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ABSTRACT

This year 2000 master plan submitted by the Washington State Higher Education Coordinating Board proposes a realignment of higher education priorities that would place the interests of learners at the center of higher education decision making. The opening sections of the report reaffirm the state's commitment to expanding higher education opportunities. Five goals, with related strategies and recommended actions, are set out in the next sections: (1) to make student learning the yardstick by which accountability is measured; (2) to link K-12 achievement to higher education opportunity; (3) to empower citizens to use a range of learning pathways; (4) to enhance higher education through greater use of e-learning technologies; and (5) to help state institutions meet student needs. The next section discusses the financing required to meet the state's higher education needs and a plan to pay for them. Appended are policy papers that cover: enrollment; nontraditional providers; use of electronic technology; capacity and utilization; accommodating future enrollment through better connections within and across the system; and affordable access. Also appended is an employer survey and a fact sheet about higher education in the state of Washington. (SM)

The 21st Century Learner

Strategies to Meet the Challenge

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The Higher Education Coordinating Board is charged with providing planning, coordination, monitoring and fiscal policy analysis for higher education in the state of Washington. Specifically, the Board is responsible for preparing a comprehensive master plan which includes but is not limited to: assessments of the state's higher education needs; recommendations on enrollment and other policies and actions to meet those needs; and guidelines for continuing education, adult education, public service, and other higher education programs (RCW 28B.80.320-330).

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The 21st Century Learner

Strategies to Meet the Challenge

January, 2000

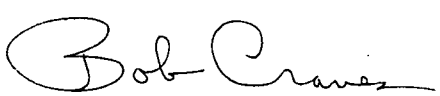
Dear Governor Locke and the Members of the 56th Legislature:

On behalf of the members of the Washington State Higher Education Coordinating Board, I am pleased to present to you the 2000 Master Plan for Higher Education. The 2000 Master Plan identifies the tremendous challenge before us: to meet the explosive demand for higher education — a challenge we cannot meet by conducting "business as usual." Instead, we propose a dramatic realignment of priorities in higher education, by placing the interests of 21st century learners at the center of higher education decision making.

This document builds upon our state's history of investment in education, and upon prior higher education Master Plans. This plan also embraces the values of the Governor's 2020 Commission on Higher Education. Their work provided a rich background for research and discussion. Many of the ideas and recommendations set forth by the Commission are expanded upon in this Master Plan.

It represents the input of many citizens and organizations from across the state. As well as identifying the challenges before us, the 2000 Master Plan presents specific strategies to accomplish our goals. We have outlined an aggressive roll-out of actions to implement the strategies, and we have thought out a responsible plan to pay for our ideas. Upon legislative approval of the 2000 Master Plan, this Board will act upon, monitor, and evaluate progress toward the recommendations of the Master Plan.

On behalf of the Board, I wish to extend my sincere thanks for the considerable time and effort expended to create this plan by the full Board and the Master Plan subcommittee in particular. Thanks also to the staff of the HECB, whose hard work, creativity, and resourcefulness has produced a Master Plan that truly will help our state meet the higher education challenges that face us. Finally, it was a pleasure to meet and talk with the many citizens who discussed with us their higher education concerns and aspirations. To them, too, I extend the gratitude of the Board.



