

**FINAL ENVIRONMENTAL SCANNING  
TREND DOCUMENT**

**2006**

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The Washington State Workforce Education Council





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## **ENVIRONMENTAL SCANNING SUMMARY TREND STATEMENTS**

### **TECHNOLOGY TRENDS**

1. Open sourcing of computer software will lead to increasing levels of shared programming and on-going improvements.
2. Computer search engines will shift from retrospective (information that is presently available) to prospective (information that is not presently available) search and will impact our future online experience.
3. The rapid development and demand for wireless multi-tasked compact personal life-style communication devices, providing connectivity services 24X7X365 world-wide, will continue to accelerate academic, economic and technological challenges as well as opportunities, for educating our workforce in a highly competitive global marketplace.
4. Amidst the ever-changing and rapid advancements in technology the ability of institutions to pay will remain a critical and constant challenge.
5. Organizations will be increasingly challenged to adopt and adapt to technological advances in three primary areas: development/training demand; information technology roles and hiring; and in the general field of information technology.
6. Demands for high speed and broad band use of the Internet will be ever increasing.
7. Integrating technology, especially radio frequency identification (RFID), into business organizations will largely determine their prosperity and their ability to survive in a competitive international marketplace.
8. The fields of robotics, nanotechnology and biotechnology (with nanotechnology superseding biotechnology) are in their infancy and will continue to impact those producing, using and affected by these rapidly evolving technologies.
9. Protecting information from “hacker” attacks in a culture of open access will continue to be a challenge for business, government and schools across the nation and around the world.
10. Technology is the impetus for on-going institutional change with respect to the delivery of educational services, driven by the respective needs of students, business, industry and the community.

### **ECONOMIC TRENDS**

1. The gap between the wealthy and those at the middle and bottom levels of wealth will continue growing nationally and in Washington State.
2. Present and future employment growth in Washington State will remain concentrated in the service sectors including health care, business and professional services, and high-tech.
3. Many construction trade occupations, agricultural jobs, and some manufacturing-related positions (i.e., luxury boat building, food processing, winery operations, pulp/paper/chemicals, and diversified aerospace) will require increased personnel for projected labor shortages.

4. The Internet and new and emerging wireless technologies will have a major effect on Washington State's economic infrastructure in manufacturing, service delivery and consumption because expected response time is shorter, operations may become more efficient, and communications are virtually instantaneous.
5. In the future, there will be less of a national competitive economy and more of a global competitive economy composed of regional economies like those of Spokane, Puget Sound, and Southwestern Washington State.
6. With Washington State's economy projected to stay strong, the shift toward service occupations and high-tech manufacturing with high skill requirements is expected to continue.
7. Washington State's unemployment rate will continue to be an average of 1% higher than the national average due to: (1) aerospace employment lagging compared to the national business cycle, (2) seasonal nature of state's agricultural sector, and (3) high rural unemployment rates, including traditionally timber-dependent areas.
8. Washington State will continue leading the nation in new business creation, while increasingly heavy venture capital investment in the state may help mitigate the state's historically high ranking in firm terminations.
9. The importance of information is driving the flattening of organizational structures where subject matter expertise is increasingly essential and this flattening is expected to increase in the future.
10. Housing density will increase in urban centers, but not necessarily provide affordable homes.
11. American society continues to be unable to respond to the challenge of providing adequate health care for its citizens.

***Emerging Issue:***

Alternative energy industries will prosper if Washington State supports effective Economic Development incentives.

**POLITICAL TRENDS**

1. Projected demographic changes in the period 2005-2009 will require higher education to compete for government resources requested for corrections, medical assistance, long-term care and K-12 education.
2. Increasing public awareness and urgency around environmental conservation and stewardship will have an impact on government regulation, business decisions and consumer choices, especially choices in energy, fuel and organic foods.
3. Continued union disaffiliation will change organized labor's large political influence in Washington State which will also weaken what has historically been a strong partner for community colleges across the state.
4. Health care provision and funding will continue to be a major focus of policy makers.
5. Increasing social and economic barriers will restrict access to and from Washington State of all transportation, goods, services and citizens.

## **SOCIAL, VALUES, AND LIFESTYLES TRENDS**

1. Internet overuse (i.e., excessive use of chat rooms, web surfing, instant messaging, gaming, gambling, etc.) is expected to increase over the next 3-5 years, affecting one's ability to successfully manage one's life.
2. From 1999-2004, roughly 35% of recently completing high school students in Washington State did not continue into higher education and this percentage is expected to remain stable over the next 3-5 years.
3. Consumers will continue over the next 3-5 years to expect more for less when purchasing goods and services (e.g., minimal defects, large variety, timely delivery/availability, and prompt follow-up and support services).
4. The number and restrictive nature of the *Ballot Initiatives* being submitted in Washington State will remain high over the next 3-5 years, suggesting that low level of trust for Washington State government will continue.
5. The number of children who at one point in their childhood will live in a single parent family household (currently = 19%) will continue to increase over the next 3-5 years.
6. In the next 3-5 years, the number of individuals working during their retirement years will increase.
7. Over the next 3-5 years, the number of children raised in the foster care system, emerging from that system without independent living skills and the ability to cope with the demands presented by organizations like higher-education institutions is expected to increase.
8. Generation Y (born between 1981 and 1995) members' learning preferences include emphasizing teamwork, experiential activities, structure, and use of technology. The number of Gen Y students will increase over the next 3-5 years.
9. Over the next 3-5 years, more people will become mini-entrepreneurs by starting small and micro businesses, becoming freelancers, starting web-businesses, blogs, and other types of small, entrepreneurial enterprises.
10. Washington State leads the US in terms of the percentage of people who say they have no religion (although many believe in a god) and this trend is expected to continue over the next 3-5 years.
11. Over the next 3-5 years, participation in new forms of voluntary associations online will increase rapidly, i.e., e-communities.
12. Crimes rates overall are declining and will continue to decline over the next 3-5 years.
13. Incarceration rates will continue to rise over the next 3-5 years in Washington State.
14. Due to changes in policy, drug crimes are increasingly being handled in drug court where the corrective-behavior plan involves intervention from the health care system rather than the criminal justice system. This is expected to increase over the next 3-5 years.
15. Obesity is pervasive in society and the level of obesity will increase over the next 3-5 years.
16. Beginning in 2000, three unique generations in the workplace and community and technical college system are present. Each generation has very unique values, expectations, wants, needs, desires, etc. and these may clash in the workplace and classroom. This trend will continue over the next 3-5 years.

## **DEMOGRAPHIC TRENDS**

1. Between 2005 and 2010, the number of poor people in Washington State is projected to exponentially increase to more than 20% of the population or 1,329,963 people.
2. Between 2005 and 2030, the demand for health care and related services, especially geriatrics, will increase and the costs for these services will continue to rise dramatically.
3. Population in the state of Washington will continue to rise 100,000 a year between 2005 and 2010 when the population is projected to reach 6,639,000. From 2010-2030 it is expected to slow to a 1.2 percent growth or approximately 75,000 per year.
4. Between 2005 and 2030, the Washington State population, especially those under 25 years of age, will become increasingly more diverse and the largest increases in ethnic groups will be Hispanics (242,863 to 487,703), those of two or more races (100,769 to 240,281), and Asian/Pacific Islanders (129,988 to 171,598).
5. Between 2000 and 2010, the growth in the number of households in the state of Washington will grow proportionally to the increase in the general population, and will not evidence significant increases or decreases.

## **EDUCATIONAL COMPETITION TRENDS**

1. Four year institutions will continue to be a key competitor with community and technical colleges.
2. Community and technical colleges are becoming more vulnerable to competition from for-profit institutions.
3. Corporations do not recognize community and technical colleges as a preferred source for training.
4. Online training and education continues to expand rapidly.
5. Colleges are spending more resources and time on transitional and developmental education rather than advancing workforce skills which ultimately compromises achievement of economic development goals.
6. Military students with their rich tuition dollars will be a target of opportunity for postsecondary training and education providers, including private career schools.

## **EDUCATION TRENDS**

1. Employers' demand for highly educated employees, with certifications and college degrees, will continue to increase through 2012.
2. A widening gap will continue to exist between low literacy and non-native speaking workers entering our system and the level of skills required by our employers.
3. As more students enter community and technical colleges with a technology-enriched background, the need for and expectation of technology-enhanced learning experiences will increase.
4. There is a continuing disparity among K-12 student racial/ethnic groups in academic achievement levels and the disparity will continue into the near future.
5. There is an increased emphasis on high expectations and accountability in K-12 public education.
6. Government and philanthropic interests are increasing their attention to and support for pre-K/early learning.
7. Student education costs are increasing faster than inflation.

8. There is an increasing gap between the demand for math, science and engineering employees and the ability of the Washington State's educational system to produce math, science and engineering graduates.
9. There is a continuing disparity among postsecondary racial and ethnic groups in measures of student outcomes, such as certificates and degrees awarded, which is not expected to improve in the near future.
10. There is increasing attention to accountability in post-secondary education.

### **LABOR FORCE TRENDS**

1. There will continue to be an across-the-board supply-demand gap for workers who have attained at least one year of college but less than bachelor's degree.
2. There is a supply-demand mismatch for workers at the long preparation level (Bachelor's or higher) as described below:
  - Shortage in Engineering, Software, Architecture, Computer Science, Medical, Human Services, and Protective Services.
  - Balanced in Research, Scientists, and Technical.
  - Surplus in Educators, Business and Management, Editors, Writers, Performers, Administrative, Clerical, Legal, Agriculture, Construction (management), Production, Transportation, Sales and Service.
3. While some work will be "off-shored" to other countries for cost savings, other work that is sensitive to customer satisfaction and requires other necessary factors, will remain in or return to the U.S.
4. Between 2002 and 2012 it is expected that 25% of new jobs will require a bachelor's degree and 38% of new jobs will require short-term preparation, some college, or an associate's degree.
5. Occupational groups expecting greatest employment growth for workers with 1-3 years of college in the next five years are:
  - Health care practitioners and support; 8%
  - Personal service workers and managers; 8%
  - Computer engineers, programmers, and support; 13%.
6. Through 2030 the Washington labor force will have greater participation by older workers, people of color, women, and people with disabilities.
7. The new workforce is requiring more education, different skill sets, and presents new challenges.
8. Some worker groups (e.g. people with disabilities, youth in their 20's, African American men) are not fully participating in the current labor force.
9. During the period of 2000-2010, the state labor force will grow at a projected rate of 1.5% reflecting a slower growth rate than in the past.

## **ENVIRONMENTAL SCANNING TREND STATEMENTS WITH SUPPORTING DOCUMENTATION**

### **TECHNOLOGY TRENDS**

1. Open Sourcing of computer software will lead to increasing levels of shared programming and on-going improvements.
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3. The rapid development and demand for wireless multi-tasked compact personal life-style communication devices, providing connectivity services 24X7X365 world-wide, will continue to accelerate academic, economic and technological challenges as well as opportunities, for educating our workforce in a highly competitive global marketplace.
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#### **TREND 1:**

**Open Sourcing of computer software will lead to increasing levels of shared programming and on-going improvements.**

Example: Open Office.org, is an open source office suite similar to MS Office. It is free and includes the following applications: word processor, spreadsheet, multimedia presentation, drawing, and database. This could benefit individuals and organizations in that all versions of MS Office cost hundreds of dollars.

## **RATIONALE:**

- Firefox Scholar is a free, open source, browser-based software to help users organize and cite online materials
- Open sourcing refers to software that is shared, constantly improved by its users, and made available to anyone at no charge. In return, every user who develops an improvement is encouraged to make that improvement available to all other users at no charge.
- Open Access Publishing is a growing phenomenon, providing access to free, full-text, scientific and scholarly journals worldwide.
- Open source software will provide greater freedom to innovate, improve and to generally have greater autonomy, open source will enhance the ability for complementary skills to come together via internet and build communities and entrepreneurial groups to fill more specific niches.

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## **TREND 2:**

**Computer search engines will shift from retrospective (information that is presently available) to prospective (information that is not presently available) search and will impact our future online experience.**

Clarification: Search engines will be able to look for future information on a given subject. Future online experiences will shift from one of browsing to seeking out notification services. Individuals and organizations will subscribe to notification services for the purpose of monitoring, extracting and collecting current and emerging information relevant to the subscribers topic of interest.

## **RATIONALE:**

- Next generation web search engines will impact our future online experience.
- Google is changing the business model for internet search engines as the battle heats up for market share.
- Digital technology is unleashing new capabilities at a staggering pace and business models and behavior models are evolving faster than ever before.
- Mathematical modeling of humanity promises to be one of the great undertakings of the 21<sup>st</sup> century.
- The Web and mobile devices are continuing to evolve as social media tools that allow people to share knowledge and post ideas via the Internet.
- Implicit information will become explicit.

- Extensions of the body will be the new interface from wearable map readers to unobtrusive head-mounted displays and eventually neural implants.
- The landscape will become alert and aware.
- Electronic searchable index for books. Google plans to scan books in order to create searchable indexes.
- Books digitally scanned-electronic copies of texts. Traditional paper texts are not required.
- Search technology, “search is the gateway to everything”, will combine with artificial intelligence to learn as it searches and be able to provide user-specific answers on hand-held devices.

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### **TREND 3:**

**The rapid development and demand for wireless multi-tasked compact personal life-style communication devices, providing connectivity services 24X7X365 world-wide, will continue to accelerate academic, economic and technological challenges as well as opportunities, for educating our workforce in a highly competitive global marketplace.**

### **RATIONALE:**

- Mapping technology and an increasing availability of databases of place combine to create new applications for public use.
- IT solutions are increasingly infused into the consumer market.
- Phone service is moving to becoming internet based.
- Voice and data access is available simultaneously via cell phone.
- Radio frequency identification devices (RFID) are introduced to business schools.
- Cell phones are being used as hand held kiosks.
- Cell phones are the ideal platform for computer-aided learning.
- As voice, data and media technologies merge e-mail will become yesterday’s technology and instant messaging (IMing) will surpass e-mail by next year.
- Text messaging between cell phones is growing rapidly.
- Pocket PC’s combining cell phones and high-end PDA devices will include alternative communication choices, GPS and internet access
- Collective intelligence (i.e. Wiki as an information source, Wikipedia is the 26<sup>th</sup> busiest internet site) provides a free online encyclopedia in over 100 native languages, with articles written by users not experts.
- Voice over Internet (VoIP) protocol is growing as the distinction between local and long distance is blurring.
- Technology is leading to an increase in telecommuting as people working from home now outnumber mass transit commuters in 27 on the nation’s largest metropolitan centers.
- Student use iPods to access notes, guides, context plot overviews, summaries, analysis, theme, motive, key facts, and quizzes on classics like Hamlet, available 24 X 7X 365.
- Medicine recognizes vital role of technology with the Wired for Technology Health Care Quality Act.
- Tero provides multiple capabilities on a hand-held device.

- As wireless becomes a viable option to fiber the distinction between wireless handsets (cell phones) and other lifestyle devices is blurring.
- Digital notes, guides for academic texts, are available on iPods.
- Simultaneous real-time translations into a variety of languages is available as researchers have switched to using statistical analysis rather than computer languages, mapping one word to another utilizing the increases in computing speed, power and databases.

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#### **TREND 4:**

**Amidst the ever-changing and rapid advancements in technology the ability of institutions to pay will remain a critical and constant challenge.**

#### **RATIONALE:**

- The initial development of an online program will result in economic challenge for educational institutions, but if they continue to expand and offer online courses, the funds expended in the first three years will be recaptured within the next three years.
- The use of technology in healthcare education is growing as is the funding to support it.
- Baby boomers are worth one trillion dollars and are driving and supporting technological changes.
- The high cost of technology limits the number of courses and programs that can be offered, especially in courses and programs that rely heavily on equipment.

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#### **TREND 5:**

**Organizations will be increasingly challenged to adopt and adapt to technological advances in three primary areas: development/training demand; information technology roles and hiring; and in the general field of information technology.**

#### *Three areas of consideration*

- 1) Development/Training/Demand
- 2) Information Technology Roles and Hiring
- 3) General

#### **RATIONALE:**

##### **Development/Training/Demand**

- There is a huge gap between the number of Computer Science degrees granted and the number of IT jobs in the U.S.
- The proportion of women declaring a computer science major is at a historic low. . More than 80% of IT workforce in the U.S., of which 96% are foreign born, now have a bachelor’s or higher degree, compared to 55% in 1985.
- More than 50% of IT workforce in the U.S. in now above 35 years of age.

- The ratio of white-collar to blue-collar jobs is predicted to shift from 1:2 in the year 2000 to 3:1 by the year 2010
- U.S. needs to attract greater numbers of people to IT and computer science training and education.
- Outsourcing is used to obtain the top IT talent.
- Adopt a proactive approach to attract “passive” candidates that are not necessarily seeking new employment.
- Microsoft in Redmond, Washington will spend \$1 Billion in the next three years to expand their Redmond campus by 1/3 and create 12,000-20,000 new jobs. This may make it the largest industrial site in the world.
- Declining enrollment in traditional computer science and computer engineering courses is significant nationwide with the drop beginning in 2003.
- Discipline areas such as IT and eBusiness technology advance so rapidly that developing student skills adequate to industry demands becomes a moving target.
- Electronic Data Systems Corporation started a retraining program for 20,000 of their 80,000 employees to update their business and technology skills (\$35 million training budget).
- Keeping skills updated is probably the biggest challenge that both IT technicians and managers face.
- 11% of the nation’s 3.4 million IT professionals will retire in the next ten years.
- There is an international demand for IT professionals in health care.
- Educators and IT executives warn of a looming crisis in the IT job market. U.S. is not producing IT experts in the quantity and quality to remain a leader of the global IT market.
- Students are seeking business degrees rather than technical degrees in graduate school as they fear that without business qualification their jobs would be outsourced.
- Identifying success criteria for computer programmers can help improve training and development programs in academic and industrial settings.
- There is an ongoing need to provide retraining opportunities to IT professionals.
- The rapid evolution of technology makes it difficult to pinpoint “the next big thing.”
- The outlook for IT employment appears to be promising with several categories of IT jobs currently facing shortages of qualified workers. This shortage of qualified workers expected to get worse over the next 5-7 years. IT certification makes an individual more marketable.
- IT salaries will continue to increase.
- Enrollment in IT programs at universities is down.
- Baby boomers are retiring from IT positions.
- Open positions cannot be filled. Students are staying away because of the following IT myths: (1) no jobs in IT since dot.com bust and (2) jobs being sent offshore (less than 2% of IT jobs are being outsourced off shore).
- The Washington State Community and Technical College System is responsive. When high tech workers are needed the colleges created information technology programs. We must continue to meet the need.
- The U.S. could be left high and dry when it comes to technology innovation which, in turn, could sap our economic vitality.

- In reviewing the past eight issues of the Chronicle of Higher Education there are 66 faculty positions in computer science and related areas open.

### **Information Technology Roles and Hiring**

- Thousands of seasoned IT professionals have faced career upheavals or could in the near future. Their younger counterparts are concerned with offshore outsourcing, corporate downsizing and ever changing technologies (e.g. why would anyone want to get involved in this type of work?).
- The biggest mistake hiring IT professionals is using a checklist as opposed to hiring someone who can adapt their knowledge to products at hand and hiring for the future instead of the present.
- Most crucial part of IT interview is determining if the candidate has actually performed the work claimed on their resume.
- Linux certification is the preferred background and knowledge for IT workers.
- Hiring will heat up this year driven by small but consistent gains in IT budgets.
- IT executives will be hiring for skills in (1) application development; (2) information security skills; (3) project management; and (4) help desk skills.
- Technology is moving from direct IT industries into “technology-enable” industries such as healthcare, government, insurance, banking and e-commerce. This leads company executives looking for a different kind of IT worker. Corporations need accountants, marketers, business, operations and manufacturing staffers who are infused with computer skills. It is increasing difficult to find IT people with “hot skills” such as those listed above.
- EJ Gallo Winery is an example of a company looking for people who are not pure IT or business staffers. They are looking for a mix of skills for positions such as business analysts.
- It is important to extract understanding of business processes before boomers leave the workplace (peak retirement will be in 2015). This is invaluable for every major IT project in the future.
- What do IT professionals actually do for a living? The evolving IT workplace lacks an adequate vocabulary to describe its work in a world that is totally different from what most of us understand.

### **General**

- Rumors of IT’s death are greatly exaggerated because we are increasingly reliant on technology in new uses such as digital home and in small businesses devices that drive continued demand for on-premise technical skills in areas like installation, network support, security and server management (e.g. Geek Squad).
- Virtually every hospital, clinic, physician’s office, or health care provider will in some way utilize information technology solutions in the coming years. Healthcare workers will need informatics to assist with the implementation, use and success of their office systems.
- Many IT employees flee current position after 3-5 years resulting in a net annual income profit loss of 9 percent. This turnover rate may be because of lack of organizational loyalty, trust, lack of leadership, open communication and lack of keeping up with technology.
- PC and Internet revelations have been about moving information closer to decision makers.

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#### **TREND 6:**

**Demands for high speed and broad band use of the Internet will be ever increasing.**

#### **RATIONALE:**

- For the first time ever in a real world environment Pacific Northwest Gigapop (PNWGP) and its strategic partners have brought together more than one-half terabit per second (i.e. 500 gigabits per second) of bandwidth in deploying SCinet, the very high performance network built to support Supercomputing 2005 (SC/05) in Seattle. The network is provisioned through multiple dark fiber strands brought by the University of Washington from the convention center to the major telecommunications facilities in the city.
- Internet2 provides a unique approach to connecting researchers across the U.S. through flexible, high performance optical network capabilities serving diverse communities of computational scientists, systems researchers and networking researchers.
- A third way of doing science has emerged: computational science, complementing theoretical and experimental techniques. For example, “Cyberinfrastructure” refers to a broad web of supercomputers, vast data servers, sensors and sensor nets, and simulation and visualization tools, all connected by high speed networks to create computational science tools far more powerful than anything we have known in the past.
- Internet protocol TV (IPTV) delivers video streams to home computers bypassing traditional cable and satellite.
- Library of Congress joined Internet2 to utilize high performance network for digital preservation and educational outreach.

