</td>
<td>13,280</td>
<td>370</td>
</tr>
<tr>
<td>17.</td>
<td>Computer Systems Analysts</td>
<td>13,260</td>
<td>360</td>
</tr>
<tr>
<td>18.</td>
<td>Recreation Workers</td>
<td>8,590</td>
<td>340</td>
</tr>
<tr>
<td>19.</td>
<td>Financial Managers</td>
<td>10,020</td>
<td>330</td>
</tr>
<tr>
<td>20.</td>
<td>Market Research Analysts</td>
<td>4,800</td>
<td>280</td>
</tr>
<tr>
<td>22.</td>
<td>Computer and Information Systems Managers</td>
<td>5,660</td>
<td>240</td>
</tr>
<tr>
<td>23.</td>
<td>Engineering Managers</td>
<td>6,050</td>
<td>240</td>
</tr>
<tr>
<td>24.</td>
<td>Educational, Vocational, and School Counselors</td>
<td>5,050</td>
<td>230</td>
</tr>
<tr>
<td>25.</td>
<td>Insurance Sales Agents</td>
<td>5,140</td>
<td>230</td>
</tr>
</tbody>
</table>

*Note: Openings due to growth and net replacements.

Source: America's Career InfoNet 2004; North Dakota Department of Labor, Economic Data
Difference in Median Earnings Between a High School Diploma and an Associate Degree, 2000

Source: U.S. Census Bureau's Public Use Samples, based on 2000 Census
Difference in Median Earnings Between a High School Diploma and a Bachelor’s Degree, 2000

Source: U.S. Census Bureau's Public Use Samples, based on 2000 Census
Workforce Entrants and Retirees
Projections of Working Age Population (Age 18-64)—Percent Change, 2000-25

Source: U.S. Census Bureau
Percent of Workforce Age 25-64 Who Will Potentially Retire in the Next 10 Years (Age 55-64), 2000

Source: U.S. Census Bureau, 2000 Census
Incoming Workforce (Age 8-17) as a Percent of Potential Retirees (Age 55-64), 2000

Source: U.S. Census Bureau, 2000 Census
Percent of Incoming Workforce (Ages 8-17) Who Are Minorities, 2000

Source: U.S. Census Bureau, 2000 Census
The Education Pipeline
Key Transition Points in the Education Pipeline

- Complete High School
- Enter College
- Finish College
- Enter the Workplace
Percent Loss at Each Stage of Transition

- 9th to 12th Grade
- High School Graduate to College
- College Entrance to Graduation
- College Graduates

States with Percent Loss:
- 0% to 10%: Arizona, Oregon, Hawaii, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Georgia, New Mexico, Texas, Nevada, Alaska
- 10% to 20%: Idaho, South Carolina, Idaho, Michigan, New York, Colorado, New York, Michigan, North Carolina, Connecticut, Massachusetts
- 20% to 30%: Wisconsin, Nebraska, South Dakota, Kansas, Vermont, Indiana, Virginia, Missouri, Maryland, Ohio, Pennsylvania, Maine, New Jersey, Iowa, Minnesota
- 30% to 40%: Massachusetts, Iowa, Pennsylvania, New Hampshire, Rhode Island, Connecticut, Minnesota, New Jersey, North Dakota, Maine, Nebraska
- 40% to 50%: Wisconsin, Nebraska, South Dakota, Kansas, Vermont, Indiana, Virginia, Missouri, Maryland, Ohio, Pennsylvania, Maine, New Jersey, Iowa, Minnesota
- 50% to 60%: Massachusetts, Iowa, Pennsylvania, New Hampshire, Rhode Island, Connecticut, Minnesota, New Jersey, North Dakota, Maine, Nebraska
- 60% to 70%: Wisconsin, Nebraska, South Dakota, Kansas, Vermont, Indiana, Virginia, Missouri, Maryland, Ohio, Pennsylvania, Maine, New Jersey, Iowa, Minnesota
- 70% to 80%: Massachusetts, Iowa, Pennsylvania, New Hampshire, Rhode Island, Connecticut, Minnesota, New Jersey, North Dakota, Maine, Nebraska
- 80% to 90%: Wisconsin, Nebraska, South Dakota, Kansas, Vermont, Indiana, Virginia, Missouri, Maryland, Ohio, Pennsylvania, Maine, New Jersey, Iowa, Minnesota
- 90% to 100%: Massachusetts, Iowa, Pennsylvania, New Hampshire, Rhode Island, Connecticut, Minnesota, New Jersey, North Dakota, Maine, Nebraska
High School Graduation Rates—Public High School Graduates as a Percent of 9th Graders Four Years Earlier, 2000