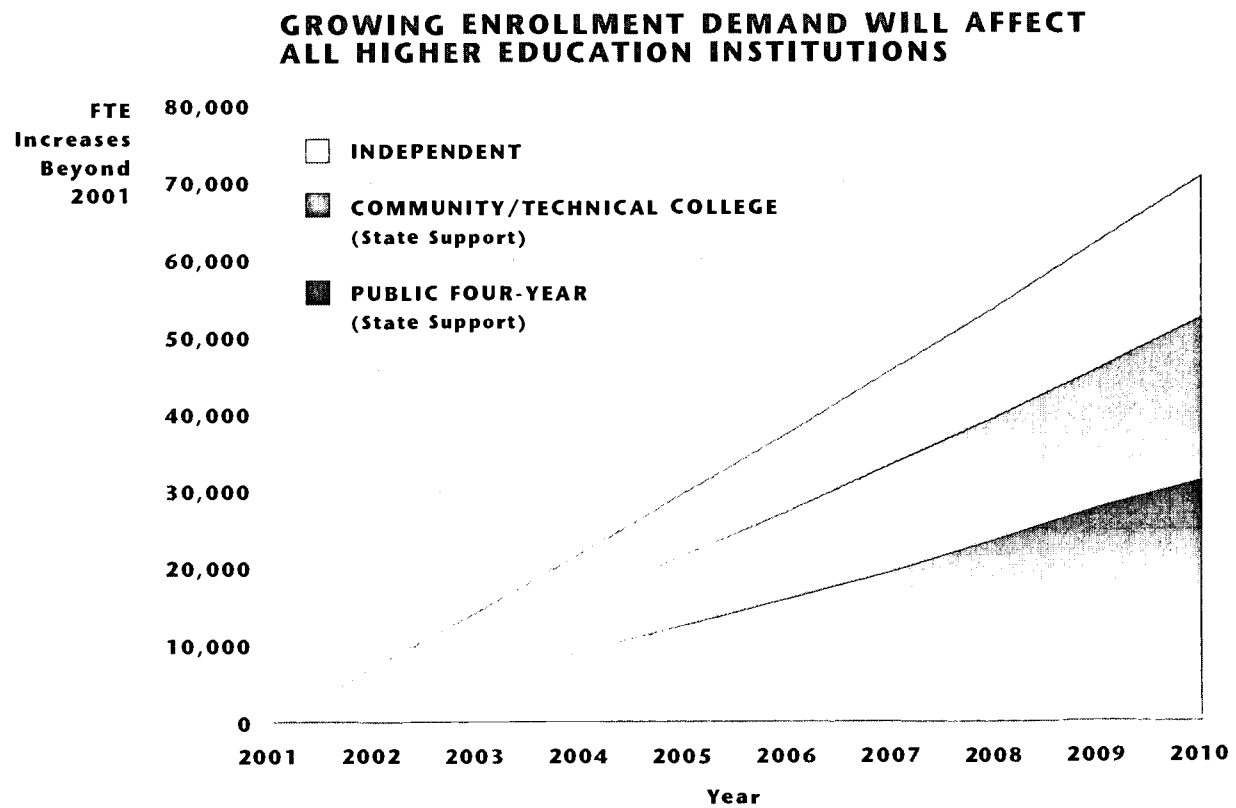
Board Chairman

The Challenge

At least 70,000[1] more full-time students will seek a college education in Washington State between 2001 and 2010.

That's enough students to fill two more campuses the size of the University of Washington. The state will fund enrollment for about 52,500[2] of those students at public colleges and universities; another 13,500 students are expected to seek admission to one of Washington's independent colleges or universities.[3] This challenge occurs in an era of restricted state budgeting.[4] How do we know this human wave is approaching? Demographics tell us so. If Washington State maintains its level of college enrollment, just the growth in population will account for about 70 percent of those new college students.[5]

Employers and employees, however, say that just maintaining the status quo is not enough. In a world where information changes every time a computer mouse clicks, a high school education is increasingly unlikely to keep up with the complexity of modern life. And many employers say a high school education is not enough to get and keep a good job.[6] In fact, our citizens miss out on some of the best jobs in the state because they do not possess the education required for the jobs. Instead, employers bring well-educated, highly skilled people into Washington State from other states and other countries where they had the opportunity to get a college education.[7]



Clearly that's a loss for the Washington citizens who may have to settle for other, less well paying jobs. It's a loss for businesses that have to spend money to recruit employees from out-of-state. And it's a loss for the state, not just because of the missed opportunity for citizens, but because of the increased pressure in-migration places on the environment, schools, roads, and other public resources.

MASTER PLAN CONTINUING COMMITMENTS
Reaffirm the State's Commitment to Opportunity in Higher Education

The fundamental message of the 1996 Master Plan, as adopted by the Legislature, was that the state would experience a significant increase in the demand for higher education through 2010, and that the state should meet that demand. The 2000 Master Plan carries forward that message, which is the underlying premise for all of the recommendations included in this plan.