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#### **TREND 7:**

**Integrating technology, especially radio frequency identification (RFID), into business organizations will largely determine their prosperity and their ability to survive in a competitive international marketplace.**

#### **RATIONALE:**

- Frequency Identification (RFID) is transforming large tasks to small ones. As such, RFID technology should save time and money on routine inspections from hours to minutes. For example, the technology allows a pallet of boxes bearing RFID chips to pass through a warehouse reader to instantly reveal content information.
- Security for RFID is a major issue
- Impinj, a Seattle-based chip maker, secured \$26.5 million in December 2005 to use RFID technology (expects to ship hundreds of millions of chips in 2006).
- Market researcher Gartner estimates that \$504 million to be spent worldwide in 2006, \$3 billion by 2010.
- RFID’s have potential to affect global supply chains and will give retailers the ability to achieve just-in-time efficiencies similar to those of Toyota Motor Corp., Dell, Inc. and WalMart. RFID benefits include streamlined shipping, receiving, forecasting, invoicing and inventory management.
- RFID’s on a retailer shelves can sense when a product is low or out and automatically notify the retailer, the distributor and even the manufacturer of product needs.
- Adopting RFID technology will require closer working agreements and sharing of information technology between RFID researchers, market producers, and users.
- As of November 14, 2005 the Department of Defense required that some suppliers attach RFID to shipments to two supply depots in Pennsylvania and California.
- The basis for outsourcing is digitized information and connectivity afforded by fiber optic cable. For example, General Electric was the outsourcing pioneer in the late 80’s and early 90’s.
- Dot-com bust sent many highly skilled engineers back to India. India now has a large, skilled and relatively inexpensive workforce plus connectivity of fiber optics.
- The success of outsourcing relies upon inexpensive, highly skilled talent and connectivity. Companies found that they could go to MIT and find four qualified Chinese engineers ready to return to China and work for the same amount that it would cost U.S. companies to hire one engineer in America.

- Technology has allowed companies to upgrade their performance while lowering their costs, providing a practical incentive for business to invest in and implement technology in order to increase, or maintain, profits. 77 million baby boomers worth \$1 trillion are driving and supporting technological changes
- Government is financially supporting technological advances.
- The industrial classification system has created, for the first time, an information sector.
- Supercomputing grids are linking many computers together to answer difficult questions and to create incredibly fast processes.

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#### **TREND 8:**

**The fields of robotics, nanotechnology and biotechnology (with nanotechnology superseding biotechnology) are in their infancy and will continue to impact those producing, using and affected by these rapidly evolving technologies.**

#### **RATIONALE:**

- Biotechnology is the use of microorganisms (i.e. bacteria, yeasts, enzymes) to perform specific industrial or manufacturing processes. Biotechnology applications include production of certain drugs, synthetic hormones, bulk foodstuffs as well as

the bioconversion of organic waste (i.e. genetically altered bacteria in the cleanup of oil spills).

- Engineering turns biotechnology into nanotechnology when the matter involved is small enough.
- Biometrics will be incorporated into multiple arenas, both specialized and routine-travel, financial services, healthcare, retail, legal services, industrial manufacturing, government and military.
- Seattle has made a name for itself as a center for biotech research, courtesy of two behemoth nonprofits, the University of Washington and the Fred Hutchinson Cancer Research Center.
- Washington State has a huge array of small biotech companies in the Puget Sound region.
- It appears that nanotechnology is ubiquitous and covers areas such as electronics, microsystems, life sciences, medicine and materials technology. Nanometers are one-millionth of a meter and this is the unit of work. Nanotechnology manipulates atoms and molecules in a precise and controlled manner.
- The key to realizing nanotechnology's potential is still the ability to assemble and manufacture nano-scale devices, structures with dimensions smaller than 100nm
- Nanofabrication promises an unprecedented era of innovation across multiple disciplines and diverse applications.
- The University of Washington is poised to do for nanotechnology and genetic engineering what it has done for biotechnology, especially in the arena of separating cells into their fundamental components to rebuild new organisms.
- Nanomedicine is the medical application of molecular nanotechnology (MNT).
- MNT is a developing science dedicated to constructing microscopic biomechanical devices like nanomachines and nanorobots.
- Nanorobots programmed for specific biological tasks and injected into the blood to work at the cellular level to repair tissue, clean arteries, attack cancer cells and viruses and even reverse the aging process.
- Robotic-assisted minimally invasive surgery vastly expands laparoscopic capabilities by allowing surgeons to view the operating field in 3-D using a tiny camera to manipulate instruments precisely, providing a 360 degree range of motion.
- Optoelectrical devices used in optical networks would be less expensive, faster and integrate better with silicone based materials by use germanium in their manufacture instead of exotic materials.
- Photonics is the study or application of electromagnetic energy whose basis is the photon, incorporating optics, laser technology, electrical engineering, materials science and information storage and processing.

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#### **TREND 9:**

**Protecting information from “hacker” attacks in a culture of open access will continue to be a challenge for business, government and schools across the nation and around the world.**

## **RATIONALE:**

- Breaches of computer security will continue to take place at businesses, governmental agencies, and schools across the nation and around the world.
- Information security on college campuses will continue to face challenges of protecting information in a culture of open access to knowledge and information.
- Several universities and other facilities are using biometric scanners in place of, or in conjunction with ID cards for students and employees to gain access to special/secure areas and equipment.
- The demand for information security professionals will increase over the next five years at the same time that information security professionals are moving into the management hierarchy and into the boardroom with no signs that this function will be outsourced.
- College and university officials identify network and data security as the single most important IT issue affecting institutions over the next three years, 67% report hacker attacks on their campus networks.

## **RESOURCES:**

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#### **TREND 10:**

**Technology is the impetus for on-going institutional change with respect to the delivery of educational services, driven by the respective needs of students, business, industry and the community.**

#### **RATIONALE:**

- We will see continued growth in delivery of education using technology.
- Software designed to assist students is occurring through the use of virtual tutors complete with people and their gestures and voice inflection.
- Geospatial technologies including GPS, GIS, and LBS are being used in commercial and consumer markets
- Learners will be using tools developed with universal design for learning (UDL) guidelines according to Web Accessibility Initiative.
- A \$8.8 million grant from Pew Charitable Trusts was used to test the hypothesis that online teaching has “not yet begun to realize the promise of technology to improve the quality of student learning and reduce the cost of instruction
- Cell phones are the ideal platform for computer-aided learning and will be used as hand-held kiosks.
- Lifelong learning is becoming a competitive necessity with distance education as the tool of choice.
- The Net Generation has grown up with information technology. Their aptitudes, attitudes, expectations and learning styles reflect the environment in which they were raised: one that is decidedly different from that which existed when faculty and administrators were growing up.
- Podcasting will deliver audio recordings to students at their request. The mobility and ease of using podcasts can expand student opportunities for anywhere/anytime learning.

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### **ECONOMIC TRENDS**

1. The gap between the wealthy and those at the middle and bottom levels of wealth will continue growing nationally and in Washington.
2. Present and future employment growth in Washington will remain concentrated in the service sectors including health care, business and professional services, and high-tech.
3. Many construction trade occupations, agricultural jobs, and some manufacturing-related positions (i.e., luxury boat building, food processing, winery operations, pulp/paper/chemicals, and diversified aerospace) will require increased personnel for projected labor shortages.
4. The Internet and new and emerging wireless technologies will have a major effect on Washington’s economic infrastructure in manufacturing, service delivery and consumption because expected response time is shorter, operations may become more efficient, and communications are virtually instantaneous.
5. In the future, there will be less of a national competitive economy and more of a global competitive economy composed of regional economies like those of Spokane, Puget Sound, and Southwestern Washington.
6. With Washington’s economy projected to stay strong, the shift toward service occupations and high-tech manufacturing with high skill requirements is expected to continue.
7. Washington’s unemployment rate will continue to be an average of 1% higher than the national average due to: (1) aerospace employment lagging compared to the national business cycle, (2) seasonal nature of state’s agricultural sector, and (3) high rural unemployment rates, including traditionally timber-dependent areas.
8. Washington will continue leading the nation in new business creation, while increasingly heavy venture capital investment in the state may help mitigate the state’s historically high ranking in firm terminations.
9. The importance of information is driving the flattening of organizational structures where subject matter expertise is increasingly essential and this flattening is expected to increase in the future.
10. Housing density will increase in urban centers, but not necessarily provide affordable homes.
11. American society continues to be unable to respond to the challenge of providing adequate health care for its citizens.

***Emerging Issue:***

**Alternative energy industries will prosper if Washington State supports effective Economic Development incentives.**

**TREND 1:**

**The gap between the wealthy and those at the middle and bottom levels of wealth will continue growing nationally and in Washington.**

**RATIONALE:**

- Personal and national debt are becoming an increasing structural concern for the economy.
- The high rate of financial/ economic illiteracy among adults in the U.S. is negatively affecting economic prosperity.
- There are more people looking for work than there are job openings that pay a living wage; 32% of all job openings pay less than the \$10.77/hour living wage for a single adult in Washington; 77% pay less than the \$22.35/hour living wage for a single adult with two children.
- The living wage has risen between 2002 and 2004 in every state in the Northwest. This can be attributed to rising costs for food, transportation, housing and utilities, health care, and child care.
- Health care costs explain much of the increase in the living wage over the past three years.
- When families are unable to earn a living wage, many are forced to make difficult choices between adequate health care, balanced nutrition, and paying the bills.
- The gap between the highest paid 10% of jobs and the lowest paid percent continued to widen in 2003.
- The gap between rural counties and urban counties may increase the problems of poverty and under-employment in rural areas served by community colleges.

**RESOURCES:**

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- *Preliminary Trends for the Economic Development Study and Environmental Scan* (Carolyn Cummings, SBCTC January 2006).
- *2004 WA State Labor Market and Economic Report* (ESD website Workforce Explorer).

**TREND 2:**

**Present and future employment growth in Washington will remain concentrated in the service sectors including health care, business and professional services, and high-tech.**

### **RATIONALE:**

- Job markets will continue to improve particularly in the service sector.
- Energy prices are a big risk to consumer and business spending. Manufacturing, transportation and agriculture sectors are greatly impacted.
- Inflation is still in check so job growth continues to improve.
- The economy is stable and improving. This allows businesses the opportunity to expand and create new jobs. Two major risks to an improved economy are increasing energy prices and a “bust” in the housing market. A minor risk is inflation.
- Total compensation, rather than wages alone, is becoming more important to job selection and retention.

### **RESOURCES:**

- *Washington State Economic Symposium Proceedings and notes taken (attended by 5 Economy Team members 11/30/05).*
- *Preliminary Trends for the Economic Development Study and Environmental Scan (per comm.. Carolyn Cummings, SBCTC January 2006).*
- *Washington Employment Security Department, Labor Market and Economic Analysis (Workforce Explorer website 9/23/2005)*
- *2004 Long-term Economic and Labor Forecast, Office of Forecast Council, Community, Trade, and Economic Development (website 9/23/2005).*

### **TREND 3:**

**Many construction trade occupations, agricultural jobs, and some manufacturing-related positions (i.e., luxury boat building, food processing, winery operations, pulp/paper/chemicals, and diversified aerospace) will require increased personnel for projected labor shortages.**

### **RATIONALE:**

- Manufacturing will remain a very important part of Washington State’s economy.
- Manufacturing and government sectors showed a decline from 2000 – 2005. The 2005 –2010 expected increases do not make up for the 2000-2005 losses.
- Food processing is stable through 2010.
- Construction employment is predicted to increase through 2007.
- There will be a decline in aerospace.
- More than 80% of manufacturers surveyed are experiencing an overall shortage of qualified workers that cuts across industry sectors.
- Ninety percent of manufacturers report a moderate to severe shortage of qualified skilled production employees including machinists, operators, craft workers, distributors, and technicians.
- Sixty-five percent of manufacturers report a deficiency in engineers and scientists.
- An additional challenge to manufacturing employers is that current employees have poor skill levels; 46% employers report that employees have inadequate

- problem solving skills and more than 33% cited insufficient reading, writing, and communications skills in the workplace.
- Eighty-three percent of employers report currently having difficulties meeting customer demands, with more than 50% reporting trouble achieving necessary production levels, 43% report difficulties increasing productivity due to an inadequately skilled workforce.
  - Three out of four manufacturers surveyed believe that a high performance workforce is the most important driver of future business success.

**RESOURCES:**

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- *2005 Skills Gap Report – A Survey of the American Manufacturing Workforce* (Deloitte Consulting 2005).

**TREND 4:**

*The Internet and new and emerging wireless technologies will have a major effect on Washington’s economic infrastructure in manufacturing, service delivery and consumption because expected response time is shorter, operations may become more efficient, and communications are virtually instantaneous.*

**RATIONALE:**

- Time is becoming the world’s most precious commodity.
- VOIP is going to revolutionize the telecommunications industry.
- Digital, mobile, personal, and virtual technologies that make standard computing technology faster and more accessible further integrate technology into our personal and business lives regardless of where we live or travel on the planet.
- Collaboration comes in multiple forms these days through technology in real time without regard for geography, distance, or even language.

**RESOURCES:**

- *The World is Flat: A Brief History of the Twenty-first Century* by Thomas Friedman (hard copy under trend 5).
- *As Tech Centers Go, Seattle is competing well*, Seattle Post-Intelligencer by John Cook, September 16, 2005.

- *Future of Suburban Life in American: Three Scenarios* , Futurist News, Futurist.com by Michael Vassar, January 2004.
- *Wireless Nonstop*, *Technology Review*, by TR Staff, August 2005.
- *One Decision: UPS Goes Bluetooth*, *Technology Review*, by Tom Mashberg, June 2005.
- *The Willing Partner*, *Technology Review*, by Alex Frankel, July 2005.
- *The Internet is Broken*, *Technology Review*, By David Talbot, December 2005.
- *It Slices, Dices, E-mails*, *Technology Review*, Lamont Woods, February 2006.
- *Faster than Fiber*, *Technology Review*, Kate Greene, February 2006.

#### **TREND 5:**

**In the future, there will be less of a national competitive economy and more of a global competitive economy composed of regional economies like those of Spokane, Puget Sound, and Southwestern Washington.**

#### **RATIONALE:**

- The global economy is growing more integrated, with the fastest growing economies in China, India and former Soviet Union states.
- Services are the fastest growing segment of the global, national and Washington State economies.
- There is a high unemployment rate among youth. Only 68% of 9<sup>th</sup> graders graduate from high school, meaning fewer skilled workers enter the workplace today. Eighty percent of employers are reporting a serious shortage of skilled workers to meet their demands. The crisis stems not from a shortage of jobs, but a shortage of talent.
- The human capital performance gaps threaten American's ability to compete in today's fast-paced and increasingly demanding global economy.

#### **RESOURCES:**

- *Starbucks Bets on a China Expansion* NPR Radio Broadcast 11/9/05.
- *Threat, and Promise in China's Software Industry* NPR Radio Broadcast 11/8/05.
- *The World is Flat: A Brief History of the Twenty-first Century* by Thomas Friedman.
- Changes in China pose promise, peril for Washington State (Kristi Heim, The Seattle Times).
- *The China Price* (Pete Engardio et al., Business Week).
- *Does it Matter If China Catches up to the U.S.* (Michael Mandel, Business Week.)
- *Shaking up Trade Theory* (Aaron Bernstein, Business Week).
- *How to Level the Playing Field* (Paul Magnusson, Business Week).
- *Psst! Human Capital* (David Brooks, Op-Ed Columnist).
- *China is the financial nexus* (Paul Krugman, Paul Krugman Website).
- *What India and China can Teach us about Innovation* (John Hagel III, John Seely Brown, Optimize).

- *The knowledge Economy: Is the United States Losing It's Competitive Edge?* (The Report of the Task Force on the Future of the American Innovation).
- *Gov Christine Gregoire announces Industry Skill panel grant awards to keep Washington Workers Globally Competitive* (11/30/05 Office of the Governor Communication Office).
- *Governor Christine Gregoire's Trade Mission to Japan and China Sept 17-27, 2005 Overview of the Mission* (11/3/05).  
WWW.GOVERNOR.WA.GOV/ACTIONS/TRADE/2005ASIA)
- *WDI Focuses on Meeting Needs of Changing Economy* (AACC, Community College Times 2/15/05).

#### **TREND 6:**

**With Washington's economy projected to stay strong, the shift toward service occupations and high-tech manufacturing with high skill requirements is expected to continue.**

#### **RATIONALE:**

- The goal of most Americans – a well paying job – will be increasingly linked to adequate training in the coming years.
- Community Colleges and Technical Schools are playing an important role in helping build and sustain the US workforce.
- Washington's overall economy has shifted toward services and away from traditional areas of manufacturing, natural resources and agriculture. As the economy improves, occupational demand in industry sectors is evident in health care, software/information technology, and engineering (high end manufacturing).
- Well-paying jobs increasingly require applied higher education skills development.

#### **RESOURCES:**

- *Preliminary Trends for the Economic Development Study and Environmental Scan* (per comm.. Carolyn Cummings, SBCTC January 2006).
- *Washington Employment Security Department, Labor Market and Economic Analysis* (website 9/23/2005).
- *2004 Long-term Economic and Labor Forecast*, Office of Forecast Council, Community, Trade, and Economic Development (website 9/23/2005).
- *US General Accounting Office Report to the Chairman and Committee on Health, Education, Labor and Pensions.*
- *Public Community Colleges and Technical Schools: Most Schools Use both Credit and Noncredit Programs for Workforce Development* (October, 2004 AACC).
- *Washington Economic and Revenue Forecast*, February 2006, Economic and Revenue Forecast Council.
- *Washington State Job Vacancy Survey*, January 2006, Employment Security Department.

- *Washington State Employment Situation Report for February, March 2006*, Employment Security Department.

#### **TREND 7:**

**Washington’s unemployment rate will continue to be an average of 1% higher than the national average due to: (1) aerospace employment lagging compared to the national business cycle, (2) seasonal nature of state’s agricultural sector, and (3) high rural unemployment rates, including traditionally timber-dependent areas.**

#### **RATIONALE:**

- The unemployment rate in Washington has been about 2 to 4 percent above the U.S. rate during most economic downturns, but closer to the U.S. rate during recoveries and expansions.
- Persistent gaps between the U.S. and Washington unemployment rates reflect past high concentration of seasonal job jobs in the state.
- The WA state economy experienced strong growth in the second half of the 1990s leading to a state unemployment rate below 5%.
- Between 2003 and 2029 the state unemployment rate is forecasted to gradually decline from 7.2 % to below 5%.

#### **RESOURCES:**

- *Preliminary Trends for the Economic Development Study and Environmental Scan* (per comm.. Carolyn Cummings, SBCTC January 2006).
- *Washington Employment Security Department, Labor Market and Economic Analysis* (website 9/23/2005).
- *2004 Long-term Economic and Labor Forecast, Office of Forecast Council, Community, Trade, and Economic Development* (website 9/23/2005).
- *Washington State Occupational Outlook 2002-2012*, Bureau of Labor Statistics, 2005.
- *Occupational Employment by Industry for Year 2002-2012*, Washington Labor Market and Economic Analysis Branch, Employment Security Division, 2005.

#### **TREND 8:**

**Washington will continue leading the nation in new business creation, while increasingly heavy venture capital investment in the state may help mitigate the state’s historically high ranking in firm terminations.**

#### **RATIONALE:**

- Washington State ranked in the top three states for both the rate of firm formations and the rate of firm terminations in the past four years for which data is available, 2000-2003.

- Extremely high growth rates for venture capital investment landed Washington in the top 5 for the first time in 2005. High growth is expected to continue in startup biotechnology, software and consumer product companies.
- Venture capital investment in startup and early stage businesses in Washington is lower than in peer regions.
- Tax structure and lack of workforce training support in WA have been historical deterrents to attracting new business.
- Births and deaths are related to merging of businesses, which can be difficult to quantify and may have an impact on firm formation and termination rates.
- Better resources are needed to support emerging businesses including training dollars, incubators, and consulting. Higher percentage of investment in startup and early stage businesses may also be needed.
- Small business makes up a significant portion of the state's economy.
- Manufacturing remains a very important part of Washington's economy.

#### **RESOURCES:**

- *Preliminary Trends for the Economic Development Study and Environmental Scan* (Carolyn Cummings, SBCTC January 2006).
- *Washington State Economic Symposium Proceedings and notes taken (attended by 5 Economy Team members 11/30/05).*
- *Venture Capital Fundraising rises in IQ*, Associated Press, April 17, 2006.
- *Private Equity Fundraising Maintained Strong Momentum in First Quarter of 2006*, April 17, 2006, PRNewswire—FirstCall ([www.prnewswire.com](http://www.prnewswire.com)).
- *Venture Capital: State ranked in top 5 in venture funding for 2004*, Seattle Post Intelligencer, January 21, 2005.
- *Employer Firm Formation and Termination Rates for U.S. and States: 2000-2003*, U.S. Small Business Administration and Iowa State Data Center Program ([www.iowadatacenter.org](http://www.iowadatacenter.org).)
- *Prosperity Partnership Conference Report*, August 2005.

#### **TREND 9:**

**The importance of information is driving the flattening of organizational structures where subject matter expertise is increasingly essential and this flattening is expected to increase in the future.**

#### **RATIONALE:**

- The innovation economy is driven by the availability of human capital; there will be a widespread supply-demand gap for workers at the moderate preparation level.
- Proliferation of web and other technologies have enabled billions of new people into the marketplace, largely displacing the once predominate multi-national corporation. As this convergence took place around 2000, business and individuals began to adopt new habits, skills, and processes to get the most out of it. They moved from largely vertically structured (command and control) organizations to horizontal ones (connect and collaborate). This affects how communities define themselves and where businesses start and stop.

- Supply chain management has allowed small businesses that manage global logistics on their own to compete with the likes of WalMarts.
- Collaboration comes in multiple forms these days through technology in real time without regard for geography, distance, or even language.
- We are in a crisis now but it is one that is unfolding slowly and quietly. This crisis involves the erosion of America's scientific and engineering base.

**RESOURCES:**

- *The World is Flat: A Brief History of the Twenty-first Century* by Thomas Friedman.
- *Shaking up Trade Theory* (Aaron Bernstein, Business Week).
- *How to Level the Playing Field* (Paul Magnusson, Business Week).
- *What India and China can Teach us about Innovation* (John Hagel III, John Seely Brown, Optimize).
- *The knowledge Economy: Is the United States Losing It's Competitive Edge?* (The Report of the Task Force on the Future of the American Innovation).

**TREND 10:**

**Housing density will increase in urban centers, but not necessarily provide affordable homes.**

**RATIONALE:**

- Personal and national debt are becoming an increasing structural concern for the economy.
- The high rate of financial/ economic illiteracy among adults in the U.S. is negatively affecting economic prosperity.
- When families are unable to earn a living wage, many are forced to make difficult choices between adequate health care, balanced nutrition, and paying the bills.
- The price of single family homes in King County rose more than 1% per month last year.
- Home sale and prices reached record highs in Washington in 2004.
- Last year the housing affordability gap got even wider than previously reported threatens to reshape Washington cities.