Source: WICHE *Knocking at the College Door*, Projections of High School Graduates by State, Income, and Race/Ethnicity
Percent Change in High School Graduates, 2002-18

Source: WICHE *Knocking at the College Door*, Projections of High School Graduates by State, Income, and Race/Ethnicity
College-Going Rates—First-Time Freshmen Directly Out of High School as a Percent of Recent High School Graduates, 2000

Source: Tom Mortenson, Postsecondary Opportunity
Percent of First-Time Freshmen Who Attend College Within Their Reported State of Residence, Fall 2002

Source: NCES, IPEDS Fall 2002 Residency and Migration File
Part-Time Undergraduate Enrollment as a Percent of Population Age 25-44, 2000

Source: NCES-IPEDS Fall 2000 Enrollments, U.S. Census Bureau
Annual Credentials and Degrees Awarded at Two-Year Colleges (Two-Year and Less)

Per 1,000 Adults Age 18-34 with Only a High School Diploma

Source: NCES-IPEDS Completions Survey, U.S. Census Bureau
Three-Year Graduation Rates at Public Two-Year Colleges
(Percent)

Source: NCES, IPEDS 2001 Graduation Rate File
Percent of Associate Degrees Earned in Innovation Economy Fields, 2001

Annual Bachelor’s Degrees Awarded

Per 1,000 Adults Age 18-34 with Only a High School Diploma

Source: NCES-IPEDS Completions Survey, U.S. Census Bureau
Six-Year Graduation Rates at Public Four-Year Colleges
(Percent)

Source: NCES & IPEDS Graduation Rate Survey
Percent of Bachelor’s Degrees Earned in Innovation Economy Fields, 2001

Percent of Graduate Degrees Earned in Innovation Economy Fields, 2001

Projected Change* in Percent of Population Age 25-64 with Less than a High School Diploma, 2000-20

*Projected Change is based on 2000 educational attainment by race/ethnicity and the projected changes in the population age 25-64 by race/ethnicity.

Projected Change* in Percent of Population Age 25-64 with an Associate Degree or Higher, 2000-20

*Projected Change is based on 2000 educational attainment by race/ethnicity and the projected changes in the population age 25-64 by race/ethnicity.

Projected Change* in Percent of Population Age 25-64 with a Bachelor’s Degree or Higher, 2000-20

*Projected Change is based on 2000 educational attainment by race/ethnicity and the projected changes in the population age 25-64 by race/ethnicity.

Source: U.S. Census 2000, U.S. Census Bureau’s 1995 population projections
Projected Change* in Personal Income Per Capita, 2000-20 (In 2000 $)

*Projected change in personal income is based on the annual personal income by age group (15 years and older) and race/ethnicity in 2000 and the population projections by age group and race/ethnicity in 2020.

Source: U.S. Census 2000, U.S. Census Bureau’s 1995 population projections
Migration
First-Time Freshmen Net Imports by Institution Type for North Dakota, Fall 2002

Source: NCES, IPEDS Fall 2002 Enrollments, Residency and Migration File
First-Time Freshmen Net Imports by Institution Type for Washington, Fall 2002

Source: NCES, IPEDS Fall 2002 Enrollments, Residency and Migration File
North Dakota Net Migration of Residents with College Degrees, 1995-2000

Source: U.S. Census Bureau's Public Use Microdata Samples (Based on 2000 Census)
North Dakota Net Migration of Residents with College Degrees, 1995-2000

Source: U.S. Census Bureau's Public Use Microdata Samples (Based on 2000 Census)
Washington Net Migration of Residents with College Degrees, 1995-2000

Source: U.S. Census Bureau's Public Use Microdata Samples (Based on 2000 Census)
Washington Net Migration of Residents with College Degrees, 1995-2000