Higher education expands and enriches the lives of our citizens. It permits them to take advantage of career opportunities in this state; to thrive in an increasingly technological, knowledge-based world; and to enjoy an improved quality of life in their communities. In short, higher education is the door to full participation in American life.

Expanding higher education opportunity and keeping college affordable will require continued public investment in both additional enrollment in public institutions and financial aid for students in all accredited colleges and universities. Student aid will keep college affordable for needy students, and will encourage full use of the entire spectrum of postsecondary education in the state. Cooperative planning among colleges and universities will be necessary to expand enrollments in the high-demand programs that students and employers will need. Planning to accommodate enrollment demand must include an understanding of where capacity to serve students exists, and what the highest priorities should be.

The 2000 Master Plan reiterates the full commitment of the Higher Education Coordinating Board to the fundamental goal of sustaining and enhancing

State Need Grants Help Thousands

The dream of going to college would be out of reach for thousands of low-income students, if it weren't for the Washington State Need Grant program. Last year more than 50,000 people — 95 percent of whom had incomes under $20,000 — used the grants to pursue a degree, hone their skills or retrain for new careers. The number of students served in the State Need Grant program has tripled over the past decade, thanks to increased state funding.

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[1] HECB enrollment analysis in Master Plan Policy Papers 1 and 1A (Appendix 1) predict demand through 2010 will be about 80,000 additional full-time students. However, about 10,000 of those FTEs were funded for 1999-01, or served by independent institutions. For academic year 1999, state-funded enrollment at public institutions totaled 203,293 FTE students, with 81,991 FTEs at the public four-year institutions and 121,302 FTEs at the public two-year institutions.

[2] Ibid.

[3] Independent colleges and universities include ten institutions that are members of the Washington Association of Independent Colleges and Universities, 38 other authorized degree-granting institutions, and 44 private career colleges (Appendix 2).

[4] Initiative 601 limits the growth in the state operating budget to the combined three-year average of inflation and population growth.

[5] HECB. (February 1999). Master Plan Policy Paper #1 (Appendix 1): Enrollment. www.hecb.wa.gov/policy/masterplan/mpindex.htm; HECB. (April 1999). Master Plan Paper #1A (Appendix 1): Master Plan Enrollment Goals and Enrollment Forecasting Analysis. www.hecb.wa.gov/policy/masterplan/mpindex.htm; OFM. (October 1998). State Population by Age and Sex. November 1998 Forecast. www.hecb.wa.gov/policy/masterplan/mpindex.htm.

[6] HECB employer focus groups (Appendix 7).

[7] Washington Software Alliance, 1998 survey.

Washington State's commitment to higher education opportunity through the following strategies:

- **Reaffirm the policy goal of providing to state residents the opportunity for college education.** The state needs to fund enrollment for an estimated additional 52,500 full-time students at public colleges and universities through 2010.[8] The HECB strongly supports the initiative by the Governor and the Legislature in 1999 to target a portion of new enrollments to high-demand fields and programs through a competitive process that stimulates innovation and creativity at the public community and technical colleges and baccalaureate institutions.
- **Keep public higher education affordable for Washington citizens**, by linking future changes in tuition at public colleges and universities to the rate of change in state per capita personal income (PCPI), which is one indicator of the ability of state residents to pay higher tuition costs.
- **Provide financial assistance to those who cannot otherwise afford to go to college.** The state should place highest priority on assistance to the lowest-income students through the State Need Grant program with grant award amounts equivalent to resident tuition rates at Washington's public colleges and universities. The HECB supports increased funding for the State Work Study program so that more needy students can earn a part of their educational expenses. And the Board will adapt financial aid programs as necessary to respond to emerging needs and to fit new learning patterns and education modes.

The Solution

Shared Responsibility, Shared Benefit

Washington must explore and support every viable alternative to meet the demand for college education, and to enable every Washington citizen to meet his or her education goals. But no one person or institution can meet this challenge alone. All have a role to play, and all will benefit.

First, the state must renew its commitment to its citizens by reaffirming a century-old record of support for broad access to affordable, high-quality public higher education. Broad public access to college depends upon continued support for enrollment, for affordable tuition, and for financial assistance for those who need it most. And, because our primary challenge is to create higher education opportunity for all kinds of Washington citizens in all phases of their lives, we must make student learning the top priority in higher education.