**RESOURCES:**

- *Preliminary Trends for the Economic Development Study and Environmental Scan* (per comm.. Carolyn Cummings, SBCTC January 2006).
- *Searching for Work that Pays: 2005 Northwest Job Gap Study* (Dennis Osorio, Will Pittz, and Paul Sommers for Northwest Federation of Community Organizations *Washington home prices rose fastest in Skagit County*, Seattle Times, January 28, 2006, Elizabeth Rhodes.
- *Housing affordability rank*, Seattle Times, January 28, 2006.
- *More priced out housing market, study shows*, Seattle Post-Intelligencer, Feb 16, 2006.

- *Housing Affordability Index State of Washington and Counties*, Washington Center for Real Estate research/WSU website.
- *Dream of house ebbs for lower income people*, Seattle Post-Intelligencer, Dec 10, 2005, Paul Nyhan.
- *Vision 20-20 + 20 Update Issue Paper on Housing*, Puget Sound Regional Council, August 25, 2005.

#### **TREND 11:**

**American society continues to be unable to respond to the challenge of providing adequate health care for its citizens.**

#### **RATIONALE:**

- Nearly 46 million Americans lack medical coverage.
- Since 2000, more than 5 million Americans under the age of 65 lost their health insurance.
- Total underinsurance and uninsured in the United States: 61 million.
- Having no health insurance often means that people will postpone necessary care and forego routine preventative care – such as childhood immunizations and routine check-ups. Because the uninsured usually have no regular doctor and limited access to prescription medications, they are more likely to be hospitalized for health conditions that could have been avoided.
- Add to this the rising cost of insurance – being borne by employees, consumers, taxpayers. When businesses absorb increases in insurance costs, many times it's accompanied with lower wage increases.
- The shortage of health care workers compromises access to quality patient care. Emergency rooms have had to turn patients away due to health care worker shortages. Patients and hospital leaders worry about exhausted workers and temporary staff.
- Washington's over-65 population, a group known to require large amounts of health care resources, is expected to grow 93 percent by 2020.
- The current age of a Washington state nurse is about 45 and near retirement age. Because the health care industry is a major contributor to Washington's economy, the impact of this aging workforce could have major ramifications across the state including: delayed care; temporary staffing agencies; personnel burnout and dissatisfaction; lack of potential workers.
- Access to care is also threatened by the litigation crisis that has made insurance premiums unaffordable or even unavailable for many doctors, through no fault of their own. Increased liability insurance rates are forcing emergency rooms to close their doors and doctors to leave their practices. Because they fear litigation, doctors are ordering more tests than are normally needed, referring patients to more specialists, recommending more invasive procedures such as biopsies to confirm diagnoses, and prescribing more medications, such as antibiotics, than they would based only on their professional judgment. Every test and every treatment poses a risk to the patient, and takes away funds that could better be used to provide health care to those who need it.

- Consumer-directed health care plans are being promoted to curb rising health care spending. The plans are based on the premise that health care services are over utilized, and that giving financial incentives to patients will reduce use of services of marginal or no value. It also will give patients an incentive to seek out lower-cost providers of care. These plans have high deductibles and out-of-pocket expenses that can prevent patients from receiving necessary and effective care, potentially costing the health care system more in the long run.
  - Early experience: enrollment to date has been limited; healthier and higher-income individuals are more likely to enroll; most enrollees are relatively satisfied with the choice and re-enrollment rates are high.
  - Studies of these plans are too preliminary and the plans too new a product to reach firm conclusions about their long-term value. Evidence to date raises major concerns about relying on the consumer-directed health care movement to address fundamental problems in the health care system.
- People are choosing “retainer health care” – where they pay a participating physician a retainer for virtually unlimited access to health care services. The result is better service, greater accessibility, and more convenience for patients. The down side is that many people can’t afford this type of health care.
- Health Saving Accounts involve the combination of a highly tax advantaged personal savings account with a high deductible health insurance plan. They involve the use of savings rather than insurance to fund the consumption of discretionary health care products and services.
  - Facts: Between January 2004 and March 2005, 1,031,000 individual accounts were established; 37% of account holders in the individual market had previously been uninsured; 27% of the qualified high deductible plans purchased in the small group market were by employers who had not previously offered coverage; HSA-based plans have proved affordable.

## **RESOURCES:**

- Healthcare Crisis: Who’s at Risk? (PBS).
- AFL-CIO Fact Sheet on Health Care
- Who Will Care for You: Washington Hospitals Face A Personnel Crisis (WSHA).
- Progress 2004: A Report of the Health Care Personnel Shortage Task Force (WTECB).
- Confronting the New Health Care Crisis: Improving Health Care Quality and Lowering Costs by Fixing Our Medical Liability System (US DHHS).
- Consumer-Directed Health Care: Will It Improve Health System Performance? (The Commonwealth Fund).
- Health Savings Accounts (HSAs), A Model of Healthcare (AHIP).
- Personalized Physician Care: What is Concierge/Retainer Medicine? (Naples Health Care Associates).

## **POLITICAL TRENDS**

1. Projected demographic changes in the period 2005-2009 will require higher education to compete for government resources requested for corrections, medical assistance, long-term care and K-12 education.
2. Increasing public awareness and urgency around environmental conservation and stewardship will have an impact on government regulation, business decisions and consumer choices, especially choices in energy, fuel and organic foods.
3. Continued union disaffiliation will change organized labor's large political influence in Washington State which will also weaken what has historically been a strong partner for Community Colleges across the state.
4. Healthcare provision and funding will continue to be a major focus of policy makers.
5. Increasing social and economic barriers will restrict access to and from Washington of all transportation, goods, services and citizens.

### **TREND 1**

**Projected demographic changes in the period 2005-2009 will require higher education to compete for government resources requested for corrections, medical assistance, long-term care and K-12 education.**

#### **RATIONALE:**

- Projected Demographic Changes 2005-2009 will lead higher education to compete for government resources with increased demands for corrections, medical assistance, long-term care, and K-12 education.
  - Corrections -- Males ages 18-39 will increase 7.2%
  - Medical Assistance – General population will increase 7.2%
  - Long-term care – ages 85+ will increase 14.7%
  - TANF – children ages 0-17 will increase 4.3%
  - Higher Education – ages 17-19 will increase 11.8%
  - K-12 – ages 5-17 will increase 2.5%
- Washington State is projected to become more racially and ethnically diverse over the next 30 years leading to increased demand for government resources relative to tax collections. The total state population is projected to grow by 42.2 percent from 5,894,121 in 2000 to about 8,379,500 in 2030. The race/ethnic composition of the population is projected to change in the future as the Black, Asian/Pacific Islander, Multiracial and Hispanic populations increase in proportion to the total population.
- Washington State's age composition will shift as 'baby boomers' (persons born between 1946 and 1964) become eligible for retirement. The percent of the population over 65 years old in Washington State is expected to double in the next 25 years. The States with the most rapid growth of the elderly population in rank order are: Alaska, Utah, Idaho, Colorado, Nevada, Wyoming, and Washington. These States are projected to have an average annual rate of change for the elderly that ranges from 5.1 to 6.9 percent between 1995 and 2025. This shift will affect the economy, education, the labor force, health care, and voting. In particular, there will be increased demand for government resources for health care and social security as the number of retirees increases relative to the number of workers between 25 and 64.

## RESOURCES:

- Washington State County Population Projections For Growth Management By Age and Sex 2000-2025. <http://www.ofm.wa.gov/pop/gma/projections.asp>.
- Population Projections for States by Age, Sex, Race, and Hispanic Origin: 1995 to 2025. Paul R. Campbell, Population Projections Branch, Population Division. U.S. Bureau of the Census October 1996. <http://www.census.gov/population/www/projections/ppl47.html>.
- Washington Research Council, Policy Brief. New Population Projections for GMA Planning <http://www.researchcouncil.org/Briefs/2002/PB02-10/gma4newpop.htm>.
- The Office of Financial Management, Forecasting Division. 2006 Population Trends for the State of Washington, [http://www.ofm.wa.gov/pop/poptrends/poptrends\\_05.pdf](http://www.ofm.wa.gov/pop/poptrends/poptrends_05.pdf).
- Changing Demographics of the Retired Population. [Karen E. Smith](#) and [Eric Toder](#).
- **Other Availability:** [PDF](#) | [Printer-Friendly Page](#). **Posted:** November 01, 2005. [www.urban.org/url.cfm?ID=900895](http://www.urban.org/url.cfm?ID=900895). <http://www.urban.org/publications/900895.html>.

## TREND 2

**Increasing public awareness and urgency around environmental conservation and stewardship will have an impact on government regulation, business decisions and consumer choices, especially choices in energy, fuel and organic foods.**

## RATIONALE:

- Traffic congestion and rising fuel costs will result in an increased usage of environmentally friendly alternative forms of Transportation (light rail, bio-diesel, and hybrid vehicles) by citizens and public agencies.
- Environmental regulations will continue to impact the cost of doing business and how business is conducted.
- Organically raised food products will gain a larger share of the agriculture, restaurant and grocery markets.

## RESOURCES:

- Washington Transportation Plan – Update, 2005, [http://wsdot.wa.gov/freight/images/WTP\\_freightUpdate.pdf](http://wsdot.wa.gov/freight/images/WTP_freightUpdate.pdf) .
- Environmental Regulation and the Competitiveness of U.S. Manufacturing: What Does the Evidence Tell Us? <http://economia.unife.it/materia/29/jaffe.pdf>.
- Organic Farming and the Sustainability of Agricultural Systems. <http://www.euroecolecon.org/old/frontiers/Contributions/F2papers/FD1.pdf> .
- Recent Growth Patterns in the U.S. Organic Foods Market., <http://www.ers.usda.gov/publications/aib777/aib777c.pdf> .

### **TREND 3**

**Continued union disaffiliation will change organized labor's large political influence in Washington State which will also weaken what has historically been a strong partner for Community Colleges across the state.**

#### **RATIONALE:**

- Organized labor is an important player in Washington State politics and has been a long standing partner with community and technical colleges.
- Membership in organized labor (AFL-CIO) had decreased over the last 50 years and businesses are focusing more on "low-road" models (i.e. Wal-Mart).
- Several large unions disaffiliated from the AFL-CIO to create a new partnership called Change to Win (CTW). This disaffiliation resulted in a substantial loss of revenue and membership to AFL-CIO labor councils. For example, the King County Labor Council (the largest in WA State) lost more than \$200,000 of their \$600,000 budget.
- CTW is focused on membership, not influencing national politics.
- CTW vs. AFL-CIO has created a major rift in the labor movement. Most notably, the head of the King County Labor Council left to join CTW UFCW.
- In Washington State, the State Labor Council AFL-CIO had created a way for disaffiliated members to still "connect" but it is unknown yet if CTW unions are doing this.

#### **RESOURCES:**

- Seattle Times, "Wal-Mart's Low-Road Model" Nov 28, 2005.
- Mackinac Center for Public Policy "Change to Win What?"
- Tuesday, January 31, 2006 <http://www.mackinac.org/print.asp?ID=7569>.
- Change to Win Website, various, [www.changetowin.org](http://www.changetowin.org).

### **TREND 4**

**Healthcare provision and funding will continue to be a major focus of policy makers.**

#### **RATIONALE:**

- Number of uninsured workers is rising and is over 600,000 as of 2004. As cost of healthcare rises, the number of businesses offering healthcare drops.
- Although consumer driven healthcare plans are predicted to provide access to more employees in smaller companies. To date only larger companies have adopted them in an attempt to save money.
- Large companies are changing their traditional benefit plans. For example, IBM has changed to 401K plans which will mean employees will lose an average of 12% in benefits.
- Technology, drugs, malpractice and state mandates are driving up costs of healthcare.
- Healthcare is heading back to the top of the political agenda.
- Medicare is under severe pressure and vast Medicare costs are increasing.

- There is concern about private sector marketing to medical professionals which impacts costs of treatment and medicines.

**RESOURCES:**

- Jill FitzSimmons, “Number of Uninsured People Growing in WA”, Northwest Business Pulse Monthly, Nov 2005.
- Theresa Agovinio, “Companies Try to Cut Health Costs”, AP Tacoma News Tribune, 12/1/05.
- Kelly Kearsely, “Tug of War over Benefits”, Tacoma News Tribune, 1/21/06.
- David Runk, “GM to Slash Exec Salaries”, AP Washington Post, 2/8/06.

**TREND 5**

**Increasing social and economic barriers will restrict access to and from Washington of all transportation, goods, services and citizens.**

**RATIONALE:**

- Transportation modes (roads, rail, ports, and pipelines) are approaching maximum capacity causing delays in both freight transport and ability of citizens to freely move around.
- Security of the food chain is causing distributors to use more sophisticated technology to track each item from source to final destination. Federal Hazard Area Critical Control Points (HACCP) mandates documentation of each handling.
- Companies add more trucks to the road which adds to freeway congestion.
- Transportation is a major sector of the economy for Washington. WA acts as a connector between three ports, three countries and Asia. With 600+ trucking companies, a pipeline, multiple cross-state rail lines, ferry system, and an extensive air-freight system, physical and regulatory slow-downs in the system can cause great harm to the economic vitality of Washington.
- The 2008 proposed Western Hemisphere Travel Initiative requiring passports to enter/exit the United States will create barriers to travel and reduce “day-travelers” and the revenue created to support towns on both sides of the border.
- Manufacturing costs will increase as businesses factor in regulations and wait times at ports of entry.
- An on-going study being done by Western Washington University points to the fact that talk of passports and additional regulation has caused cross-border traffic to drop 20%.

**RESOURCES:**

- Washington Transportation Plan – Update, 2005, [http://wsdot.wa.gov/freight/images/WTP\\_freightUpdate.pdf](http://wsdot.wa.gov/freight/images/WTP_freightUpdate.pdf) .
- Homeland Security Press Release on Passports, 04/06/2005, [http://www.dhs.gov/dhspublic/interapp/press\\_release/press\\_release\\_0651.xml](http://www.dhs.gov/dhspublic/interapp/press_release/press_release_0651.xml) .

- Canadian Government - Advance Notice of Proposed Rulemaking Western Hemisphere Travel Initiative, 2005, [http://www.dfait-maeci.gc.ca/can-am/main/right\\_nav/whti\\_comment-en.asp](http://www.dfait-maeci.gc.ca/can-am/main/right_nav/whti_comment-en.asp) .
- What's in a Name? Some Reflections on the Sociology of Anonymity, Gary Marx, The Information Society, MIT, 1999, <http://web.mit.edu/gtmarx/www/anon.html>.
- The Debate Over the North American Security Perimeter, 2004, The Century Foundation, <http://www.tcf.org/list.asp?type=PB&pubid=277>.
- Discussion with Professor Hart Hodges, WWU, 12/05, Phone Call.

### **SOCIAL, VALUES, AND LIFESTYLES TRENDS**

1. Internet overuse (i.e., excessive use of chat rooms, web surfing, instant messaging, gaming, gambling, etc.) is expected to increase over the next 3 – 5 years, affecting one's ability to successfully manage one's life.
2. From 1999-2004, roughly 35% of recently completing high school students in Washington State did not continue into higher education and this percentage is expected to remain stable over the next 3-5 years.
3. Consumers will continue over the next 3 – 5 years to expect more for less when purchasing goods and services (e.g., minimal defects, large variety, timely delivery/availability, and prompt follow-up and support services).
4. The number and restrictive nature of the *Ballot Initiatives* being submitted in Washington State will remain high over the next 3 – 5 years, suggesting that low level of trust for Washington State government will continue.
5. The number of children who at one point in their childhood will live in a single parent family household (currently = 19%) will continue to increase over the next 3 - 5 years.
6. In the next 3 – 5 years, the number of individuals working during their retirement years will increase.
7. Over the next 3 – 5 years, the number of children raised in the foster care system, emerging from that system without independent living skills and the ability to cope with the demands presented by organizations like higher-education institutions is expected to increase.
8. Generation Y (born between 1981 and 1995) members' learning preferences include emphasizing teamwork, experiential activities, structure, and use of technology. The number of Gen Y students will increase over the next 3 - 5 years.
9. Over the next 3 - 5 years, more people will become mini-entrepreneurs by starting small and micro businesses, becoming freelancers, starting web-businesses, blogs, and other types of small, entrepreneurial enterprises.
10. Washington leads the US in terms of the percentage of people who say they have no religion (although many believe in a god) and this trend is expected to continue over the next 3 - 5 years.
11. Over the next 3 – 5 years, participation in new forms of voluntary associations online will increase rapidly, i.e., e-communities.
12. Crimes rates overall are declining and will continue to decline over the next 3 - 5 years.
13. Incarceration rates will continue to rise over the next 3 - 5 years in Washington State.

14. Due to changes in policy, drug crimes are increasingly being handled in drug court where the corrective-behavior plan involves intervention from the health care system rather than the criminal justice system. This is expected to increase over the next 3 – 5 years.
15. Obesity is pervasive in society and the level of obesity will increase over the next 3 – 5 years.
16. Beginning in 2000 three unique generations in the workplace and Community and Technical College system are present. Each generation has very unique values, expectations, wants, needs, desires, etc. and these may clash in the workplace and classroom. This trend will continue over the next 3 – 5 years.

#### **TREND 1:**

**Internet overuse (i.e., excessive use of chat rooms, web surfing, instant messaging, gaming, gambling, etc.) is expected to increase over the next 3 – 5 years, affecting one's ability to successfully manage one's life.**

#### **RATIONALE:**

- Specialists estimate that 6-10 percent of 190 million Internet users in the US are addicted to the Internet.
- Addictions include web surfing, chat-room visits, pornography, gambling, gaming, and eBay.
- Some professionals feel that people who abuse the Internet are also struggling with other problems like depression and anxiety. However, the Internet's offer of escape from reality, accessibility and opportunity for anonymity can also lure otherwise healthy people into overuse.
- Alfred University investigated why a large number of students with SAT scores above 1200 had been academically dismissed. Over half the dismissed students were chronic internet users.
- An Ohio University survey found that 8%-10% of surveyed students were at risk for developing an addiction to Internet gambling.
- Six to ten percent of those that regularly use the Internet may use it excessively.

#### **RESOURCES:**

- Victor Gonzales. Online gaming: Technology brings a new addiction. July 6, 2006.
- Nick Kovach. Internet Addiction a Threat to College Students. [thepost.baker.ohiou.edu/archives3/jan01/012501/news1.html](http://thepost.baker.ohiou.edu/archives3/jan01/012501/news1.html).
- Sarah Kershaw. Hooked on the Web: Help is on the Way. The New York Times, December 1, 2005. [nytimes.com/2005/fashion/thursdaystyles/01/addict](http://nytimes.com/2005/fashion/thursdaystyles/01/addict).

#### **TREND 2**

**From 1999-2004, roughly 35% of recently completing high school students in Washington State did not continue into higher education and this percentage is expected to remain stable over the next 3-5 years.**

## **RATIONALE:**

- For five years (1999-2000 thru 2003-04) **only 31%** (88,258) of recently graduating high-school students continued their education at CTC's.
- The total graduating population for that timeframe was 286,446 potential students.
- A WA State University study for 2003-04 reported that 63% of the class of 2003 attended college in the first year after graduation. State data shows that another 2% either joined the military or register in an approved Apprenticeship program. This leaves **35% not attending any post-high-school training at all.**
- If this 35% were to acquire training from the CTC's they would qualify for higher wages. Higher wages translates to more income to the state government through taxes on more disposable income.
- The current *Minimum Wage* is \$7.63 (effective 2 JAN 2006). These untrained citizens, working in minimum-wage jobs, could potentially earn \$15,870 in annual income, of which \$11,203 could be spent on taxable items. At the current 6.5% state sales tax rate, that would generate \$728.17 per citizen for the state. These citizens have the potential to earn as much as \$12/hr if they receive post-secondary training. These trained students, working in higher-skilled jobs, could potentially earn \$24,960 in annual income, of which \$17,619 could be spent on taxable items. At the current 6.5% state sales tax rate, that would generate \$1,145.25 per citizen for the state.
- For these citizens, that is a **potential additional \$417.08/year** the state could be making in sales-tax income.

## **FOR THE 1999-2000 THRU 2003-04 TIMEFRAME:**

- Based on these data the state has **POTENTIALLY LOST \$42,362,084** because these 101,568 citizens failed to get formal training, thereby qualifying for higher-wage jobs.
- That translates to **\$1.7 Million** (4% of the state budget) having been **lost by the CTC's.**

## **RESOURCES:**

- Annual Wages referred to in this document were calculated using the Oklahoma Employment Security Commission's "Wage Calculator" tool, located at: <http://www.oesc.state.ok.us/ES/wagecalc.htm>.
- SBCTC Report – Very-Recent High School Graduates Enrolled In Community and Technical Colleges (1999-2000 thru 2003-04).
- WA State University Report – Washington State College Enrollment Study Class of 2003: College Enrollment in the First Year after Graduation, Statewide Results.
- BLS Report – Consumer Expenditures, 2003.
- WA State OFM Reports – several.
- The Economic Case Against an Income Tax in Washington State, by David G. Tuerck, PhD, John S. Barrett, MS and Sorin Codreanu, MS, 2004.
- Tacoma News Tribune Article: Recruiters hit it big in state, by Les Blumenthal, NOV, 2005.
- WA State SBCTC and Dept of L&I, Apprenticeship Enrollments/Registrations for Very-Recent HS Graduates (2000 thru 2004), 2006.

### **TREND 3:**

**Consumers will continue over the next 3 – 5 years to expect more for less when purchasing goods and services (e.g., minimal defects, large variety, timely delivery/availability, and prompt follow-up and support services).**

#### **RATIONALE:**

- Consumers once expected to pay a premium for high-quality and/or customized products.
- Standardized, mass-produced products of acceptable or low-quality were what one expected for a low price.
- Now, consumers expect to get high quality, customized or semi-customized products at a good price (“good” meaning high value per dollar).
- Consumer expectations are changing. Competition based on the ability to mass produce at low cost has been replaced by changes in consumer values. These changes in values are changing markets and education.
  - Productive Investment: Cost reduction does not work in the new market because productivity is largely based on technology and skill- both costly investments.
  - Quality: Consumers demand minimal to no defects in products purchased at a good value.
  - Variety: Because of growth in the global and domestic markets, consumers demand an explosion of choices.
  - Customization: Consumers demand products and services that fit their semi-unique needs.
  - Convenience: Consumers demand products and services that are developed and built for customer need or having their needs as a goal. In addition, they want service and support after it is purchased.
  - Consistency: Customers will repeat business with those who offer variety, customization, timeliness, and innovation all of the time. This consistency is achieved through clarity of goals and measurable outcomes and standards.
  - Speed and Continuous Innovation: Customer needs are pressing quick and consistent development and improvement of products and services.
  - Social Responsibility: Consumers want products and services (especially wealthy consumers) from whom do not violate their values and at best share and represent their values.
- These changes in consumer values are already happening.