- Computer Specialists: 5,751
- Health Diagnosing & Treating Practitioners: 4,122
- Other Management Occupations: 3,146
- Operations Specialties Managers: 2,479
- Business Operations Specialists: 2,071
- Engineers: 1,583
- Top Executives: 1,371
- Advertising, Mktg., Promotions, Public Rel., Sales Mgrs.: 1,355
- Financial Specialists: 1,282
- Information & Record Clerks: 1,214
- Other Healthcare Practitioners & Technical Occupations: -36
- Other Transportation Workers: -36
- First-Line Supervisors/Managers, Protective Service Workers: -46
- Primary, Secondary, & Special Education School Teachers: -62
- Extraction Workers: -64
- Supervisors, Personal Care & Service Workers: -65
- First-Line Enlisted Military Supervisor/Managers: -67
- Printing Workers: -103
- Military Enlisted Tactical Ops. & Air/Weapons Specs. & Crew: -199
- Mathematical Science Occupations: -286

Source: U.S. Census Bureau's Public Use Microdata Samples (Based on 2000 Census)
States’ Ability to Produce Graduates vs. Ability to Keep and Attract Graduates

Student Pipeline (Of 100 9th Graders—the Number Graduating from High School on time, Going Directly to College, Returning Their Second Year, and Completing College within 150 Percent of Degree Time)
States’ Ability to Produce Graduates vs. Ability to Keep and Attract Graduates

New Economy Index (2002)

- **Low Production, Importer of Capital**
- **High Production, Importer of Capital**

- **Top Tier**
- **Middle Tier**
- **Low Tier**

Migration Rate of 22- to 29-Year-Olds with a College Degree

Student Pipeline (Of 100 9th Graders—the Number Graduating from High School on time, Going Directly to College, Returning Their Second Year, and Completing College within 150 Percent of Degree Time)
Implications for Higher Education

DIFFERS BY STATE

In Some States, the Greatest Need Is to Produce More Graduates to Fill Available Jobs

- Nevada
- Washington
Implications for Higher Education (cont.)

- In Other States, the Need Is to Create Jobs to Employ the Graduates Being Produced
  - Wyoming
  - Montana
  - North Dakota
  - Idaho
Where Degree Production Is the Priority, the Primary Focus Must Be on:

- College Entrance (Nevada, Alaska)
- College Completion (Montana, Nevada, North Dakota, South Dakota, Hawaii)

Can’t All Be Blamed on Secondary Schools
Where Job Creation Is the Priority, the Role of Higher Education Is More Complex.

- Fast-Response Workforce Training
- Entrepreneurship Education
- Research/Technology Transfer
- Contributing to Improvements in Quality of Life (Cultural Events, Quality of Public Schools, etc.)

Some Things Beyond the Control of Higher Education

*Competitive Salaries*
Overall State Scores on Measures of Innovation Assets

Note: Score is calculated as sum of rankings on ten separate subindex scores.

Source: Development Report Card for the States, Corporation for Enterprise Development
Number of Doctorates per 1,000 Workers—Science and Engineering, 2002

Source: Development Report Card for the States, Corporation for Enterprise Development
Per Capita R&D Expenditures at Doctoral Granting Institutions, 2002

Source: Development Report Card for the States, Corporation for Enterprise Development
$30

$20

$10

$0

0.5

Mississippi

49.4

Washington

Massachusetts

Source: Development Report Card for the States, Corporation for Enterprise Development
Gross License Income Per Worker, 2001

Source: Development Report Card for the States, Corporation for Enterprise Development
Number of Patents Issued Per Million Population, 2003

Source: Development Report Card for the States, Corporation for Enterprise Development
Number of University Spinouts Per $10 Million University R&D Spending, 2001

Source: Development Report Card for the States, Corporation for Enterprise Development
Number of Patents Issued Per $1,000 GSP

New Business Churn Rate (Percent), 2000

Note: Calculated as new businesses minus failed businesses as a percent of total businesses.

Venture Capital—Financing Per $1,000 GSP, 2003

Number of Initial Public Offerings—Financing Per $1,000 GSP, 2002

For more information, contact Dennis Jones
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and visit the

National Information Center for Higher Education Policymaking and Analysis
www.higheredinfo.org