[8] See Appendix 1.

[9] For a full discussion of e-learning, please see Master Plan Policy papers 3 and 3A (Appendix 3).

Washington colleges and universities must seek every opportunity to be as effective as possible with the precious resources available to them. When student learning needs conflict with campus tradition, the education needs of learners must come first. Electronic learning (e-learning) technologies hold great promise in making learning more accessible, more interesting, and more convenient.[9] Although it challenges many university traditions, e-learning clearly offers rich possibilities that must not go unexplored. Campus traditions and state "red tape" shouldn't be allowed to entangle learners. If student learning is our top priority, then we must place the interests of learners at the center of higher education decision making.

Faculty, administrators, and staff also must embrace new learning technologies, and they must operate smarter and better through new partnerships: with public and independent schools, business and state agencies, and K-12 and postsecondary schools. Our colleges and universities must continue to seek opportunities to reach out to people who traditionally have not been able to go to college: low-income Washingtonians, people of color, and those whose jobs or geographic locations make going to school virtually impossible.

New higher education providers are moving rapidly to reach out to those whom traditional education has left behind. Many adult learners need to pick up additional education or new skills while they are going to work and rearing a family. That is not always possible in a traditional campus environment and established university schedule. Many students will seek their education within the rich learning environment offered by traditional schools and schedules. But for others, the new flexibility offered by many independent colleges and universities — for-profit or non-profit —

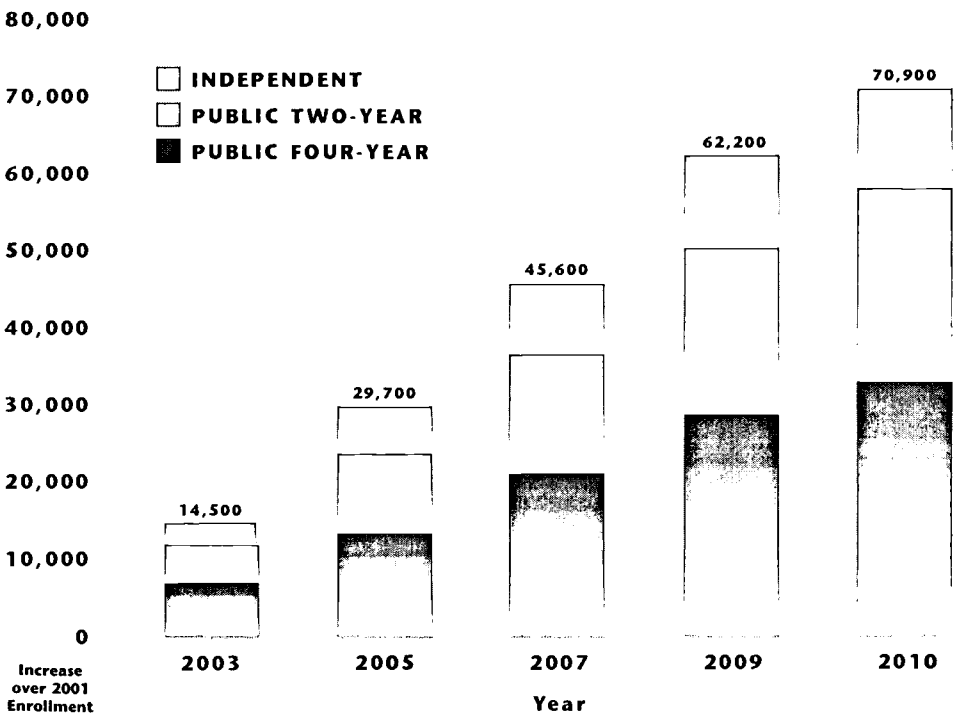
Governor Locke Envisions a "State of Learning"

"Education is the great equalizer in our society, and knowledge is the price of admission to the 21st century. That's why my primary goal as governor is to make Washington a state of learning — a state where every citizen, of every age, is involved in education. A state where learning is truly a way of life."