#### **RESOURCES:**

- Carnevale, Anthony and Descrochers. Standards for What? The Economic Roots of K-16 Reform. Educational Testing Services Leadership, 2003 Series.
- Is Wal-Mart Good For America? Frontline documentary, available as a web cast at <http://www.pbs.org/wgbh/pages/frontline/shows/walmart/view/>. See clip 1, Wal-Mart’s Revolutionary Power.

- Friedman, Thomas L. *The World Is Flat: A Brief History of the Twenty-first Century*. Farrar, Strauss and Giroux, New York, 2005. See in particular Chapter 3, *The Triple Convergence*.

#### **TREND 4:**

**The number and restrictive nature of the *Ballot Initiatives* being submitted in Washington State will remain high over the next 3 – 5 years, suggesting that low level of trust for Washington State government will continue.**

#### **RATIONALE:**

- Over the past seven years (1999 – 2005), an average of 31 citizen-based ballot initiatives has been submitted to the office of the Secretary of State. Of those an average of 3 per year has made it to the election ballot. The voters of WA State have on average passed 70% of those initiatives.
- A majority of those ballot initiatives have to do with telling the WA legislature how to get and/or spend WA state government funds, mainly due to the citizen's unhappiness with how income from the citizens are derived as well as how that income is appropriated.
- The impact of these initiatives may cause the legislature to re-look how funds are dispersed.
- With the depletion of funding resources, the legislature will look at any allocation unit for cuts - including higher education.
- Higher Education is under-funded anyway, so the depletion of government income sources only exacerbates this situation.

#### **RESOURCES:**

- WA Secretary of State Office - Yearly Summary: *State Initiatives to the People, 1914 - 2004 & Proposed Initiatives to the People – 2005*.

#### **TREND 5:**

**The number of children who at one point in their childhood will live in a single parent family household (currently = 19%) will continue to increase over the next 3 - 5 years.**

#### **RATIONALE:**

- Single parents and low income characteristics correlated with single parent families differ among racial lines. For example, African American and Hispanic families are more likely than other races to have single parent families and have lower incomes.
- Generational poverty is a significant issue, especially among single parents. This is cited throughout the literature, newspapers, and scholarly journals. The welfare reform law has reduced the option for parents on welfare to workforce training and employment.
- 18.7% in 2000 of Washington State families with child(ren) under age 18 were single-parent families (2000 Census).

- The percent of Hispanic students who report they are a single parent has increased from 1999-00 to 2004-05.
- African American and Hispanic students who are parents are more likely to be economically disadvantaged (i.e. receive need based financial aid).
- In 2004-05 all single parents are more likely to be economically disadvantaged (i.e. receive need based financial aid) than single parent students in 1999-00.

**RESOURCES:**

- Edmonds, Ron and Bloomberg, Michael. "Fixing What Ails the Schools." The Washington Post. April 25, 2005; A19. Washington D.C.
- Working Family Values Factoids: Working Women and the Changing Family Structure. [www.pbs.org/livelyhood/workingfamily/family\\_trends.html](http://www.pbs.org/livelyhood/workingfamily/family_trends.html).
- Lang, Susan. "Cornell Economist, Launching Year of the Family, Identifies Trends that Affect Children." April 27, 2005; Cornell University News Service.

**TREND 6:**

**In the next 3 – 5 years, the number of individuals working during their retirement years will increase.**

**RATIONALE:**

- The American style of retirement is about to change.
- Four-fifths of baby boomers claim they expect to work in retirement.
- The oldest baby boomers are pushing 60 and many of them have already begun a second career.
- As of now, 31 percent of boomers have moved to a new line of work.

**RESOURCES:**

- [www.aarp.org](http://www.aarp.org).
- [www.experienceworks.org](http://www.experienceworks.org).

**TREND 7:**

**Over the next 3 – 5 years, the number of children raised in the foster care system, emerging from that system without independent living skills and the ability to cope with the demands presented by organizations like higher-education institutions, is expected to increase.**

**RATIONALE:**

- Independent living programs supported by the federal John H. Chafee Foster Care Independence Program serve only about half of the eligible foster youth, according to the report, and most foster youth do not receive a sufficiently practical, sustained, and comprehensive independent living skills program. Therefore, many do not end up having the skills necessary for success in higher education.
- Number of out of home foster care has increased in 2004.

- Without creating new programs or increasing the authorization funding amount of the Higher Education Act (HEA), the federal government cannot take steps to improve the academic and economic outcomes of youth currently or formerly in foster care.

**RESOURCES:**

- Rob Capriccioso - Fostering Higher Education Success "Higher Ed News" 12/05.
- Children's Administrative Performance Report 2004  
<http://www1.dshs.wa.gov/ca/pubs/2004perfrm.asp>.
- Casey Family Programs (Higher Education and Child Welfare Summit in Washington, D.C., on Nov. 13, 2003.)

**TREND 8:**

**Generation Y (born between 1981 and 1995) members' learning preferences include emphasizing teamwork, experiential activities, structure, and use of technology. The number of Gen Y students will increase over the next 3 - 5 years.**

**RATIONALE:**

- Learning and service expectations for Gen Y will be much different from that of previous generations.
- Gen Y's expect 24/7 and/or online customer service, access to tutoring, lecture notes, registration, etc.
- 70 million Gen Yers are starting to enter into the higher education system.
- Gen Yers gravitate toward group activity; identify with their parents' values and feel close to their parents; spend more time on the computer and doing homework than watching TV.
- Gen Yers are fascinated by new technologies.
- Gen Yers are racially and ethnically diverse.
- Gen Y's have distinct learning styles. Their learning preference is more toward teamwork, experiential activities, structure, and the use of technology. Gen Y strengths include multitasking, goal orientation, positive attitudes, and a collaborative style.
- The younger the age group, the higher the percentage that use the Internet for school, work, and leisure.
- Among students ages 12-17, 94 percent use the Internet for school research, 70 percent use instant messaging to keep in touch.
- Among current college students, 84% own a computer and average 11 hrs per week online.
- Attitudes and aptitudes of students who have grown up with technology (Gen Y) are different from those who rarely use technology: computers are an assumed part of life; the Internet is better than TV, multitasking is a way of life, learning follows a trial and error approach (i.e., like Nintendo) rather than the more logical rules based approaches to solving problems used by earlier generations, staying connected is essential (cell phones, Pads, email), there is zero tolerance for delays.
- Students now actively evaluate institutions on characteristics they feel are important and make choices.

- An imbalance may exist between students' expectations of the learning environment and what they find in colleges and universities today.
- Gen Y expect faculty to use technology to enhance the classroom experience: PowerPoint and videos; use technology to communicate between students and faculty; syllabi, lectures, handouts, grading and homework will be available online; technology will be used to different learning styles; faculty will be proficient in e-learning; required courses will relate to degrees.
- Gen Y students will expect instructors to guide, coax and coach, rather than rule.

#### **RESOURCES:**

- Society for College and University Planning: How Generations X and Y (Millennials) will Reshape Higher Education. September 2003.
- Generation Y: They've arrived at work with a new attitude. USA today November 7, 2005. [www.usatoday.com/educate/college/careers/Hot/11-7-05b.htm](http://www.usatoday.com/educate/college/careers/Hot/11-7-05b.htm).

#### **TREND 9:**

Over the next 3 - 5 years, more people will become mini-entrepreneurs by starting small and micro businesses, becoming freelancers, starting web-businesses, blogs, and other types of small, entrepreneurial enterprises.

#### **RATIONALE:**

- Fueled largely by the development of the internet, world-wide shipping infrastructures, the availability of user-friendly content creation software (video production, music production, art/graphics, etc.), and a growing desire among many to control their own time and be independent, many people are deciding to participate in the marketplace as a "minipreneur" (seeTrendwatching.com) instead of just as a consumer.
- The internet and the availability of inexpensive computer equipment and content-production software have allowed individuals to circumvent traditional corporations and enter markets directly. A case in point is in the home music production trend, in which many artists produce and market their own CD's without involvement from traditional music companies, agents, etc.
- Many companies are openly seeking customer inputs and designs for products. More than just giving an opinion, companies have contests in which customers submit design ideas, with the winning design going into production. The pay-off may be money, notoriety, or just the novelty of participating in the production of something commercial. As this type of activity grows, so does the confidence of people who realize that they, too, can be a player in the marketplace.

#### **RESOURCES:**

- See [www.trendwatch.com](http://www.trendwatch.com) newsletter articles on "Generation C," "Minipreneurs," and "Customer-made."
- "Home Sweet Studio," by Jon Pareles, March 20, 2005, Arts and Leisure Section, New York Times.

- "How to Run Your Own Recording Studio," by Ron Wurzer, USA Today, available online at [www.usatoday.com/money/industries/technology/2005-06-07-how-to-record-usat-x.htm](http://www.usatoday.com/money/industries/technology/2005-06-07-how-to-record-usat-x.htm).
- "CES and Macworld - Where Consumers Become Producers," January 7, 2006, Businessweek.com.
- "Webmonkey E-Business Curriculum," April 9, 2003, available at <http://hotwired.lycos.com/webmonkey/03/12/index3a.html?tw=jobs>.

#### **TREND 10:**

**Washington leads the US in terms of the percentage of people who say they have no religion (although many believe in a god) and this trend is expected to continue over the next 3 - 5 years.**

#### **RATIONALE:**

- People are becoming more secular in the US.
- Political affiliations of religious groups are changing with the net result an increase in those identifying themselves as Republicans. For example, those attending church once or more per week voted 2:1 for Bush in 2004 while those that didn't attend church voted 2:1 for Kerry.
- Americans are disassociating themselves from Christianity and other organized religions.
- Since 1990, the number of Americans identifying themselves as Christian declined 0.9 percent per year (from 86 to 77 percent in 2001).
- The western states have the highest percentage of people saying they have no religion (Washington = 25%, North Dakota = 3%), although many still profess a belief in a god.
- Since 1990, there has been a rapid increase in the number of Americans that don't follow an organized religion (from 8 - 14% in 2001).
- Religious identification in Washington: Catholic = 20%, Baptist = 6%; No religion = 25%, Christian = 11%, Methodist = 4%, Lutheran = 6%, Presbyterian = 3%, Mormon/Latter Day Saints = 3%, 8 others at 1%
- Younger adults (18-34) are less religious than seniors (27 vs. 47%) in the U.S.
- Regular church attendance is lower in the West than other parts of the country.
- Over the past 40 years, Catholics identifying themselves as Democrats declined from 70 to 40 percent while those identifying themselves as Republicans increased from 20 to 40 percent. White Evangelicals shifted from Democratic preference (2:1) in 1960 to Republican preference in 2004 (2:1). Other religious groups (Black Protestants, Mainline Protestants, and Jews) have been shifting their alliances from Republican to Democratic (although not as strongly).
- The West has shifted from reliably Republican to Democratic over the past generation.
- An East-West divide exists in the Washington state with the west side favoring Democrats and the east side favoring Republicans.

**RESOURCES:**

- Religious Identification in the US: [http://www.religioustolerance.org/chr\\_prac2.htm](http://www.religioustolerance.org/chr_prac2.htm).
- Religion & Public Life: A Faith-Based Partisan Divide: Pew Research Center.
- What is your religion if any? USA Today  
[www.usatoday.com/graphics/news/gra/gnoreligion/flash.htm](http://www.usatoday.com/graphics/news/gra/gnoreligion/flash.htm).

**TREND 11:**

**Over the next 3 – 5 years, participation in new forms of voluntary associations online will increase rapidly, i.e., e-communities.**

**RATIONALE:**

- E-communities take the place of other more traditional membership organizations.
- They are being used as tools for learning, personal development, and collective action. They allow for passive and active participation.
- E-communities are typically more comprehensive in scope than other computer-mediated communication technologies, such as discussion lists, chat rooms, and web-based conferencing or collaboration systems.
- As membership in bowling leagues, service clubs, parent teacher associations, etc. declines, participation in new forms of voluntary associations online appear to be rapidly increasing. E-communities are designed to provide users with a range of tools for learning, personal development and collective action.
- E-communities are typically more comprehensive in scope than other computer-mediated communication technologies, such as discussion lists, chat rooms, and web-based conferencing or collaboration systems.
- While some e-communities support retail or other commercial ventures such as e-bay, there are a large number of e-communities that facilitate learning, personal development or collective action such as geocoaching.com, ethepeople.com or wikipedia.org.
- It is important to note that the vast majority of e-community members rarely post messages or contribute directly to the community life.
- A previous research study estimated that for every active e-community member posting information there are 100 individuals who are monitoring (or lurking) on e-community sites. These individuals have limited influence within the e-community but may be gaining insight from "listening" to discussions. They are passive rather than active participants.

**RESOURCES:**

- Scott, J and Johnson, T Bowling Alone But Online Together: Social Capital In E-Communities; Journal of community development.
- Friedman, Thomas L. The World Is Flat: A Brief History of the Twenty-first Century. Farrar, Strauss and Giroux, New York, 2005. See in particular Chapter 3, The Triple Convergence.

### **TREND 12:**

**Crimes rates overall are declining and will continue to decline over the next 3 - 5 years.**

#### **RATIONALE:**

- Crime rates, especially violent crimes, have decline particularly in the 1990s.
- The 1990s showed that there has been a decline in felony crime rates and arrests.
- Drug crimes are increasing whereas property and violent crimes are declining.

#### **RESOURCES:**

- U.S. Department of Justice, Office of Justice Programs; Bureau of Justice Statistics. In Recent Years All Regions have experienced a Decline in Homicide Rates; September 2004. [www.ojp.usdoj.gov/bjs/homicide/region.htm](http://www.ojp.usdoj.gov/bjs/homicide/region.htm).
- Washington State Institute for Public Policy. Trends in Felony Crime in Washington State and Related Taxpayer Costs, January 1999; [www.wsipp.wa.gov/rptfiles/crime\\_trend99](http://www.wsipp.wa.gov/rptfiles/crime_trend99).

### **TREND 13:**

**Incarceration rates will continue to rise over the next 3 - 5 years in Washington State.**

#### **RATIONALE:**

- Crime rates, especially violent crimes, have decline particularly in the 1990s. However, the number of incarcerations has increased.
- Incarcerations continue to increase despite some changes in policy that divert non-violent offenders and drug offenders to supervision and reduced sentences.
- The 1990s showed that there has been a decline in felony crime rates and arrests by police. However, the number of felony filings by prosecutors, convictions, and incarceration has raised, especially incarceration.
- Drug crimes are increasing whereas property and violent crimes are declining.
- The Sentencing Project draws connections to the reduction in the national crime rate to the community's response to crime among other things. The document notes that the reduction in crime is not solely due to the increase in incarceration. Actually, incarceration has increased partly due to tougher sentencing laws, particularly associated with drug crimes.
- In Washington State, the number of prison inmates has increased from 7,446 in 1990 to 17,290 in 2004, a 132% increase. From 2000 (14,721 inmates), the number who have been incarcerated increased 17%. If trends continue the numbers and proportion of those incarcerated will continue to increase. However, the number of juvenile rehabilitations is currently declining (2004 = 704) and is very similar to the 1990 (848) figure.
- Intuitively, as the number of felony convictions raise so do the costs of criminal justice system.

- Ten community and technical colleges offer correctional programs in certificates in professional/technical programs.
- \$26,000 per person per year to be incarcerated.
- With more strict sentences, incarceration admissions continue to exceed releases.

#### **RESOURCES:**

- King, Ryan; Mauer Marc; and Young, Malcolm. Incarceration and Crime: A Complex Relationship. The Sentencing Project. 2005; [www.sentencingproject.org/pdfs/incarceration-crime.pdf](http://www.sentencingproject.org/pdfs/incarceration-crime.pdf) .
- Greene, Judith. Smart on Crime: Positive Trends in State-Level Sentencing and Corrections Policy. Families Against Mandatory Minimums; November 2003: [www.famm.org](http://www.famm.org).
- Office of Financial Management. Washington Trends: Prison Inmate Population; July 2004. [www.ofm.wa.gov/trends/htm/fig408.htm](http://www.ofm.wa.gov/trends/htm/fig408.htm).
- Office of Financial Management. Washington Trends: Juvenile Rehabilitation Institutional Population; August 2004. [www.ofm.wa.gov/trends/htm/fig409.htm](http://www.ofm.wa.gov/trends/htm/fig409.htm).
- Washington State Institute for Public Policy. Trends in Felony Crime in Washington State and Related Taxpayer Costs, January 1999; [www.wsipp.wa.gov/rptfiles/crime\\_trend99.pdf](http://www.wsipp.wa.gov/rptfiles/crime_trend99.pdf).
- U.S. Department of Justice, Office of Justice Programs; Bureau of Justice Statistics. In Recent Years, All Regions have Experienced a decline in Homicide Rates; September 2004. [www.ojp.usdoj.gov/bjs/homicide/region.htm](http://www.ojp.usdoj.gov/bjs/homicide/region.htm).
- Adult Correctional Institutions Inmate Population Summary. Washington State Office of Financial Management. <http://www.ofm.wa.gov/databook/criminal/jt04.asp>
- Office of National Drug Control Policy: Drug Policy Information Clearinghouse. State of Washington: Profile of Drug Indicators. May 2004.

#### **TREND 14:**

**Due to changes in policy, drug crimes are increasingly being handled in drug court where the corrective-behavior plan involves intervention from the health care system rather than the criminal justice system. This is expected to increase over the next 3 – 5 years.**

#### **RATIONALE:**

- Drug crimes continue to rise.
- Drug courts are taking the place of traditional courts for nonviolent drug offenses. Drug courts offer substance abuse treatment as the sentence rather than incarceration.
- An increase in substance abuse treatment facilities and professionals are needed to meet the changes in dealing with drug crime offenders, especially as nonviolent drug crimes continue to rise.
- Throughout the nation there has been much debate about whether to punish and incarcerate drug offenders (who do not commit violent crimes) who, some may argue, have a problem with addiction and perhaps mental health rather traditional criminal behavior.

- In 2003, Washington State enacted provisions for drug courts to treat offenders who have committed offenses that demonstrate a problem with substance abuse rather than a violent criminal offense. The money saved from using drug courts would be reinvested into treatment for the offenders as the significant component of their punishment for their offense. Drug court costs are more expensive in up-front costs.
- According to two studies of Washington State drug courts, drug courts generate \$1.74 to \$2.46 of benefit for every dollar spent. The benefits are in terms of victim benefits, reduction in recidivism, costs to incarcerate, and quality of life measures.
- Incarcerations due to drug crimes have declined in both 2004 and 2005 as drug courts have been implemented throughout the state.
- Given that treatment options are limited, one may wonder how well the drug courts are working if offenders are limited in access to and options for substance abuse treatment and intervention program, which is the primary point of their punishment for their drug offense.

#### **RESOURCES:**

- Washington State Institute for Public Policy. "Can Drug Courts Save Money for Washington State Taxpayers?" January 1999. [www.wa.gov/wsipp](http://www.wa.gov/wsipp)
- Washington State Institute for Public Policy. "Washington State's Drug Courts for Adult Defendants: Outcome Evaluation and Cost-Benefit Analysis." March 2003 [www.wsipp.wa.gov](http://www.wsipp.wa.gov).
- Revised Code of Washington 2.28.170  
<http://apps.leg.wa.gov/RCW/default.aspx?cite=2.28.170>.
- Revised Code of Washington 70.96A.350  
<http://apps.leg.wa.gov/RCW/default.aspx?cite=70.96A.350>.
- Adult Correctional Institutions Inmate Population Summary. Washington State Office of Financial Management.  
<http://www.ofm.wa.gov/databook/criminal/jt04.asp>.
- Washington State Institute for Public Policy. Trends in Felony Crime in Washington State and Related Taxpayer Costs, January 1999;  
[www.wsipp.wa.gov/rptfiles/crime\\_trend99.pdf](http://www.wsipp.wa.gov/rptfiles/crime_trend99.pdf).
- America's Drug Abuse Profile. [www.ncjrs.org/htm/chapter2.htm](http://www.ncjrs.org/htm/chapter2.htm).
- McWilliams, Peter. Public Order Crime Trends. Patterns and Trends in Public Order Crime. <http://faculty.ncwc.edu/toconnor/301/301lect17.htm>.
- Office of National Drug Control Policy: Drug Policy Information Clearinghouse. State of Washington: Profile of Drug Indicators. May 2004.
- Olsen, Ken and Martin, Jonathan. "Drug Defenses are Lacking." Spokesman Review; Monday January 30, 2006;  
[www.spokesmanreview.com/library/meth/methstory.asp?ID=s812429](http://www.spokesmanreview.com/library/meth/methstory.asp?ID=s812429)

#### **TREND 15:**

**Obesity is pervasive in society and the level of obesity will increase over the next 3 – 5 years.**

### **RATIONALE:**

- Increases in obesity have been correlated with increases in the population that are low-income and living in poverty. Obesity, especially related to poverty, lack of nutrition, and lack of physical activity, is sharply increasing to one in five Washington State residents.
- The need for preventative and intervening health education and programs are necessary.
- Obesity doubled from 11.6% in 1990 to 23.1% in 2005. Studies show that Washington State is similar to the national rate.
- Obesity is an issue for both adults and youth.
- Hospital costs are estimated to be \$117 billion associated with obesity; 53% for direct costs such as cardiovascular and 47% for indirect costs.
- Proper nutrition and physical activity are significant problems.
- Washington State citizens recognize the need for preventative and intervening health education and programs; such as tobacco cessation, systematic opportunities for physical activity; health insurance coverage; availability and education of nutritious foods.

### **RESOURCES:**

- Center for Disease Control, Chronic Disease Prevention; U.S. Department of Health and Human Services. "Preventing Chronic Diseases: Investing Wisely in Health: Preventing Obesity and Chronic Diseases Through Good Nutrition and Physical Activity: July 2005.
- Johnson, Donna. "Fast Food, Fast Forward: Can Health Promotion Goals Keep Pace with Nutrition Trends?" Washington Public Health; Fall 2000.
- Gruman, Jessie. "Daunting in the Dark." Center for the Advancement of Health; Good Behavior! [www.cfah.org/gb/index.cfm](http://www.cfah.org/gb/index.cfm).
- Neary, Walter. "Poll shows Washington Residents Believe Too Little is Spent on Protecting Health with Disease Prevention Research." University of Washington Office of News and Information. April 15, 2003.

### **TREND 16:**

**Beginning in 2000 three unique generations in the workplace and Community and Technical College system are present. Each generation has very unique values, expectations, wants, needs, desires, etc. and these may clash in the workplace and classroom. This trend will continue over the next 3 – 5 years.**

### **RATIONALE:**

- Generation X, born 1962- approximately 1980, 40-45 million.
- Generation Y (born approximately 1981- approximately 1995, 50-60 million.
- Baby Boomers (born before 1963) will not be retiring in the traditional sense and will stay in the workforce longer.
- Gen Xers and Yers want Baby Boomers to move on so they can advance and "have their turn".

- Gen Xers and Yers do NOT want to pay for Boomers' Social Security, Health Care, and other services.
- Gen Xers will not sacrifice their family for their job; family time is very important to them.
- Many times Gen X workers are characterized negatively by the older generation.
- Generation Xers are very concerned with financial and emotional security. Gen Xers have a tremendous capacity to process lots of information and concentrate on multiple tasks.
- Gen Xers want the freedom to manage their time and work and want feedback and recognition.
- Gen Xers have disdain for corporate politics and bureaucracy. Gen Xers do not plan on staying with one job or company throughout their career; they have no expectation of job security.
- Gen Xers value the individual and nurture relationships.
- They do not exhibit the same sense of loyalty as Boomers do toward an organization.
- In jobs, Gen Xers embrace risk and prefer free agency to loyal corporationism.
- Generation Yers are generally very tolerant towards multiculturalism and internationalism; one in three is not Caucasian.
- This growing trend towards interracial relationships is sometimes a source of negative friction between youth and their parents or elders.
- More than 60% of employers say they are experiencing tension between different generations according to a survey by the career management company Lee Hercht Harrison.
- Gen Yers have grown up questioning their parents and now they are questioning employers.
- Generation Y is less likely to respond to the traditional command and control style in much of today's workforce.
- Gen Yers are very concerned with retirement benefits, flexible work schedules, telecommuting.
- 62% of Gen Yers believe there will not be Social Security for them and 70% who are eligible contribute to a 401 (k) plan.
- Generation Yers are highly motivated to save and plan for their golden years.
- The Net Generation has grown up with information technology. The aptitudes, attitudes, expectations, and learning styles of Net Gen students reflect the environment in which they were raised—one that is decidedly different from that which existed when faculty and administrators were growing up.
- It's important that managers (as well as educators and parents) recognize that these changes exist so we can deal with the younger generation effectively.
- "Xers" are considered to be more independent-minded than "Boomers." They are having children, and are determined to be better parents than the preceding generation. This is largely due to many growing up with both parents working and their experience with parents divorcing. They live the way they want. Xers (both moms and dads) are more likely to take part-time work or even leave the workforce in order to spend more time with their children. They seek more ways to blend work and life together. Often they are more entrepreneurial than Boomers, and are willing

to take more responsibility for their careers and retirements. Xers are buying homes in large numbers, and are willing to purchase other things related to fostering a stable home situation, but are less interested in collecting material things and "having it all" than are Boomers.

- Gen Xers have been described as the "Me" and "Bite Me" Generation, slackers, and cynical. The idea that Xers are "cynical slackers" is not borne out by their actions - they are getting married, having kids, buying houses, and make on average \$45,080, higher than the national average. They are willing to work hard, but seek flexibility in their work situations.
- Twenty-nine percent of Xers vs. twenty-one percent of Boomers are investing in 401K plans or other defined contribution plans. Most don't believe social security will be there for them, and prefer to take responsibility for their own retirement. Most plan to retire at an earlier age than Boomers do.
- Prudential Insurance and Montesano (MTC) are tailoring consulting contracts and part-time assignments to accommodate older workers. Companies will have to offer flexible employment opportunities to retain older employees.

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### DEMOGRAPHIC TRENDS

1. Between 2005 and 2010, the number of poor people in Washington State is projected to exponentially increase to more than 20% of the population or 1,329,963 people.
2. Between 2005 and 2030, the demand for health care and related services, especially geriatrics, will increase and the costs for these services will continue to rise dramatically.
3. Population in the State of Washington will continue to rise 100,000 a year between 2005 and 2010 when the population is projected to reach 6,639,000. From 2010 – 2030 it is expected to slow to a 1.2 percent growth or approximately 75,000 per year.
4. Between 2005 and 2030, the Washington population, especially those under 25 years of age, will become increasingly more diverse and the largest increases in ethnic groups will be Hispanics (242,863 to 487,703), those of two or more races (100,769 to 240,281), and Asian/Pacific Islanders (129,988 to 171,598).
5. Between 2000 and 2010, the growth in the number of households in the State of Washington will grow proportionally to the increase in the general population, and will not evidence significant increases or decreases.

#### **TREND 1:**

**Between 2005 and 2010, the number of poor people in Washington State is projected to exponentially increase to more than 20% of the population or 1,329,963 people.**

#### **RATIONALE:**

- Due to a number of economic, health care and government budgeting factors including: skyrocketing health care costs and the related national health care crisis (estimated 46 million uninsured Americans); higher energy costs; the trend of diminishing work-related benefits (health care coverage, pensions, etc.); soaring Puget Sound housing, sustenance, transportation, and taxes; inflationary tendencies; competing federal and state government budget priorities, constraints, and deficits (Iraq war, the war on terrorism, the looming Social Security, Medicare and Medicaid entitlement crisis, et. al.), variable state budget revenue and funding realities, the continual export of the U.S. manufacturing base and higher paying manufacturing jobs to Asia and beyond, and the enormous and ballooning U.S. balance of trade deficit, etc. more people will experience poverty.
- In King and Snohomish counties, the state's most prosperous region, nearly 500,000 people (25% are children) are surviving at no more than twice the federal poverty level – less than \$38,000 a year for a family of four. They account for 20% of the region's population.
- One in eight (13%) of the poorest families with two full-time working adults do not earn enough to afford the Puget Sound region's soaring costs for shelter, health care, childcare, food, transportation, and taxes.

- A recent Economic Policy Institute study offered a sobering picture of the stagnant nature of low-wage work in Washington State. Washington workers at the bottom fifth of the wage scale saw their real pay – wages adjusted for inflation – languish over the past quarter century at right around \$9 an hour.
- Today, one in every 6.5 jobs (15%) in Washington State pays a poverty level wage. And those stuck in low-wage jobs often lack the skills to jump over the middle of the U to the best-paying work.
- Diana Pierce, an economist at the University of Washington’s Center for Women’s Welfare, in her research concludes that for nearly every family type, twice the federal poverty level is not enough to survive. For example, she estimates that in 2004, a Bellevue couple with a preschooler and a child in school would need an annual survival income of \$52,743 – nearly three times the federal poverty level to cover the basics.
- 10.6% of Washington and 13% of children are in poverty, compared to 12.4% of all U.S. citizens and 16% of U.S. children. 138,385 children ages 5 to 17 in Washington state or 13% lived in poverty in 2003. Eight school districts in eastern and central Washington had child poverty rates of 30% plus.
- The middle class is becoming obsolete. For example, in King County, the portion of households with incomes between \$35K to \$100K decreased to 47.3% from 50.7% in 2004. The percentage of those earning between \$15K and \$35K rose to 19.2% in 2004 from 18.9% the previous year while the percentage of people earning more the \$150K increased to 8.8% in 2004 from 7.4% in 2003.
- The living wage for a single adult is \$10.77 an hour. This is based on what is needed to meet basic needs and provides some ability to deal with emergencies and plan ahead. The living wage for a single adult with two children is \$22.35 an hour. Thirty-two percent of all job openings pay less then the \$10.77 an hour living wage for a single adult. Seventy-seven percent pay less than the \$22.35 an hour living wage for a single adult with two children. For each job opening that pays at least \$10.77 an hour living wage for a single adult, there are four job seekers on average. For each job opening that pays at least \$22.35 an hour, living wage for a single adult with two children, there are 12 job seekers on average.
- For each job opening, regardless of pay, there are three job seekers on average.
- America’s health care bill rose to nearly \$2 trillion in 2004, or about \$6,280 for every man, woman, and child, a team of government economists reported.
- Sales of in many regions of Washington State are at record high despite rising gas prices, rising interest rates, and rising numbers of homes on the market.
- Sales in Pierce County grew by only 12%, but the total value of homes sold in 2005 increased 34% to \$3.8 billion. The median price of a home in Pierce County – the midpoint of all sales – was \$239,950 for the full year, a 20% increase over 2004. And by year-end, the median price had reached \$250,000 (a 24% increase over 2004), an all-time high.
- During fiscal year 2004, the states spent 21.9% of their revenue on Medicaid. Elementary and secondary education consumed about 21.5% of states’ budgets. Higher education came in at a distant third at 10.5%.

- In 2003, 8.6% of the nation's poorest young adults earned bachelor's degrees by age 24, barely up from 7.1% in 1975, according to Postsecondary Education Opportunity, a higher education research group.
- Washington state ranks 49<sup>th</sup> out of 50 states in the proportion of its 18- to 24-year-olds enrolled in public four-year institutions.
- At the University of Washington tuition has jumped 187% from 1990 to 2005 where it stands at \$5,610 for Washington residents.
- The divide between the wealthy and poor in educational opportunity threatens to perpetuate the cycle of poverty for thousands of working poor families. More than 147,000 low-wage employees fall into that category in King and Snohomish counties, and more than 80% of them never graduated from college.
- Over the past 14 years, the number of women working in the United States between the ages of 70 and 74 nearly doubled from 324,000 to 618,000, according to the Labor Department.
- Single older women are particularly vulnerable – 20% live in poverty, more than three times the rate of their married counterparts, according to a National Women's Law Center analysis of 2002 Social Security data.
- The number of older people looking for work with the help of the Seattle Mayor's Office for Senior Citizens jumped more than 200% over the past five years to 671 people.
- Factoring in oil prices, lost productivity, and other consequences, two studies put the price of the Iraq war up at \$2 trillion (enough to buy General Motors Corporation about 175 times at current stock prices). Per study findings: "\$1 trillion is enough money to fix Social Security for the next 75 years twice over."
- One study co-authored by Joseph Stiglitz, a Nobel Prize-winning economist at Columbia University and former Chief Economist at the World Bank, postulates the total costs of the war dwarfs government spending (\$357 billion appropriated by Congress from 2002 through the end of 2005 for the wars in Iraq, Afghanistan, and related homeland security issues.

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## **TREND 2:**

**Between 2005 and 2030, the demand for health care and related services, especially geriatrics, will increase and the costs for these services will continue to rise dramatically.**

## **RATIONALE:**

- Health care represented 16% of the economic pie in 2004, 13.8 in 1993, and 9.1 % in 1980.
- Medical Spending continues to rise faster than wages and economic growth. Workers are paying much more in health care premiums than just a few years ago.
- Per economist Deborah Chollet, Mathematica Policy Research, a technical studies organization for government and business, “There is agreement by most observers that the private health system is crumbling.”
  - Health care represented 16% of the economic pie in 2004, compared with 13.8% in 1993 and 9.1% in 1980.
  - The number of corporate pension plans has fallen by more than 66% since their peak in 1985.
- Verizon and IBM have recently set the path that many companies will now take – where current employees accrue no more benefits, future employees get none, and companies instead make more generous contributions to their employees 401 (k) accounts.
- US life expectancy to hit all-time high- 77.6 years. People are living longer; people 60 years of age today have an actuarial life of 82.3. Boomers fully expect that advances in health care and genomics are going to enable them to live past 100.
- 50% of boomers have high blood pressure.
- 88% of people over 55 need vision help.
- In 1990, 9.4 in WA State are obese and in 2001, 18.9% are obese according to the Center for Disease Control. 65% of adults are overweight or obese. Childhood obesity

in a health problem that has plagued Gen Yers (born approximately 1977 to approximately 1993/94).

- Largest growing market in segment in fitness is the over 55 group. From 1993 to 2005 memberships have increased six fold from 1.7 million to 10.2 million.
- As a share of federal funding, Social security, Medicare and Medicaid have more than doubled in 40 years and will continue to grow according to the Congressional Budget Office. 1966=17%, 2006 =43%, 2046 =55%

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#### **TREND 3:**

**Population in the State of Washington will continue to rise 100,000 a year between 2005 and 2010 when the population is projected to reach 6,639,000. From 2010 – 2030 it is expected to slow to a 1.2 percent growth or approximately 75,000 per year.**

#### **RATIONALE:**

##### **General Population**

- Population grew 88,600 in 2005 or 1.4%. It has not been that robust since the early 90's. This is the result of the improved economy.
- Between 2005 and 2010, the WA population will continue to increase by 100,000 people per year because of migration and immigration (not births).
- State forecast shows growth should be close to 100,000 a year by 2008 and will remain at that level through 2010.
- Majority of growth is in Western Washington where 77.8 of the state's population reside.
- Births are expected to rise by the year 2010 as the women of child bearing age increase.
- Median age in 2005 for male and females in Washington is 35 years.
- Washington grew by about 73 percent the past 30 years, or 2.6 million people, and is expected to gain that number again in the next 25 years.
- Population growth in the state directly contributes to its labor pool. It is expected to slow to 1.2 percent per year between 2003 and 2030; similar slowdown is projected for the labor force during the period.
- People in the 16 to 24 age group account for a majority of the new labor market entrants.

- Population will continue rise for the next 5 years primarily due to migration not births.
- Female population is only half of 1% over the male population and that will remain steady.
- Male & female life expectancy in Washington will continue improving at a slow but steady rate.
- Historically, much of Washington State's growth has come from migration from other states or other countries.
- Migration requires criteria for determining the actual "residents" of a specific area. Some population movement is seasonal and temporary in nature. Population migration is usually meant to reflect more permanent movement.
- Many of those who move to the state are highly educated, and this has contributed to the high 2000 census supplementary survey found that Washington ranked eighth among the states in the share of population that had a Bachelor's degree or higher.
- Seattle's population increased more rapidly in the 1990s than in the 1980s. Suburban growth contributed to further decentralization in the Seattle metro area, the city gained nearly 50,000 new residents. Seattle experienced significant growth in both younger and older adults and had considerable new immigration from Asia, Europe, and Latin America.
- Washington's population will have the 9<sup>th</sup> highest percent of change in population in the US by 2030. That is up 6 rankings since the year 2000.
- The state's 25 – 54 year old population, the most active labor force participants, grew an average of 45,300 persons per year between 1970 and 2003. In contrast, the growth of this age group will drop substantially to an annual average of 16,800 persons over the forecast period to 2030.
- By the year 2030 1 in 3 members of Generation Y (born 1980-95) will be ethnically diverse.
- By the year 2030 the largest and fastest growing minorities will be Hispanic.

### **Aging Population**

- Washington's population will age rapidly over the next three decades. The elderly population will increase to 20% of the population by 2030. A major concern is that the leading edge of the baby boom will reach 62 in 2008 and a rapidly growing retiree population will have to be supported by a labor force that will grow relatively slowly.
- Population aging poses economic challenges. On a per capita basis, the nation spends 4.4 times more on health care for seniors than for those under age 65.
- Aging will place considerable pressure on public and private pension plans. Delayed retirement and future productivity increases are expected to offset some of the drag due to population aging.
- The aging of the population will have widespread economic and public policy implications ranging from the expanding demand for personal and health services at the local level to increasing pressure on the federal Social Security and medical insurance programs.
- Permitting more immigration could increase the working age population, reduce the burden of supporting the elderly, and ameliorate the problems associated with aging.

- As the oldest baby boomers become senior citizens in 2011, the population 65 and older is projected to grow faster than the total population in every state. Twenty six states are projected to double their 65 and older population between 2000 and 2030. The demand for health care, especially geriatric care, disease prevention and health promoting activities, will increase as the population ages.
- Mortality will rise between the years 2005 – 2030 even though life expectancy will continue to improve. The aging population will more than offset the life expectancy rise because most of the deaths will occur at ages when individuals are unlikely to be in the labor force.
- People 65 years of age and older will increase from 11.4% in 2005 to 19.7% in 2030.
- The golden age of early retirement and full retirement are over; some of traditional retirement age will need to work for economic reasons and others will work for self fulfillment.
- To achieve continued productivity for the workforce, employers are going to have to turn to older workers to get them re-engaged to make-up for the absence of younger workers.
- Population growth not sufficient to fill the gap to meet the needs of mid-level (1 year of college or more but less than a bachelor's degree) workers.
- There is a 17% gap between the number of mid-level workers needed and those prepared.

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- Office of Financial Management – Long-term Forecast of the Washington Labor Force, April 2004.
- U. S. Census Bureau: State and County Quick Facts.
- Office of Financial Management – Population and Population Trends, April 2004.

#### **TREND 4:**

**Between 2005 and 2030, the Washington population, especially those under 25 years of age, will become increasingly more diverse and the largest increases in ethnic**

**groups will be Hispanics (242,863 to 487,703), those of two or more races (100,769 to 240,281), and Asian/Pacific Islanders (129,988 to 171,598).**

## **RATIONALE:**

### **State diversity**

- Washington State ranks 4<sup>th</sup> nationwide in terms of total minority growth.
- By 2030, minority population growth (1,147,604) in Washington will almost equal the growth in the white population (1,580,704).
- In Washington State, 5.8 percent of persons age 5 and above live in households where Spanish is spoken. At the county level, Franklin County has the highest percentage (41.4%) in this category.
- Spanish speaking immigrants and in particular those arriving from Mexico represent one of the fastest growing segments of the Washington State population.
- Those of 2 or more races/ethnicities will increase from 186,843 to 419,481 (80.32%).
- By 2030, one in three of 15-17 year olds will be non-white. By 2030, one in three of 15-17 year olds will be non-white.
- The Hispanic population will nearly double from 528, 836 to 1,107,583 (91.37%).
- Asians and Pacific Islanders will increase from 404,835 to 619,969 (53.14%).
- Native American will increase from 105,338 to 156,597 (48.77%).
- African Americans will increase from 213,413 to 283,239 (3.27%).
- Whites will increase from 5,319,537 to 6,900,241 (3.37%).
- 90% of Hispanics live in nine states and Washington is one of them.
- From 2005 to 2020, the largest increase in the younger population is projected to be Hispanic.
- The younger population - including those most likely to be in school, college, or professional training - is growing ever more racially diverse.

### **County diversity**

- Racial and ethnic diversity varies by county. Minorities in Eastern Washington and rural Western Washington are primarily Hispanics and those in urban Western Washington are more diverse with large numbers of Asian/Pacific Islanders.
- People of color account for large shares of the population in rural counties, especially Eastern Washington, that have substantial migrant and resident agriculture populations.
- In 2002, Hispanics account for only 8.3% (273,867) of the total population, the largest numbers are in King (59,357) and Pierce (23,880) but they are a small percent of the overall population, 6.65% and 6.21% respectively. However, in Eastern Washington, the numbers are smaller but the percentage of the overall population is much higher, i.e., Franklin County (14,775/35.56%), Adams (4,654/35.42%), Grant (14,272/26.75%), Yakima (48,179/29.82%), Walla Walla (5,333/15.89%).
- Diversity has been increasing dramatically in urban counties of Western Washington. 614,000 WA residents (10.4%) were foreign born. 39% Asia, 28 Latin America, 21% Europe, 12% other.

- Seattle's suburbs gained roughly 5 times as many foreign-born residents as the central city from 1990 to 2000 (Seattle =27,216 and Suburbs =134,898).
- In Seattle in 2000, Asian/Pacific Islanders (13.5%) represent the largest minority in population. Blacks represent 8.3% of the population and Hispanics represent 5.3%. Whites were 67.9% of the population.
- 1 in 6 Seattleites is foreign born from Asian countries such as the Philippines, Vietnam are the most common countries of birth for Seattle's immigrant population.

#### **Education Issues related to diverse populations**

- Nearly 50% of all Hispanics 25 or older have less than a high school education.
- By 2030, 1 in 5 in the labor pool will have less than a high school diploma or be non-English speaking.
- Limited education is one of the most critical barriers to economic advancement and better paying jobs.
- While adult remedial program for Spanish speaking immigrants are available, participation can be limited by many factors ranging from a mobile lifestyle, lack of child care, the need to hold multiple jobs and/or work long hours, distrust of Anglo institutions, and limited English skills.
- The greatest population increase is occurring among the racial/ethnic groups with the lowest educational levels. The younger population - including those most likely to be in school, college, or professional training - is growing ever more racially diverse.

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#### **TREND 5:**

**Between 2000 and 2010, the growth in the number of households in the State of Washington will grow proportionally to the increase in the general population, and will not evidence significant increases or decreases.**

## **RATIONALE:**

There was an increase of 87,537 family households and non-family households in the State of Washington between 2000 and 2004. There are no significant percentage increases or decreases in any particular household type between 2000 and 2004. 65% of the population was a family household; 35% was a non-family household. There was a slight increase in the number of households with children under the age of 18. There was a slight increase in the number of people living alone and in the number of households with people 65 year or older. The overall growth in number of households reflects the general increase in state population.

- In 2000, there were 2,277,698 households:
- Family Households = 64.9%
- With own children under the age of 18 years = 31.9%
- Married couple family = 50.4%
- With own children under the age of 18 years = 22.5%
- Female head of household - no husband present = 10.2%
- With own children under the age of 18 years = 7%
- Non-family Households = 35.1%
- Living Alone = 27.1%
- 65 years of age and over = 8%
- Households with one or more people under 18 years of age = 34.3%
- Households with one or more people 65 years and over = 20.0%
- Average household size = 2.53 people
- Average family size = 3.11 people
- In 2004, there were 2,416,301 households
- Family Households = 64.8%
- With own children under the age of 18 years = 31.5%
- Married couple families = 50.0%
- With own children under 18 years = 21.8%
- Female head of household = 10.2%
- With own children under 18 years = 7%
- Non-family Households = 35.2%
- Living Alone = 27.6%
- 65 years of age and over = 8%
- Households with one or more people under 18 years = 33.8%
- Households with one or more people 65 years and over = 20.1%
- Average household size = 2.52 people
- Average family size = 3.09 people
- Washington is projected to increase by nearly 1 million people by 2010. The number of households is projected to continue increasing from 2005 to 2010 slightly by 1.08% or approximately 226,297 households.
- Between 1980 and 2000, the number of married-couple families with children has declined while the number of single-parent families with children has increased. The percentage of single individuals without children has remained constant.
- Approximately 34% of households moved during the year 2004: 15.3% of the population lived in a different house within Washington in the past year; 18.6% of the

population lived in a different house in another state in the last year. In 2003, the percentage of people moving was slightly less. Between 2000 and 2004, 50 % of occupied housing units were moved into.

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**EDUCATIONAL COMPETITION TRENDS**

1. Four year institutions will continue to be a key competitor with community and technical colleges.
2. Community and technical colleges are becoming more vulnerable to competition from for-profit institutions.
3. Corporations do not recognize community and technical colleges as a preferred source for training.
4. Online training and education continues to expand rapidly.
5. Colleges are spending more resources and time on transitional and developmental education rather than advancing workforce skills which ultimately compromises achievement of economic development goals.
6. Military students with their rich tuition dollars will be a target of opportunity for postsecondary training and education providers, including private career schools.