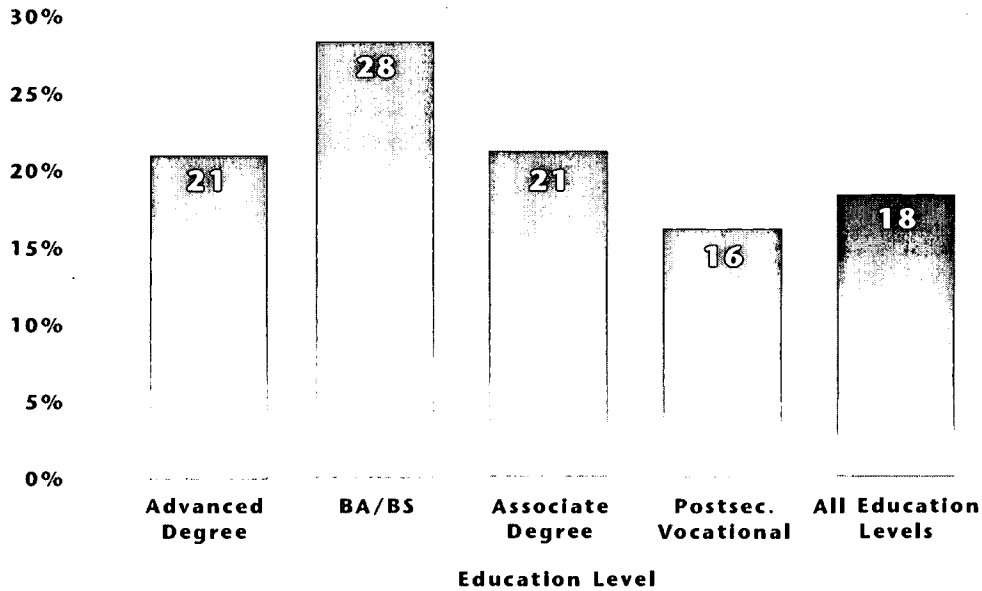
GOVERNOR GARY LOCKE,
State of the State Address,
January 12, 1999

Governor Gary Locke reads to a child as part of the Washington Reading Corps, a state initiative to provide additional support to struggling readers through intensive extra tutoring in reading.

ALL SECTORS WILL SHARE IN THE EXPECTED ENROLLMENT INCREASES



ESTIMATED PERCENTAGE INCREASE IN JOBS BY EDUCATION LEVEL, 1998-2008[10]



will be a good option. The state should continue to make student aid available to those with financial need who choose any participating college or university.

Students share a responsibility, too, in making college more accessible. Many students will come to college already having earned college credits while still in high school, but all must come prepared to do college-level work. All students must pay their fair share of the cost of education and learners must strive to make effective use of the money the state invests in them by choosing their education paths thoughtfully. We can help students and families make good decisions about their higher education goals, if we provide better information to them about what is available and what is at stake. That means communicating through media and language that is appropriate to the audiences we address. And we must find ways to bring higher education to those who do not live near traditional campuses.

In short, we must support and explore all viable means of providing education opportunity to the people of Washington State. What is at risk is nothing less than our social and economic prosperity. The HECB, therefore, presents the following goals to help Washington citizens attain their education goals.

[10] Forecast from Employment Security, Labor Market and Economic Analysis, "Employment and Openings by Education Levels, 1998-2008."

2000 Master Plan Goals and Strategies

GOAL 1

Focus on Student Learning

GOAL 2

Link K-12 and Higher Education

GOAL 3

Empower Higher Education Consumers

GOAL 4

Use E-learning to Create Education Opportunities

GOAL 5

Help Colleges and Universities Compete

Is and Strategies

GOAL 1 Make student learning the yardstick by which we measure accountability, efficiency, and effectiveness.

Higher education must place learners at the center of decision making. In such an environment student learning is the ultimate "accountability" measure, and the primary responsibility of colleges and universities shifts from delivering teaching to producing learning. What we measure often sends a clear signal about what we value. We cannot measure every aspect of higher education's contribution to society. But we can convey the value of student learning by seeking to clarify and understand some of the expectations we have for students.