**TREND 1:**

**Four year institutions will continue to be a key competitor with community and technical colleges.**

**RATIONALE:**

- Increasing numbers of formal academic minor and certificate programs are being offered by distance education from four-year institutions in Washington state and elsewhere.
- There is a growing movement to offer high-profile honors programs and baccalaureate degrees through a traditional academic collegiate model, which in most cases, is proving to be detrimental to occupational and technical program enrollment.
- Increasing attention by policy makers on the need to increase baccalaureate graduates will compel community and technical colleges and four-year institutions to collaborate more effectively to expand articulation and transfer efforts.
- There will be a decrease in need-based financial aid, especially at four-year institutions.
- Recruiting efforts for community and technical college students are increasingly focusing on inducements based on campus experiences, environment, and opportunities rather than on the academic content.

- Some colleges and universities are hiring consultants to help them improve the quality of their incoming freshman classes. More institutions are investing in glossy view books and brochures filled with color photos to promote an attractive and well-maintained campus.

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#### **TREND 2:**

**Community and technical colleges are becoming more vulnerable to competition from for-profit institutions.**

#### **RATIONALE:**

- Private colleges and universities in general are increasingly offering price discounts to compete with public colleges and universities.
- Increasing numbers of students since 2002 are by-passing community and technical colleges and going directly to for-profit institutions as a way of fast-tracking successful entry into the workforce.
- For-profit institutions are increasing their focus on technical education which has been a key portion of community and technical college enrollment.
- For-profits are increasingly marketing to older, non-traditional, working students – a mainstay of community and technical colleges.
- While there has not been a consistent pattern of growth in for-profit higher education providers, especially for two-year schools, there is evidence that for-profits will impact community and technical colleges by serving larger proportions of low

income and minority students, by accessing funds previously limited to state-supported institutions, and will influence student choice through aggressive marketing strategies.

- Increasing tuition at community and technical colleges is causing more students to consider attending for-profit institutions. Since they have to obtain financial aid, they no longer see the difference in tuition between public and for-profit institutions as significant.
- Competition from the private sector will have a major impact on higher education. “Business leaders said that for-profit institutions are succeeding where many traditional public universities are failing: creating cutting edge programs and moving students through in a timely manner.”

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- Trends, A Monthly Research Letter, College of Saint Benedict <http://www.csbsju.edu/institutionalresearch/trends/aug04.pdf>.
- Trends in Higher Education. <http://www.scup.org/pdf/Trends%20Layout%207-05.pdf>.
- The Response of Community Colleges to Increasing Competition. [http://www.ncspe.org/publications\\_files/Bailey1.pdf](http://www.ncspe.org/publications_files/Bailey1.pdf).
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- Walker, Kenneth P., “The Workforce Bachelor’s Degree”, Education Digest; Feb 2000.

### **TREND 3:**

**Corporations do not recognize community and technical colleges as a preferred source for training.**

## **RATIONALE:**

- Public community and technical colleges generally have been very receptive and eager to offer industry certification programs. However, they can produce very little or no data on the effectiveness of college-prepared students vs. preparation of certification students by for-profit institutions.
- On-the-job training, vendor training, and other forms of private sector training dwarf the college segment.
- Colleges typically do not aggressively pursue corporate training and tend to view whatever they get as a “plus” rather than a significant part of the overall college competitive strategy.
- Corporations are outsourcing more and more of their training.
- E-learning is on demand. Websites are identifying top training vendors for corporations to help them find the right training partner.
- Research is supporting the need for community and technical colleges to understand their role in economic development and how understanding will enhance funding support.
- While the federal government invests \$15 billion annually in workforce development programs, private sector employers and individuals invest far larger amounts.

## **RESOURCES:**

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- Pindus, Nancy and Lellie Isbell. Involving Employers in Training: Literature Review US Department of Labor. Employment and Training Administration, 1996.
- Rosenfeld, Stuart. Just Clusters: Economic Development Strategies That Reach More People and Places: A Synthesis of Experiences. Carrboro: Regional Technology Strategies, Inc. 2002.
- Training for the Next Economy: An ASTD State of the Industry Report on Trends in Employer-Provided Training in the United States. 2002.
- Training Outsourcing.com, Business Strategies for Learning, Top 20 Companies in Training Outsourcing Industry, [http://www.trainingoutsourcing.com/exec\\_top20companies\\_list\\_2005.asp](http://www.trainingoutsourcing.com/exec_top20companies_list_2005.asp).

#### **TREND 4**

##### **Online training and education continues to expand rapidly.**

###### **RATIONALE:**

- The “quality” gap between online learning and traditional campus learning is closing. Numerous studies are documenting that distance learners perform as well or better than their on-campus counterparts.
- Opportunities for learning are increasingly available as institutional networks and the Internet make higher education feasible for more people and make institutional collaboration both possible and economically desirable.
- The distinction between online and face-to-face courses is blurring rapidly. Many, if not most, traditional classes now use online components.
- Online education has become the leading modality for distance education, and academic leadership expects online enrollment to grow as much as 25% per year.

###### **RESOURCES:**

- CNN.Com "Students prefer online courses" Friday, January 13, 2006;  
[www.cnn.com/2006/EDUCATION/01/13/oncampus.online.ap/index.html](http://www.cnn.com/2006/EDUCATION/01/13/oncampus.online.ap/index.html).
- Elements of Quality Online Education: Into the Mainstream, Volume 5  
Sizing the Opportunity: The Quality and Extent of Online Education in the United States, 2002 and 2003.
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- <http://www.sloan-c.org/publications/books/index.asp>.
- Elements of Quality Online Education: Engaging Communities, Volume 6.  
<http://www.stanford.edu/group/ncpi/documents/pdfs/forprofitandcc.pdf>.
- Witherspoon, John, Building the Academic Ecosystem: Implications of E-Learning,” WCET Cooperative Consulting, December 2005

#### **TREND 5**

##### **Colleges are spending more resources and time on transitional and developmental education rather than advancing workforce skills which ultimately compromises achievement of economic development goals.**

###### **RATIONALE:**

- The racial/ethnic groups that are the least effectively educated are the fastest growing.
- The focus on K3-12 with the growing levels of poverty, decreasing numbers of high school completers, and growing numbers of high school students not at college level may influence a shift in funding and allocation of resources that negatively impacts higher education, specifically 2-year colleges.
- The ultimate impact will show up in workforce numbers but if the situation is to be corrected the process will need to start in K-12.

- A K-12 systems scan clearly shows that enrollment trends in Washington state school districts align with national dynamics consequently we should expect similar challenges and opportunities.

#### **RESOURCES:**

- As America Becomes More Diverse: The Impact of State Higher Education Inequality, by Patrick J. Kelly at the National Center for Higher Education Management Systems (NCHEMS), with support from the Lumina Foundation. For the full report, see [www.higheredinfo.org/raceethnicity/](http://www.higheredinfo.org/raceethnicity/).
- The Center for Public Policy and Higher Education [http://www.highereducation.org/reports/pa\\_decline/](http://www.highereducation.org/reports/pa_decline/).
- Tacoma News Tribune article 1/2/06, front page, “Students feel pinch of poverty.”
- “New census estimates show poverty among schoolchildren in WA and in the South Sound. It poses a challenge for teachers.” Though poverty is most pronounced in several central and eastern WA districts, South Sound schools also have seen rising poverty among children ages 5 to 17... poor children tend to have a tougher time in school than their more affluent peers.”
- Tacoma News Tribune article 1/2/06, Insight section – cover page, 1/1/06, “Education X3”, The News Tribune’s 2006 Civic Agenda emphasizes Pre-K preparation, sticking with WASL and boosting access to college and vocational training.

#### **TREND 6**

**Military students with their rich tuition dollars will be a target of opportunity for postsecondary training and education providers, including private career schools.**

#### **RATIONALE:**

- Military students will earn greater benefits for education both during and after military service.
- Military students, particularly Army students, are enrolling in 100% on-line programs through e-Army U.
- Military services touch about 2 million individuals between the ages of 18-40, our primary target age cohort.

#### **RESOURCES:**

- Opportunity for Service members and Veterans, December 2005, Vol. 8, No. 2 Service members Opportunity Colleges, Washington, D.C.
- (ACE) National Guide to College Credit for Workforce Training. <https://www.acenet.edu/NationalGuide>.
- GI Bill information and tuition assistance: [www.military.com](http://www.military.com).
- Information on the National Guard: [www.encyclopedia.thefreedictionary.com/US+military](http://www.encyclopedia.thefreedictionary.com/US+military).
- U.S. Department of Labor, Bureau of Labor Statistics web page: [www.bls.gov](http://www.bls.gov). Identified size of Department of Defense and military forces.

- Further recruitment and active duty numbers provided by Department of Defense: [www.defenselink.mil](http://www.defenselink.mil) and U.S. Army Recruiting Command: [www.usarec.army.mil/hq/apa/goals.htm](http://www.usarec.army.mil/hq/apa/goals.htm).

### **EDUCATION TRENDS**

1. Employers’ demand for highly educated employees, with certifications and college degrees, will continue to increase through 2012.
2. A widening gap will continue to exist between low literacy and non-native speaking workers entering our system and the level of skills required by our employers.
3. As more students enter community and technical colleges with a technology-enriched background, the need for and expectation of technology-enhanced learning experiences will increase.
4. There is a continuing disparity among K-12 student racial/ethnic groups in academic achievement levels and the disparity will continue into the near future.
5. There is an increased emphasis on high expectations and accountability in K-12 public education.
6. Government and philanthropic interests are increasing their attention to and support for pre-K/early learning.
7. Student education costs are increasing faster than inflation.
8. There is an increasing gap between the demand for math, science and engineering employees and the ability of the Washington State’s educational system to produce math, science and engineering graduates.
9. There is a continuing disparity among postsecondary racial and ethnic groups in measures of student outcomes, such as certificates and degrees awarded, which is not expected to improve in the near future.
10. There is increasing attention to accountability in post-secondary education.

***Emerging issue:***

**There is increased attention on the academic performance “achievement gap” between males and females.**

**TREND 1:**

**Employers’ demand for highly educated employees, with certifications and college degrees, will continue to increase through 2012.**

**RATIONALE:**

- Employment projections indicate approximately 123,000 job openings annually between 2007 and 2012. Of these 25 percent would require an associate degree (or other midlevel training) and 19 percent would require a bachelor’s degree or higher as the entry level requirement.
- When additional training needs are considered, 25 percent would require a baccalaureate or higher and an additional 25% would require an associate degree or other mid-level training.

- Employers are having trouble recruiting qualified applicants who possess both a baccalaureate degree and job-specific skills.
- Among employers (12,700 firms) attempting to hire at the baccalaureate level, 68 percent had difficulty finding qualified applicants.
- 16,600 firms are having difficulty finding enough qualified applicants with professional/technical associate degrees.
- The majority of family wage jobs created in the state will require post secondary education. Over the next decade, approximately 27,600 annual job openings for technicians, paralegals, health care workers, salespeople and other occupations that require more than one year of post secondary education; 20,400 annual openings requiring 1 to 12 months of post secondary in other occupations and another 27,300 annual openings in professional occupations.

#### **RESOURCES:**

- “Workforce Survey Reveals Significant Growth in Hospital Employment”, Washington State Hospital Association Weekly Report. Vol 30, No.39.
- “Hospitals Help Colleges Net \$9.2 Million to Expand Health Care Training”, Washington State Hospital Association Weekly Report, Vol 30, No.36.
- “Community Colleges and Skilled Workers”, by Frank Chopp and Phyllis Gutierrez Kenney, Guest Columnists, Seattle Post Intelligencer, November 10, 2005.
- “State and Regional needs Assessment”, Washington Higher Education Coordinating Board, October 2005.
- “Time to Pony up for community colleges”, Seattle Times, November 2, 2005.
- “Baccalaureate Enrollment Growth Needed to Meet Educational Needs of Technical Associate Degree Graduates”, by Loretta Seppanen, Tina Bloomer & Madeleine Thompson, Washington Higher Education Coordinating Board & State Board for Community and Technical Colleges, April 2005.
- “High Skills, High Wage 2004, Washington’s Strategic Plan for Workforce Development”, Washington State Workforce Training and Education Coordinating Board, 2004.
- “Industry Skills Panels”, Washington State Workforce Training and Education Coordinating Board, 2005.
- “2003-2005 Job Skills Program Annual Report to the Legislature”, State Board for Community and Technical Colleges, January 1, 2005.
- “Hospitals pay for Additional Nursing Slots”, The Olympian, November 2, 2005.
- Opinion-“Education adds up to jobs success”, Columbian, March 9, 2005.
- Power Point Presentation “A skilled and Educated Workforce:” Workforce Training Board, SBCTC, HEC, January 26, 2006.

#### **TREND 2:**

**A widening gap will continue to exist between low literacy and non-native speaking workers entering our system and the level of skills required by our employers.**

## **RATIONALE**

- One in six adults in Washington doesn't have the skills to secure a livable wage job. A recent study showed that for a student to obtain a livable wage job and a reliable career they would need one year of college and a credential.
- Many high school graduates lack basic math skills
- Many recent graduates struggle to understand English and to read instructions
- Recent studies suggest that college graduates perform poorly on basic-skills tests such as the National Assessment of Adult Literacy. That survey, last administered by the Department of Education in 2003, found that less than a third of college graduates could read complex texts and make complicated inferences
- Despite the importance of Basic Education programs, they are not receiving sufficient state funding.
- Adult basic skills students (ABE and ESL) struggle to make their way through a traditional educational course sequence model that often requires years of basic skills courses before qualifying for "college level" courses or programs.
- Innovative programs that combine "college level" courses and programs with adult basic skills will be required to close the skill gap for basic skills students.

## **RESOURCES:**

- "I Best: A Program Integrating Adult Basic Education And Workforce Training" Washington State Board for Community and Technical Colleges, Oct 2005.
- "A report to the legislature," Workforce Training Board, July 03-July 04.
- "Adult education meets a growing need ", Bill Sperling, Herald Net, November 12, 2005.
- "High Skills, High Wage 2004, Washington's Strategic Plan for Workforce Development", Washington State Workforce Training and Education Coordinating Board, 2004.
- "Building Pathways for low-skill adults", David Prince and Davis Jenkins, April 2005.
- "State's strategic plan highlights six strategic opportunities", Workforce Board Electronic Newsletter, July 27, 2004.
- "Undereducated face hurdles without more state funding ", Jean Floten, Seattle Post – Intelligencer, February 1, 2005.
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- "Workforce Washington: Conquering the Skills Gap", Mike Hudson, Washington Business Magazine, May/June 2005.
- "Office of Adult Literacy State Board for Community and Technical Colleges" Workplace Basic Skills in Washington State: Programs in Practice, Date unknown.
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### **TREND 3:**

**As more students enter community and technical colleges with a technology-enriched background, the need for and expectation of technology-enhanced learning experiences will increase.**

#### **RATIONALE:**

- Technology is changing the learning and teaching environment. Sometimes the students themselves drive this, born and comfortable in the age of the Internet.
- Department of Education Major Action Steps and Recommendations: Support E-Learning and Virtual Schools. In the past five years there has been significant growth in organized online instructions (e-learning) and “virtual” schools, making it possible for students at all levels to receive high quality supplemental or full courses of instruction personalized to their needs.
- USDOE recommends for states, districts and schools provide every student access to e-learning.
- Department of Education Major Action Steps and Recommendations: Move toward Digital Content. Schools, teachers and students should move away from reliance on textbooks to the use of multimedia or online information (digital content).
- Today’s students think and process information fundamentally different from their predecessors.
- Today’s average college grads have spent less than 5,000 hours of their lives reading, but over 10,000 hours playing video games (not to mention 20,000 hours watching TV). Computer games, email, the Internet, cell phones and instant messaging are integral parts of their lives.
- In, 2003, the ratio of students to computers in all public schools was 4.4 to 1.
- 48 states included technology standards for students in 2004-2005.
- No Child Left Behind requires that every student should be technology literate by the time they finish the 8th grade. No Child Left Behind provides \$15 million for a five year research study to identify the conditions necessary for technology to improve student achievement utilizing scientifically based research methods.
- The influence of the traditional university is declining due to its inability to adapt quickly enough to the demands of the information society. Simultaneously, “new concepts” universities are flourishing because they can offer flexible, “any time, any place” learning opportunities.
- Distributed approaches to learning, particularly distance education, workplace training, technology-supported learning, and on-campus flexible open learning are increasing.
- Curricula must be presented in ways that engage our students (ex. video games)
- Customization is central to the definition of technology for Net Geners. Technology is something that adapts to their needs, not something that requires them to change.
- Student expectations regarding technology customization in the classroom are closely linked to faculty knowledge and skill. The Net Generation’s views on technology in the classroom include the expectation that professors will use technology to better communicate expert knowledge.

- Distance Education enrollments increased from 2002 to 2004.
- Distance Education completion rates for all classes fall 2004, 76%. Online completion rates for all classes fall 2004, 76%. Interactive Television completion rates for all classes fall 2004, 88%. All other Distance Education formats have completion rates for fall 2004, 72%.
- Non-Distance Education completion rates for all classes fall 2004, 84%.
- Availability of Technological Resources allows students to view attendance as optional. Instructors may restrict use of resources to encourage student attendance in class.
- Student Response Systems (SRS) engage students even in large classes.
  - Test knowledge.
  - Provide instant feedback.
  - Allow anonymity so more students participate without fear of openly giving wrong answers.
- Lectures, previously taped and only available at library listening stations, are now downloaded to computers, iPods and MP3 Players. This technology is not intended to replace class notes and class attendance. Advantage for students to take lecture anywhere to listen and available for listening multiple times.

#### **RESOURCES:**

- “Toward A New Golden Age In American Education – How the internet, the Law and Today’s Students Are Revolutionizing Expectations”, U.S. Department of Education, National Education Technology Plan 2004.
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- “U.S. Department of Education; Educational Technology Facts Sheet”, USDOE Website.
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- “CTC System Technology Plans”, Washington State Board for the Community and Technical Colleges, Distance Learning News Letter, Winter 2006.
- “Engage Me or Enrage Me: what today’s learners demand”, Marc Prensky, Educause Review, Sept./Oct. 2005.
- “Technology and Learning Expectations of the Net Generation.” Gregory Roberts, Net Generation. Eds. Diana and James Oblinger, Educause, 2005.
- “Washington State Board for the Community and Technical Colleges Distance Learning Data”, State Board for Community and Technical Colleges Annual Report 2004-05.
- “Students Skip Class more when notes are online.” Stuart Silverstein. The Herald – Everett, WA, Jan. 25, 2006.
- “Technology helps students at UW interact and learn.” Jake Ellison. Seattle Post-Intelligencer, Jan 25, 2006.
- “UW’s Downloadable lectures have iPods playing a new tune.” Christine Frey. Seattle Post-Intelligencer Oct. 31, 2005.

- “Coeur d’ Alene tribal students get tutored by WSU via Internet.” Associated Press. Seattle Post-Intelligencer, Jan 26, 2006.
- “The Laptop Backlash; Wireless Classrooms Promote Messaging and Web Surfing, Not Learning, Professors Say.” Gary McWilliams. Wall Street Journal. (Eastern edition). New York, N.Y.: Oct 14, 2005, pg. B.1.
- Washington’s Distance Learning Enrollment 2000-04, Office of Financial Management.
- “P-I Focus: Technology opens up whole new opportunities at Cleveland High.” Ted Howard. Seattle Post-Intelligencer, May 26, 2002.
- “Trading textbooks for laptops.” Jessica Blanchard. Seattle Post-Intelligencer, April 26, 2005.

#### **TREND 4:**

**There is a continuing disparity among K-12 student racial/ethnic groups in academic achievement levels and the disparity will continue into the near future.**

#### **RATIONALE:**

- Over the past eight years, the math gap has increased between white and minority students, with the exception of Asian American students. Among seventh graders, the difference in math scores between white and black students for this time period increased from almost 18 to 31 percentage points, from 17 to 29 percentage points for Latino students, and from 17 to 24 percentage points for American Indians.
- In 2003-04, a large proportion of black, Hispanic, and Native American students did not meet the statewide standards in the Washington Assessment of Student Learning (WASL) tests. [Higher Education Coordinating Board, “Key Facts About Higher Education in Washington, Part 3: Readiness, Participation in College, Transfers, Achievement,” 2005.]
  - In the mathematics portion on WASL, only 16% of black students met the statewide standards, as did 20% of Hispanic students, and 23% of Native American students. In contrast, 52% of Asian/Pacific Islander students and 49% of white students met the statewide standards on math.
  - In reading and writing, black students, Hispanic students, and Native American students did better in meeting statewide standards but the percentages ranged from 41% to 48% while about 70% of the Asian/Pacific Islander students and of the white students met the statewide standards.
- In 2005, the majority of black, Hispanic, and American Indian students at the 10<sup>th</sup> grade did not pass one or more of the WASL sections. The *Seattle Times* reported that although 58 percent of all 10<sup>th</sup>-graders did not pass one or more sections of the WASL, that approximately “82 percent of black students, 80 percent of Hispanic students and 78 percent of American Indian students did not pass one or more parts of the test” (p. A13).
- On the National Assessment of Educational Progress (NAEP), although African American and Latino students in Washington have shown gains in reading and math

tests, their performance overall was lower than whites and Asians at both fourth and eighth grades.

- In 2005, only 20% of African Americans and 15% of Latinos were proficient in reading compared to 40% of white and of Asian students. Results for math were similar except that in the eighth grade Asian students performed better than white students.
- Although the annual dropout rates for 2003-04 for all ethnic groups have declined and the on-time graduation rates have improved compared to 2002-03, the educational gap between American Indian, Hispanic, and African American students compared with white and Asian/Pacific Islanders is still high.
- In 2003-04, the dropout rate was 12% for American Indian students, 10% for Hispanic, and 9.7% for African American students. Students with limited English had a dropout rate of 7.9%. In contrast, the dropout rate for white students was 5% and for Asian/Pacific Islanders was 3.7%.
- The on-time graduation rate for American Indian students was 47%, for African American students was almost 54%, and for Hispanic students was 54%. In contrast, the on-time graduation rate for Asian/Pacific Islander students was 78% and for white students was almost 74%.

#### **RESOURCES:**

- Deborah Bach, "Math Gap Grows for Minority Students; Difference in WASL Scores Shows Significant Jump at Seventh Grade," *Seattle Post-Intelligencer*, November 14, 2005.
- Sanjay Bhatt, "State students get good "report card"; National test for 4<sup>th</sup>-8th graders; Scores for blacks again among country's best," *Seattle Times*, October 20, 2005.
- Andrew Garber, "What to do with WASL will be test for lawmakers," *Seattle Times*, January 5, 2006.
- Higher Education Coordinating Board, *Key Facts About Higher Education in Washington, Part 3: Readiness, Participation in College, Transfers, Achievement*, 2005.
- State Superintendent of Public Instruction, *Graduation and Dropout Statistics for Washington's Counties, Districts, and Schools, School Year 2003-04*, September 2005.

#### **TREND 5:**

**There is increased emphasis on high expectations and accountability in K-12 public education.**

#### **RATIONALE:**

- The high school graduating class of 2008 is currently required to pass the WASL in order to graduate. Since the WASL is normally administered during 10<sup>th</sup> grade, 2005-06's 10<sup>th</sup> graders are the first who will need to pass the WASL in order to earn a high school diploma. This requirement has led to increased scrutiny of student performance in high school. It has also led to an increased emphasis on student and

K-12 system accountability. The WASL is also administered to grades 3-5 and 7-8 as part of the state's program of educational assessment used in the Federal No Child Left Behind program.

- The 2008 WASL requirement for graduation will have a direct effect on students and families. The test is not timed and 2005-06 10<sup>th</sup>-grade students will have four chances to pass the different sections of the test before their 2008 graduation.
- There is an upward trend in the percentage of 10th-grade students passing the WASL. The 2004 pass rate was 38% and the 2005 pass rate was 42%. "The state projects that about 57 percent of this year's 10th-graders will pass the Washington Assessment of Student Learning (WASL). If those numbers prove true, about 34,000 high-school students will have to retake the test and do better to graduate in 2008, or show they've met state standards through an alternative assessment still being developed." (Seattle Times, January 5, 2006, pA1).
- Business groups tend to support the WASL requirement. "Letting kids out of our schools who don't know how to read and write, it's always been morally indefensible and now it's economically indefensible as well," said Steve Mullin, president of the Washington Roundtable, a business group that includes high-profile companies such as Boeing and Microsoft. . . . The group argues that students need the skills the WASL measures to succeed in today's economy." (Seattle Times, January 5, 2006, pA1).
- The Washington Education Association teachers union encourages lawmakers to remove the WASL as the main graduation requirement. They are concerned that high-stakes tests are a poor education practice and keeping the WASL as a requirement could lead to an increase in drop-out rates and a decline in academic achievement.
- Some critics of the WASL suggest that deadline testing will devastate many students, especially from minority backgrounds.
- Student scores on the WASL are seen as an important indicator of school performance. The WASL requirement is linked to the idea of high expectations for student performance and the educational system. There is a strong belief that without high expectations, students will under-perform.
- When the Seattle School Board asked the legislature to remove the WASL as a high school graduation requirement, the move was seen by many as a threat to high expectations. The request from Seattle to drop the WASL as a graduation requirement got attention across the state.
- In the November 2004 statewide election for the Superintendent of Public Instruction, accountability was one of the major issues. The winner, Terry Bergeson, campaigned on high expectations and the WASL. Opposition to the WASL has not gained a lot of public support as Bergeson's opponent campaigned against the WASL.

#### **RESOURCES:**

- Bhatt, Sanjay. "A new way of judging how well schools are doing." Seattle Times. August 28, 2005, p.A1.
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- Leaming, Sara. “Newly released WASL scores show progress.” Spokesman Review. September 3, 2005. p.V6.
- McDonald, Rob; “Schools gearing up for WASL: Opponents prepare protests of high-stakes student testing.” Spokesman Review (Spokane). March 1, 2005 p.B1.
- Seattle Post-Intelligencer Editorial Board, “Education: Testing the System.” Editorial. Seattle Post-Intelligencer. December 11, 2005, p.G2.

## **TREND 6:**

### **Government and philanthropic interests are increasing their attention to and support for pre-K/early learning.**

#### **RATIONALE:**

- Support for pre-kindergarten and early learning programs has been building in governmental agencies around the country and in Washington State. This support is based on research that suggests that pre-school education saves money in the long run and contributes strongly to later academic skills.
- Governors and legislators from both parties are pouring money into universal preschool programs. . . Preschool backers cite studies showing that for every dollar spent on preschool education, between \$7 and \$12 won’t have to be spent by states later on for corrections and social services. They believe that children who go to preschool enter kindergarten better prepared to learn, giving schools a shot at closing the persistent achievement gap between poorer children and their middle-class counterparts.
- Universal preschool opponents often cite a 2005 study by the University of California system and Stanford University that found that preschool hurt some children’s social skills, though it did raise their performance in language acquisition, reading and math.

- In Washington State, the attention has focused on the link between early learning and the ability for students to meet higher academic standards and expectations.
- Washington Governor Christine Gregoire received a recommendation from a panel investigating the current and future challenges facing the state's educational system that a cabinet-level early learning department be created. The Governor has included that formation in her budget proposals for 2006.
- In addition to the new governmental department, the panel also recommended several new initiatives related to early learning. The bipartisan [Washington Learns] committee, made up of educators, business leaders and legislators, is advocating for the creation by July 1, 2006 of an early learning department. Those recommendations include:
  - The department would have a director appointed by Gregoire and be the primary agency for administering public and private early-learning services, which currently fall under various departments.
  - Partnerships among the state, businesses and philanthropic organizations to conduct a public outreach campaign emphasizing the importance of early learning.
  - A system for rating the quality of early learning services and providing some reimbursement to providers that become accredited under the system.
- Philanthropic organizations are a major player in the increased attention and resources being directed to early learning. The emphasis appears to be on pre-school as a learning environment as opposed to a child-care model. The philanthropic focus is furthering efforts to garner public dollars as well. "Tuesday (1/17/06) Gov. Christine Gregoire officially created the Washington Early Learning Fund, which will receive up to \$90 million from the Bill & Melinda Gates Foundation, in addition to donations from Bruce and Jolene McCaw's Talaris Research Institute Board, Boeing, and others.
- "Washington's smallest children are about to get some big-time attention and money from state political and business leaders as well as the world's largest foundation, which says the smartest way to get children ready for success in school and life is to get them ready for kindergarten... The Bill and Melinda Gates Foundation is launching a new early-learning initiative in Washington, with up to \$90 million in grants in the next 10 years to boost the quality of child care and early learning for children from birth to age 5." (Seattle Times, December 18, 2005 pB1).

**RESOURCES:**

- Bartley, Nancy. "Philanthropists look at preschoolers' needs; Washington Early Learning Fund created." Seattle Times, January 18, 2006. p.B2.
- Silverman, Julia. "Universal preschool trend has critics." Seattle Times. December 19, 2005, p.B3.
- Houtz, Jolayne. "Gates, state invest in children." Seattle Times. December 18, 2005, p.B1.
- Bach, Deborah. "Committee stresses early learning: Panel urges creation of cabinet-level agency." Seattle Post-Intelligencer. November 15, 2005, p.B2.
- Weinstein, Brian. "Money alone won't buy good education." Seattle Post-Intelligencer. November 15, 2005, p.B7.

## **TREND 7:**

### **Student education costs are increasing faster than inflation.**

#### **RATIONALE:**

- The inflation rate as measured by the Consumer Price Index (CPI) 2000 - 3.4%, 2001- 2.8%, 2002 -1.6,% 2003- 2.3%, 2001- (.1%)
- During the five-year period between 2000-2005 community college tuition and fees have increased by 47%. During the five-year period of 2000-2005 community colleges' annual tuition and fees have increased from \$1,641 to \$2,428. This exceeds the inflations rate cited above.
- An increase averaging 7 percent, approved by the Washington State Board for Community and Technical Colleges on Thursday, will bring the rise in tuition costs to more than 35 percent in the past five years
- For a student taking 15 credits, this means a tuition bill of about \$714 per quarter, plus local fees.
- The University of Washington will likely increase resident undergraduate tuition by 16 percent this fall, 2006 while Western Washington University has approved a 14 percent tuition increase, and community and technical colleges a 12 percent increase for the fall, 2006

#### **RESOURCES:**

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- NPA Services, The US Inflation Rate - 1984 to 2004, NPA Services, Financial Trend Forecaster® - InflationData.com, September 19,2005.
- Full-time Undergraduate Student Tuition and Fees, Higher Education Coordinating Board, 2005.
- State's CC students' brace for tuition increase; Board official worries 7 percent jump means some won't continue their studies, Leslie Fulbright, Seattle Times. Seattle, Washington, April 10, 2004.
- Community college tuition will increase by 7 percent this fall, Lorna Sutton, Washington State Board for Communtiy and Technical College, June 27, 2003.
- State colleges are growing too pricey for middle class, Tan Vinh, Seattle Times. Seattle, Washington, May 2, 2002.
- No End in Site for College Tuition Hike, Associated Press, Columbian, Vancouver, Washington, May 4th, 2002.
- College Costs Rose Five Percent this Year, Steve Giegerich, Columbian, Vancouver, Washington, Oct 22, 2002.
- CCS tuition to jump 12 percent in the fall; Students can expect to have fewer courses, services, bigger classes, Virginia de Leon, The Spokesman Review. Spokane, Washington, Jun 19, 2002.
- Students facing higher-cost education, Jennifer Lloyd, Seattle Times. Seattle, Washington, Aug 18, 2004.

## **TREND 8:**

**There is an increasing gap between the demand for math, science and engineering employees and the ability of the Washington State's educational system to produce math, science and engineering graduates.**

### **RATIONALE:**

#### **Educational system shortages**

- Last summer Bill Gates of Microsoft sponsored the 6th Annual Microsoft Research Faculty Summit. While there he focused his comments on urging the production of more Computer Scientists. Number of newly declared computer-science majors declined 32 percent from the fall of 2000 to the fall of 2004.
- The number of graduate degrees produced in Math, Physical Science, Health, and Engineering declined by 18 percent, 13 percent, 9 percent and 8 percent, respectively in 2004 from the 2002 level.
- Demand in specific occupations is not being met by current supply. Matching with the ultimate demand measure, current degree production only meets 67% of the need in engineering, software engineering and architecture and 56% of the need in computer science.
- A state study on supply and demand of teachers in Washington State found considerable teacher shortage in math and sciences such as physics, chemistry and biology.
- Districts in more than half the counties reported shortages of teachers last year in math, and predict math will continue to have shortages for the next five years.
- The state of Washington's higher academic standards for students, not to mention the new century's growing technological demand for workers, are driving the shortage of math and science teachers.

#### **Unmet employment needs**

- Employment growth was robust in Computer Science at a 22 percent increase.
- Employers are looking for more graduates in nursing, computer sciences, engineering, and other high-demand fields, and high-tech companies aren't able to hire people they need. Many fear that if Washington can't provide the necessary training and education for these jobs, employers will hire people from outside our state.
- Microsoft's Mr. Rashid and Bill Gates were in Washington to sound the alarm to lawmakers and journalists about declining student interest in science and engineering in general and computer science in particular. Richard F. Rashid, senior vice president for Microsoft research, says "Microsoft has more jobs for computer-science graduates with bachelor's degrees than it can fill. The positions include developers and program managers. If you can't fill positions in the United States, then you do need to look outside," says Mr. Rashid. (Gates, 2005).

### **RESOURCES:**

- Gates: Lack of Computer Science Spending Is 'Kind of a Crime', Darryl K. Taft, eWeek.com, July 19, 2005.
- State and Regional Needs Assessment, Washington Higher Education Coordinating Board, October 2005.

- 'Education Governor' Locke focuses on higher education in State of the State, links tax breaks to create jobs with job training. Legislative News, July 16, 2004.
- State Faces Rising Teacher Shortage, Eric C. Stevick, The Herald, July 31, 2002.
- Student Interest in Computer Science Plummetts, Andrea L Foster, The Chronicle of Higher Education, May 27, 2005.
- The state's pool of teachers is well-qualified, but pending retirements and other issues could create problems, Andrew Trotter, Editorial Projects in Education Inc. January 9, 2003.
- Takko says legislation answers big demand for more math, science teachers, State News Release, House of Representatives, February 20, 2006.

#### **TREND 9:**

**There is a continuing disparity among postsecondary racial and ethnic groups in measures of student outcomes, such as certificates and degrees awarded, which is not expected to improve in the near future.**

#### **RATIONALE:**

- Fewer students from minority background (Native Americans, Hispanics, and African Americans) attended college within one year of high school compared to their white and Asian American peers. Of the High School Class of 2002, 40% of Native American students, 46% of Hispanic students, and 50% of African American students enrolled in college within one year of high school graduation, compared to 55% of white students and 70% of Asian students. Between 1995-96 and 2003-04, there has been a small increase in the bachelor degree attainment by ethnic minority students, however, the combined percentage of students with bachelor degrees in 2003-04 who were African Americans, Native Americans, and Hispanics came to only 7.6%.
- Black/African American and Latino/Hispanic students entering college from high school enroll at higher rates than their white peers in developmental classes at community colleges. In addition, the progress rate for Latino/Hispanic and Native American adult basic education students is lower than for white students.
- Black/African American, Latino/Hispanic, and Native American students are less likely than white and Asian/Pacific Islanders to continue in college transfer classes, to be “transfer-ready,” and to earn 15 or more vocational credits before exiting from their college programs
- Overall, the postsecondary educational outcomes for students of color have lagged behind those of their white peers although college participation by these underrepresented populations has improved.
  - According to the National Center for Public Policy and Higher Education, the State of Washington has shown that while college participation rate among minority ethnic groups has worsened, those who do attend and persist earn a bachelor’s degree at increased rates compared to a decade ago. A decade ago, 21 of every 100 adults from minority ethnic groups had a bachelor’s degree. In 2004, the rate was 28 out of very 100 minority adults. With respect to college

participation rate, 45 of every 100 young minority adults were enrolled in college a decade ago but only 21 of 100 were enrolled in 2004.

- The Academic Year Report for 2004-05 published by the State Board for Community and Technical Colleges provided annual data from 2000-01 to 2004-05 for participation and completion rates by students of color. Although there have been slight improvements in the proportion of students of color who have enrolled at the two-year college systems and who have been awarded degrees and certificates, the gap continues to be substantial between students of color and white students.
  - In 2004-05, the percentage of students of color enrolled in the community and technical colleges was 31.9% compared to 28.4% in 2000-01.
  - In 2004-05, the percentage of *degrees* awarded to students of color was 20.9% while in 2000-01 it was 18.8%.
  - In 2004-05, the percentage of *certificates* awarded to students of color was 27.9% while in 2000-01 it was 25.4%.

#### **RESOURCES:**

- Higher Education Coordinating Board, *Key Facts About Higher Education in Washington, Part 3: Readiness, Participation in College, Transfers, Achievement*, 2005.
- The National Center for Public Policy and Higher Education, *Measuring Up 2004: The State Report Card on Higher Education: Washington*.
- Washington State Board for Community and Technical Colleges, *Academic Year Report 2004-05, December 2005*.
- Washington State Board for Community and Technical Colleges, *Access and Success for System Goals for People of Color in Washington Community and Technical Colleges: Progress Report* (Research Report No. 4), December 2005.

#### **TREND 10:**

##### **There is increasing attention to accountability in post-secondary education**

#### **RATIONALE:**

- The focus on accountability and testing in the K-12 system is seen as possibly spreading to post-secondary education.
- The federal Commission on the Future of Higher Education is likely to recommend, but not require some form of standardized assessment across colleges and universities. This attention to accountability increased following the release of national test data showing poor performance of college graduates.
- The chairman of the federal Commission on the Future of Higher Education says it will not propose mandatory testing of college students but will urge colleges and accrediting agencies to voluntarily adopt assessments of student learning, and will recommend two tests.
- The discussion of standardized assessments appears to have gained legitimacy with the increase in education costs.

- Increased accountability in higher education is not new. For years state and federal policy makers have pressed colleges and universities to demonstrate outcomes. As tuitions have risen, outpacing inflation, many state legislatures and accrediting agencies have tried to create ways to measure the improvements college education makes in students' knowledge and skills.
- Business interests are raising questions about higher education effectiveness. Business leaders on the commission express concern that college graduates are unprepared for 21st-century jobs. The executives note that U.S. companies spend billions of dollars to give their workers remedial education each year.
- Due to increased accountability sensitivity on the part of lawmakers, higher education institutions may have difficulty seeking increased funding without showing evidence of student learning outcomes.

**RESOURCES:**

- Field, Kelly. "Panel to Give Colleges 'Gentle Shove' Toward Testing." Chronicle of Higher Education. April 7, 2006.
- Vestal, Shawn. "Next: No Collegian Left Behind? Standardized test advocates now targeting higher ed." Spokesman Review. December 25, 2005.

***Emerging Issue:***

**There is increased attention on the academic performance “achievement gap” between males and females.**

**RATIONALE:**

- The lower academic performance of boys in the K-12 system as compared to girls is a relatively recent focus of attention.
- On the 2005 WASL, one in four boys failed all three sections of the test – reading, writing and math – that must be met or exceeded in order to graduate. Statewide, about 4,000 more boys than girls failed all three key sections of the WASL. The gender differences on the writing portion of the test were most stark, with about 16,800 high school boys failing compared with about 9,300 girls – a 7,500 student gap.
- The focus on differences between girls’ and boys’ academic achievement is a national trend. It is suggested that perhaps schools, not boys, have changed. Children are now taught to read in kindergarten when many boys are less socially mature, less verbal and more active than most girls. This may lead to boys acquiring a self-identity that they are not good at school.
- Authors such as Michael Gurian, believe that boys are not being well-served by what he calls our "girl-friendly" schools. Boys receive 70 to 90 percent of the D's and F's given in high school, they create up to 90 percent of classroom discipline problems, and they account for 80 percent of high school dropouts and less than half of college students. By girl-friendly, Gurian means that success in school comes more readily for students who can read and write well - areas in which girls tend to do better than boys.

- While the attention to the male-female “achievement gap” has increased recently, the male-female differences in performance on standardized tests at the K-12 level is an established and widespread phenomenon.
- In some ways, the gender patterns now generating worries are not new. On National Assessment of Educational Progress tests in reading, for instance, boys at every age tested - 9, 13, and 17 - have trailed behind girls since at least 1971. The congressionally mandated NAEP also tests nationally representative samples of students in mathematics. On those tests, boys have had a razor-thin lead over girls at all three age levels since 1992. These patterns appear to be universal. On a 2003 reading test given to 15-year-olds around the world, female student outscored males in all but one of the 41 countries tested.
- What is newer, though, are trends at the college level in the United States. According to a report published by the National Center for Education Statistics, men went from being the majority to the minority of the nation's undergraduate population between 1970 and 2001. During that time span men's share of undergraduate enrollment shrank from 58 percent to 44 percent. By 2001, women earned 60 percent of all associate's degrees and 57 percent of all bachelor's degrees.
- Some of the attention on the gender achievement gap is focused on post-secondary education and the impacts of lower achievement levels among males when high-level skills are more important than ever. There was a time when there were all kinds of end runs you could do around the educational system, like join the military or join a union and get a manufacturing job,' said Thomas Newkirk, the author of the 2002 book *Misreading Masculinity: Boys, Literacy, and Popular Culture*. “Now, if boys fail at school, they're not going to be competitive.”
- The single-gender class in public schools is gaining steam, fueled by research that suggests differences in the ways boys and girls learn. Recent medical research technology has focused on the possible neurological differences between males and females that may explain some of the differences in academic achievement. With techniques such as functional magnetic resonance imaging, or fmri, researchers have learned that male and female brains look different, exhibit different patterns of operation, and develop at different rates. Test data on more than 8,000 students at all levels of schooling discovered that boys have lower processing speeds than girls beginning in elementary school. The gap widens in middle and high school. In adulthood, male and female scores converge.
- Schools also report that students of both sexes in the single-gender classes are now outscoring their same-age counterparts in mixed classes on state tests.
- The “achievement gap” shown by girls outperforming boys in school has revived interest in single-sex K-12 classrooms, but some research contests the efficacy of this approach.
- In a Phi Delta Kappa analysis of recent research on single-sex education, researchers agreed - at least in part - that single sex classrooms could be effective. Their review concluded that single-sex classrooms might be a particularly good fit for minority, low-income students, who often lack academic and social supports at home. And, especially in secondary school, they may prevent kids from dropping out.”
- Leonard Sax, founder of the National Association for Single-Sex Public Education, concedes there are plenty of same-sex classrooms that have failed. But the problem,

he says, is that too many teachers aren't provided with appropriate training, or they're forced into making a switch that they're not particularly excited about. To be successful, teachers need both a choice and training; and they also need a natural empathy for one gender style or the other.”

- The magnitude, and even existence, of the gender “achievement gap” in K-12 and post-secondary education may vary by skill area, social class, and ethnicity.
- We may see a rush to single-sex classrooms that won't really be good educational policy. California tried single-gender classrooms in the 1990s but they did not succeed in improving academic achievement. In fact, according to a 2001 Ford Foundation report, the academic success of both girls and boys is influenced more by small classes, strong curricula and qualified teachers than by single-sex settings.
- The Department of Defense offers a better model. DOD runs a vast network of schools on military bases in the United States and abroad for more than 100,000 children of service members. In those schools, there is no class and race gap. That's because these schools have high expectations, a strong academic focus, and hire teachers with years of classroom experience and training (a majority with master's degrees). Of course, this solution costs money, and has none of the sex appeal of the trendy single-sex-school quick fix.
- The notion of a crisis is based are rarely broken out by race or class: when they are, the whole picture changes. It becomes clear that if there is a crisis, it's among inner-city and rural males. White suburban males aren't significantly touched by it. On average, they are not dropping out of school, avoiding college or lacking in verbal skills. Although we have been hearing that males are virtually disappearing from college classrooms, the truth is that among whites, the gender composition of colleges is pretty balanced: 51 percent female and 49 percent male.
- One group of studies found that although poor and working-class boys lag behind girls in reading when they get to middle school, boys in the wealthiest schools do not fall behind, either in middle school or in high school. University of Michigan education professor Valerie Lee reports that gender differences in academic performance are small to moderate. There is little evidence that most boys lack verbal skills. In 2005, University of Wisconsin psychologist Janet Hyde synthesized data from 165 studies on verbal ability and gender. They revealed a female superiority so slight as to be meaningless. And psychologist Diane Halpern of Claremont McKenna College looked at many studies of verbal and math abilities and found that, overall, the gender differences were remarkably small.
- When it comes to academic achievement, race and class out rank gender factors. For example, among whites in Boston public schools, for every 100 males who graduate 104 females do. But among blacks, for every 100 males who graduate, 139 females do. In another example, Florida's graduation rates among all students show a striking picture of race and class: 81 percent for Asians, 60 percent for whites, 48 percent for Hispanics and 46 percent for blacks.

#### **RESOURCES:**

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- AP. "WASL analysis shows boys trailing girls." *Columbian (Vancouver)*. December 5, 2005, p.C2.
- Flannery, Mary Ellen. "No Girls Allowed." *NEA Today* 24(7). April 2006.
- Jerome, Richard; Lori Rozsa; Vickie Bane; Kate Klise; and Champ Clark. "Should Boys and Girls Be Taught Separately?" *People* 65(4). January 30, 2006, p.83.
- Kindon, Dan; and Michael Thompson. "Raising Cain: Protecting the Emotional Life of Boys." *Raising Cain*, a production of Powderhouse and Michel Thompson, Ph.D. in association with Oregon Public Broadcasting, 2006, PBS Parents Guide to Understanding and Raising Boys <http://www.pbs.org/opb/raisingcain/>.
- Rivers, Caryl and Rosalind Chait Barnett. "The Myth of 'the Boy Crisis.'" *Washington Post*, April 9, 2006, p.B1.
- Stevick, Eric and Scott North. "WASL scores show wide gender gap." *The Herald (Everett)*. December 4, 2005.
- Viadero, Debra. "Concern Over Gender Gaps Shifting to Boys." *Education Week* 25(27), p.1.

### **LABOR FORCE TRENDS**

1. There will continue to be an across-the-board supply-demand gap for workers who have attained at least one year of college but less than bachelor's degree.
2. There is a supply-demand mismatch for workers at the long preparation level (Bachelor's or higher) as described below:
  - Shortage in Engineering, Software, Architecture, Computer Science, Medical, Human Services, and Protective Services.
  - Balanced in Research, Scientists, and Technical.
  - Surplus in Educators, Business and Management, Editors, Writers, Performers, Administrative, Clerical, Legal, Agriculture, Construction (management), Production, Transportation, Sales and Service.
3. While some work will be "off-shored" to other countries for cost savings, other work that is sensitive to customer satisfaction and requires other necessary factors, will remain in or return to the U.S.
4. Between 2002-2012 it is expected that 25% of new jobs will require a bachelor's degree and 38% of new jobs will require short-term preparation, some college, or an associate's degree.
5. Occupational groups expecting greatest employment growth for workers with 1-3 years of college in the next five years are:
6. Health care practitioners and support; 8%
7. Personal service workers and managers; 8%
8. Computer engineers, programmers, and support; 13%.
9. Through 2030 the Washington labor force will have greater participation by older workers, people of color, women, and people with disabilities.
10. The new workforce is requiring more education, different skill sets, and presents new challenges.
11. Some worker groups (e.g. people with disabilities, youth in their 20's, African American men) are not fully participating in the current labor force.

12. During the period of 2000-2010, the state labor force will grow at a projected rate of 1.5% reflecting a slower growth rate than in the past.

**TREND 1:**

**There will continue to be an across-the-board supply/demand gap for workers who have attained at least one year of college but less than bachelor's degree.**

**RESOURCES:**

- WACTC, The Role of Community and Technical Colleges in Economic Development Progress Report.
- Cummins, Carolyn, SBCTC, PowerPoint on preliminary trends, November 2005.

**TREND 2:**

**There is a supply-demand mismatch for workers at the long preparation level (Bachelor's or higher) as described below:**

- Shortage in Engineering, Software, Architecture, Computer Science, Medical, Human Services, and Protective Services.
- Balanced in Research, Scientists, and Technical.
- Surplus in Educators, Business and Management, Editors, Writers, Performers, Administrative, Clerical, Legal, Agriculture, Construction (management), Production, Transportation, Sales and Service.

**RESOURCES:**

- WACTC, The Role of Community and Technical Colleges in Economic Development Progress Report.
- Cummins, Carolyn, SBCTC, PowerPoint on preliminary trends, November 2005.

**TREND 3:**

**While some work will be "off-shored" to other countries for cost savings, other work that is sensitive to customer satisfaction and requires other necessary factors will remain in or return to the U.S.**

**RATIONALE:**

- Employers in developed countries will continue to send work to less-developed regions for cost savings. More low-cost production communities will be established around the world to absorb the demand. Concurrently, work that is sensitive to customer satisfaction, involves cross-cultural communication, or is technical with a need for quality or relativity will return to points of origin...if indigenous workers are available to do the jobs.
- Low-skilled and menial jobs in areas like manufacturing and mining will face continued threats from outsourcing and automation.
- WA's economy transitioning from manufacturing to services

## **RESOURCES:**

- Herman, Roger, Gioia, Joyce, “Top Ten Workplace/Workforce Forecasts for 2006” The Herman Group.
- Hyperjobs The New Higher-Level Work and How to Grow Into It The Futurist.
- WACTC, The Role of Community and Technical Colleges in Economic Development Progress Report.

## **TREND 4:**

**Between 2002-2012 it is expected that 25% of new jobs will require a bachelor’s degree and 38% of new jobs will require short-term preparation, some college, or an associate’s degree.**

## **RATIONALE:**

### **Education**

- Increasing share of labor market entrants will come from groups that have traditionally received less education.
- The U.S. has lost its leadership role as the most highly educated nation in the world. The U.S. is losing ground to several countries, particularly with respect to our younger population which represents the future workforce. The projected decline in educational levels coincides with the growth of a knowledge-based economy that requires most workers to have higher levels of education.
- Students in HS and CC's are not being told about or trained for good paying trades jobs.
- Many industry sectors requiring some post-secondary education, including apprenticeship opportunities, but not a bachelor’s degree could be headed toward a labor crisis because the current and future work force lacks basic math, reasoning, and English skills.
- The workforce needs post-secondary institutions to develop strong non-routine cognitive skills in workers. These skills include:
  - abstract reasoning,
  - problem-solving,
  - communication, &
  - collaboration
  - interaction in diverse cultural and linguistic setting.

### **Employment**

- Managers are increasingly frustrated with the low level of preparation of the workforce, particularly entry level applicants. Their complaints will be heard by senior corporate executives who will demand greater performance from public schools and technical, community, and four-year colleges. Community leaders will focus resources on improving local education to improve tomorrow's workforce.
- Experienced workers, when available, are preferred because they are better at abstract thinking, problem solving, and have a better work ethic: a need being expressed by employers to the community and technical college system.
- Increased automation can cut a company's workforce by up to one-third. The surviving workers tend to be technicians and other comparatively well-educated semiprofessionals.

- Specialization is spreading throughout industry and the professions.
- Technology increasingly dominates both our economy and society and new technologies often require a higher level of education and training beyond high school. In addition, technology advances and increasing international competition will increase the need for workers to quickly learn and update skills
- Rapid changes in the job market and work-related technologies will necessitate increased training for virtually every worker.

#### **RESOURCES:**

- Cummins, Carolyn, SBCTC, PowerPoint on preliminary trends, November 2005.
- Lynn Karoly & Constatijn Panis. *The 21<sup>st</sup> Century at Work: Forces Shaping the Future Workforce and Workplace in the United States*. Prepared for the US Dept. of Labor by the Rand Corporation. 2004. found at: <http://www.rand.org/publications/MG/MG164/>.
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- Ochoa, George and Corey, Melinda. *100 Best Trends, 2006*. Avon, MA Adams Media, 2005.
- Patrick J. Kelly, *As America Becomes More Diverse: The Impact of State Higher Education Inequality*, National Center for Higher Education Management Systems, (NCHEMS).
- Herman, Roger, Gioia, Joyce “Top Ten Workplace/Workforce Forecasts for 2006” The Herman Group.
- Ochoa, George and Corey, Melinda. *100 Best Trends, 2006*. Avon, MA Adams Media, 2005.

#### **TREND 5:**

**Occupational groups expecting greatest employment growth for workers with 1-3 years of college in the next five years are:**

- **Health care practitioners and support; 8%**
- **Personal service workers and managers; 8%**
- **Computer engineers, programmers, and support; 13%.**

#### **RATIONALE:**

- Survey describes five hot programs including Business, IT, Public Services, Skilled Trades-Industrial and Allied Health.
- Occupations with the greatest Project Growth 2002-2012 include healthcare and computers.
- WA labor force does not have the skills needed to fill current area job openings in some sectors - Employers say they can't find enough skilled workers.
  - May 2005 = 14,000 health care vacancies (3/4 require certification or license - 1/4 RN's).
  - May 2005 = 3,600 software engineering and programming jobs.

- Food prep
- Retail
- Construction
- Truck driving
- High-tech medical specialties
- Scientists, engineers, and technicians will continue to grow, particularly in fields where research promises an immediate business payoff.
- The growing number of "Internet-based operations [will] require more sophisticated, knowledgeable workers. People with the right technical training will find a ready market for their services for at least the next 15 years ..."
- Strategic Industries for the future include: construction; aerospace, transportation equipment; food processing & agriculture; biotechnology; environmental industries tourism; trade, transportation/logistics; health care & medical support services.

#### **RESOURCES:**

- Cummins, Carolyn, SBCTC, PowerPoint on preliminary trends, November 2005.
- WACTC, The Role of Community and Technical Colleges in Economic Development Progress Report.
- Sara McPhee, AACC Research Brief Hot Programs at Community College.
- America's Top Rated Cities A Statistical Handbook Grey House Publishing Volume Two Seattle Western Region.
- Holt, Shirleen, *Unemployment rate dips, but many can't find work*, Seattle Times, July 20, 2005 p. C-1
- Cetron, Marvin J, and Davies, Owen, Trends Now Shaping the Future, The Futurist. May/June 2005, Vol. 39, #3, p. 37 (14 pages).

<b>TREND 6:</b>
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**Through 2030 the Washington labor force will have greater participation by older workers, people of color, women, and people with disabilities.**

#### **RATIONALE:**

- In 2010 the US will have a shortage of labor of about 10M workers.
- US Population will grow older as Baby Boom generation ages and lives longer
- Three factors will account for projected slowing in labor force growth. In order of significance they are:
  - Slower growth in the age group with the highest labor force participation
  - An end to the increase in women's labor force participation, &
  - A decline in the number of immigrants in relation to the total population and labor force.
- There will be greater participation in the workforce by
  - the elderly,
  - by women with children, and
  - People of color
  - People with disabilities

## Age

- Aging of the Workforce the 55-64 population has increased 4% during the past ten years. With fewer younger workers entering the labor market, employers will increasingly turn to hiring older workers.
- There is an increasing belief that older workers will not be able to retire at traditional retirement ages. Baby Boomers may have to work longer into retirement years due to worsening conditions of many private sector pension plans. The article "A Work-Filled Retirement" finds that many employees lack reliable sources of retirement income.
- People increasingly will work at one career, 'retire' for a while ... when they can afford to, return to school, begin another career, and so on in endless variations. True retirement will be delayed until very late in life.
- Baby boomers will participate more in phased retirement programs, reducing work schedules, rather than going straight from full-time work to full-time retirement
- Poor savings rates by low-income workers seem to indicate that a larger number of these workers will stay in the workplace past traditional retirement age, particularly in low-skilled/low-wage jobs.
- Due to lower birth rates beginning in the 1960's this age group has declined as a percentage of the states population (from 35% in 1980 to 16.6% in 1990. This group began to grow again in the 1990's that will lead to significant additions of new workers in the near term, but the growth will slow again from 2010 to 2020
- Male labor force participation has declined slightly in the past twenty years due to early retirements but this trend is expected to reverse.
- People in the 16 to 24 age group account for the majority of new labor market entrants.
- Lack of community resources and possible retrenchments in Social Security and Medicare will prompt older workers to postpone retirement.
- The shift by employers from defined benefit to defined contribution pension plans also encourages employees to work longer.
- People who were between 40 and 44 in 2000 tended to have higher educational attainments than did those then aged 65 to 69. Since education is a significant factor in determining work status of the elderly, as these people age into possible retirement years, the result will be a much higher labor force participation rate in 2025 than that age cohort has today.
- With increases in life expectancy and the reduction of physical limitations as barriers to work, more people will be working into their mid-70's.
- Elderly (65+) will grow to 20% of the population by 2030
  - Those 55+ are projected to be 22% of the labor force by 2030 (only 14% in 2004)
  - Those elderly now working tend to have part-time or temporary working arrangements and have less attachment to their jobs
  - Businesses will need different management & personnel practices if they want to effectively accommodate older workers.
- Between 2003 and 2012 Generation X will age to between 36 and 47 - as this happens the number of workers in this age group will decline by 6%.

## **Women**

- Nationwide, female labor force participation rate has steadily risen to 59.2% in 2004. This increase is influenced by increasing educational attainment, delaying marriage and childbearing, changing gender roles, availability of market substitutes for housework, and reduction in the need for physical strength in the labor market. No further gains in the female labor force participation rate are expected. It should remain stable over the next 25 years. Expect the rate to be 58.7% by 2030.
- The increase in women working is needed by many couples because the second income is required to help offset the loss in real earning of male householders.

## **People of Color**

- The U.S. workforce is transforming demographically. From 1980 to 2020, the white working-age population is projected to decline from 82% to 63%, while the minority workforce segment is projected to double from 18% to 37% and the Latino/a portion almost triples (from 6% to 17%).
- The racial and ethnic diversity of the workforce will also increase. In 1980 6.2% of the WA labor force was people of color. By 2030 people of color will represent 16.2%. Increase is due mostly to higher population growth rate in these groups.
- Hispanics & Asians are the fastest-growing ethnic groups in population. Workers of Hispanic origin will account for 13% of the WA labor force by 2030. Asian Americans increasing 3X and will be 8% of population by 2050.
- Immigration can off-set some of the decline in workforce growth.
- The increase in diverse populations in the U.S. poses critical issues for elevating worker skills in the future. In 2004 the average education level of African American workers is far below that of their white counterparts in every age cohort. In 2000 only 53% of the WA Hispanic population over 25 had completed high school or a GED (compared to 90% for other whites in the same age group) Raising the education level of these fast-growing racial and ethnic minorities is a major policy concern

## **People with disabilities**

- People with disabilities are 17.8% of WA working age population

## **RESOURCES:**

- Northwest Recruiters Association, Top 10 Recruiting Predictions That Will Impact Your Business
- Karoly, Lynn & Panis, Constatijn, *The 21<sup>st</sup> Century at Work: Forces Shaping the Future Workforce and Workplace in the United States*. Prepared for the US Dept. of Labor by the Rand Corporation. 2004. found at: <http://www.rand.org/publications/MG/MG164/>
- The 2005 Long-Term Economic and Labor Force Forecast for Washington Found at: <http://www.ofm.wa.gov/economy/longterm/2005/>
- Generation X : Americans born 1965 to 1976 / by the New Strategist editors. (Chapter 5 "Labor Force") Ithaca, N.Y. : New Strategist Publications, 2004
- WACTC, The Role of Community and Technical Colleges in Economic Development Progress Report
- Patrick J. Kelly, As America Becomes More Diverse: The Impact of State Higher Education Inequality, National Center for Higher Education Management Systems, (NCHEMS)

- Society for Human Resource Management, "The Future of Retirement," Workplace Visions: Exploring the future of work. No. 2-2005.
- Wash. State Workforce Training and Education Coordinating Board, "Our Changing Labor Force", October 2003.
- Ochoa, George and Corey, Melinda. *100 Best Trends, 2006*. Avon, MA Adams Media, 2005
- The National Center for Public Policy and Higher Education. Policy Brief, Nov. 2005: *Income of U.S. Workforce Projected to Decline IF Education Doesn't Improve*.
- Cetron, Marvin J, and Davies, Owen, Trends Now Shaping the Future, *The Futurist*. May/June 2005, Vol. 39, #3, p. 37 (14 pages)
- Scott Reynolds, Neil Ridley, and Carl E. Van Horn, John J. Heldrich Center for Workforce Development, Rutgers
- IBM Corporate Responsibility Report, "Workforce Diversity"

#### **TREND 7:**

**The new workforce is requiring more education, different skill sets, and presents new challenges.**

#### **RATIONALE:**

- The same technological advances that eliminate the need for some jobs will create new needs for creativity or mechanical and operational know-how. New positions will be created to do work that has never been done before. An example of these new jobs is the U-Scan operator, the person who supervises customer use of self-checkout stations at supermarkets and retail stores. Future types of jobs could be VP of Experiences (design and implement processes and systems to create positive experiences for the organization's internal and external customers); Director of Influence (duties will range from entertaining to coaching teams or individuals in persuasive sales techniques to close deals or protocol management.; Computer-Human Interaction Technician (manage relationships between humans and various types of computers and computerized functions.)
- The future does not look good for traditional jobs or regular activities performed in exchange for payment. There is an emerging kind of work called hyper jobs. Hyper jobs leverage people's unique, non-computerized skills and abilities, and power the emerging global society. The vital quality of a hyperjob is that it can only be performed by an entity that is alive and acts alive—one who is conscious and also self-aware of that consciousness.
- The fast pace of technological change makes old careers obsolete, even as new ones open up to replace them.
- Computers and information systems are stretching a manager's span of control from six to 21 subordinates. A typical large business by 2010 will have 1/3 the number of managers than in 1990.
- Opportunities for advancement within companies will be few as middle-management positions don't open-up and expansion is only within narrow specialties.
- The younger millennial generation is proving to be even more business-oriented. Lifelong learning is nothing new to this younger generation; it's the way life is.

- Companies that can provide diverse, cutting-edge training will have a strong recruiting advantage over competitors.
- The number of self-employed people is rising faster than predicted.
- Forecasting International believes that people change careers every 10 years. Workers will take control of their own careers. New career designs will emerge as people change jobs and occupations every 2-4 years. Mid-career retirements, also known as sabbaticals, will replace the end-of-career retirement for a large proportion of workers.
- Expect jobs to shift away from permanent, lifelong jobs toward less permanent, even nonstandard employment relationships (e.g., self-employment) and work arrangements (e.g., distance work). Hiring will be based more around “projects” than as permanent employment
- Geographic distance between employer and worker will become much less important.
- With further advances in IT, expect more people to telecommute from home or from other locations &/or countries.
- Union membership is declining and will continue to fall. This is because of aging population and shift to new industries.
- As Baby Boomers work longer and continue to hold middle and upper management positions, Generation X will have more difficulty advancing their careers.
- Workers will take control of their own careers. New career designs will emerge as people change jobs and occupations every 2-4 years. Mid-career retirements, also known as sabbaticals, will replace the end-of-career retirement for a large proportion of workers. An increasing number of people will work from home, operating their own business, telecommuting, or under contract to one or more employers. Geographic distance between employer and worker will become much less important.
- WA's economy transitioning from manufacturing to services.
- Tactical recruiting and HR functions will be outsourced to lower cost resources.

## **RESOURCES:**

- Cetron, Marvin J, and Davies, Owen, Trends Now Shaping the Future, *The Futurist*. May/June 2005, Vol. 39, #3, p. 37 (14 pages).
- Hyperjobs The New Higher-Level Work and How to Grow Into It *The Futurist* Career Planning for the 21st Century *The Futurist*.
- The National Center for Public Policy and Higher Education. Policy Brief, Nov. 2005: *Income of U.S. Workforce Projected to Decline IF Education Doesn't Improve*.
- Karoly, Lynn & Panis, Constatijn, *The 21<sup>st</sup> Century at Work: Forces Shaping the Future Workforce and Workplace in the United States*. Prepared for the US Dept. of Labor by the Rand Corporation. 2004. found at: <http://www.rand.org/publications/MG/MG164/>.
- Generation X : Americans born 1965 to 1976 / by the New Strategist editors. (Chapter 5 “Labor Force”) Ithaca, N.Y. : New Strategist Publications, 2004.
- The Herman Group, “Perspectives and Forecasts.”
- WACTC, *The Role of Community and Technical Colleges in Economic Development Progress Report*.

- Northwest Recruiters Association, Top 10 Recruiting Predictions That Will Impact Your Business.
- Herman, Roger, Gioia, Joyce, “Top Ten Workplace/Workforce Forecasts for 2006” The Herman Group.

#### **TREND 8:**

**Some worker groups (e.g. people with disabilities, youth in their 20’s, African American men) are not fully participating in the current labor force.**

#### **RATIONALE:**

- About 1 in 4 of WA youth in their early 20's are neither working nor in school.
- Only 58% of people in WA with disabilities were working in 2000 and many are not employed to their full potential.
- The under-20 cohort is remaining in school longer and taking longer to enter the workforce than before.
- High unemployment among black men contributes to their lower labor force participation rate. Discouraged by lack of prospects for work in their communities, some black men have given up looking for jobs." Generation X (currently aged 25-39) percent unemployed (2002): Asian = 4.7%, White = 5.1%, Hispanic = 7.3%, Black = 10.5%.

#### **RESOURCES:**

- Washington State Workforce Training and Education Coordinating Board, “Our Changing Labor Force”, October 2003.
- Cetron, Marvin J, and Davies, Owen, Trends Now Shaping the Future, The Futurist. May/June 2005, Vol. 39, #3, p. 37 (14 pages).
- Generation X : Americans born 1965 to 1976 / by the New Strategist editors. (Chapter 5 “Labor Force”) Ithaca, N.Y. : New Strategist Publications, 2004.

#### **TREND 9:**

**During the period of 2000-2010, the state labor force will grow at a projected rate of 1.5% reflecting a slower growth rate than in the past.**

#### **RATIONALE:**

- US Workforce will continue to increase but rate will slow
  - Between 2000 & 2010 annual growth rate of workforce will be 1.1%
  - Between 2010 & 2020 annual growth rate of workforce will be 0.4%
  - Between 2020 & 2030 annual growth rate of workforce will be 0.3%
  - 2 > Combining all factors, the WA state labor force growth rate is expected to slow.
- WA average annual growth:
  - 1980-1990 - 2.5% (actual)
  - 1990-2000 - 1.9%     "
  - 2000-2010 - 1.5% (forecast)
  - 2010-2020 - 1.0%     "

- 2020-2030 - 0.8% "
- During this decade, forecasts suggest that the growth in the labor force will decline from 3% to 1.3% and that by 2020 the growth rate will be only 0.9%.
- The national labor force growth rate will be even slower than that for WA.
- From 1970 to 2004 the state's aggregate labor force participation rate increased from 61.5% to 67.8%, but this trend will reverse and will fall from 68% in 2005 to 64.1% by 2030 due to the aging population.
- In the past 25 years about 60% of the states yearly population growth was in-migration (48,100 per year). This declined starting in the 1990's to 35,100 per year in 2004.
- Net migration for Washington will increase to about 63,000 a year by 2008 and then return to the historic average (48,100/year). A stronger economy in WA will drive some of this migration. Even with worker migration and immigration, fewer & fewer new workers will enter the labor force each year
- Some migrants coming into WA will have relatively high educational attainments and many of them are employed in high-skilled jobs.

**RESOURCES:**

- WACTC, The Role of Community and Technical Colleges in Economic Development Progress Report.
- Washington State Workforce Training and Education Coordinating Board, "Our Changing Labor Force", October 2003.
- Karoly, Lynn & Panis, Constatijn, *The 21<sup>st</sup> Century at Work: Forces Shaping the Future Workforce and Workplace in the United States*. Prepared for the US Dept. of Labor by the Rand Corporation. 2004. found at: <http://www.rand.org/publications/MG/MG164/>.
- Office of Fiscal Management (State of Wash.) The 2005 Long-Term Economic and Labor Force Forecast for Washington (May 2005) - Chapter 2. Found at: <http://www.ofm.wa.gov/economy/longterm/2005/>.