Washington State has made student learning the highest priority in K-12 education;[11] we must as well in postsecondary education. Students, families, faculty, policymakers, and employers will benefit by knowing that a degree represents proficiency in identified knowledge and skill areas. These areas should enhance students' abilities to live and work in a democratic society.

STRATEGY

a) Identify the skills and knowledge associated with statewide associate transfer degrees and with baccalaureate degrees.

The HECB will collaborate with education faculty and administrators, students, and employers to identify what students who have earned a baccalaureate degree or an associate degree should know and be able to do. The HECB will work to expand the assessment of senior writing already underway.[12]

We will pilot institution-appropriate assessment measures for one or more fundamental elements of student learning in addition to writing. And we will support the appropriation of innovation funds to strategies that enhance student learning.

[11] The Basic Education Act — Engrossed Substitute House Bill 1209 — was signed into law on May 12, 1993. It put into law the goal of increasing student achievement with an education model that moved the focus from seat-time to performance and outcomes.

[12] The college senior writing project is a collaborative initiative among the six public baccalaureate institutions. Faculty from five different disciplines, writing specialists and community members with workplace experience in fields related to those disciplines have developed a common set of scoring guidelines to evaluate papers written by college seniors. The project is in its second year.

GOAL 2 Link K-12 achievement to higher education opportunity.

Planning for college — academically and financially — cannot begin too early in life. We should seek incentives to encourage students to pursue academic excellence in elementary and secondary school, and to encourage families to save for their children's college costs. This effort is particularly crucial for low-income families.

Research has demonstrated beyond any doubt that poverty negatively affects students' readiness to learn and increases the likelihood they will drop out of school.[13] The HECB seeks new strategies and partnerships involving a broad range of interests — in addition to education providers. These partnerships should focus on substantially increasing retention, reducing drop-out rates, and encouraging students and their parents and guardians to make school a top priority. Such initiatives could be local and regional in scope, and should create pathways to empower our most at-risk students and individuals who have dropped out of school. The Board is committed to ensuring that all students have meaningful opportunities for personal growth and professional achievement in the future.

Washington State soon will require students to pass the Washington Assessment of Student Learning (WASL) in 10th grade to earn a Certificate of Mastery and graduate from high school.[14] But it is important to identify what students will need beyond the Certificate to prepare for college-level work. The classroom teacher is absolutely key to fostering learning in K-12 students. Colleges of education are the entities that inform the thinking and training of school teachers. We cannot emphasize enough the need for schools and colleges of education to shift their focus to preparing teachers for a student performance-based system.

Public policy-makers and colleges and universities are poised at a unique moment: K-12 reform is creating a unique opportunity to redefine the junior and senior years of high school, and the interface with college. If we seize this opportunity, we can redefine the transitional years between high school and college, creating a rich new intersection of creativity and exploration. Building this new bridge between college and high school will require of us all cooperation, inspiration, and courage.

Civic Group Adopts Tacoma Class

The Fairweather Masonic Lodge adopted the 1999-2000 kindergarten class at DeLong Elementary School, and opened a Guaranteed Education Tuition (GET) account for each child. To encourage kids to graduate and go to college, the lodge will add one tuition unit to each child's account as long as the child goes to school in the Tacoma School District. And the lodge members volunteer at the school to encourage students and help them succeed in school.

STRATEGIES

a) **In collaboration with K-12 education, the HECB and postsecondary education faculty and administrators will work to build strong, new connections between postsecondary and secondary education.** Those connections have begun to grow with such creative efforts as the Competency-based Admissions project, which brings together high school and college faculty to discuss what students should know and be able to do to be admitted to college.

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[13] See Constance Ebert, "The Importance of Dropout Prevention and Education in Breaking the Cycle of Poverty"; Janet Elder, "Joining Forces: Conceptual Underpinnings"; Helen Thorton, "Staying in School: A Technical Report of Three Dropout Prevention Projects for Middle School Students with Learning and Emotional Disabilities" (Technical Report 1990-1995. ABC Dropout Prevention and Intervention Series).

[14] In 1995, the Commission on Student Learning contracted work on an assessment system and on the development of student performance standards that aligned with the Essential Academic Learning Requirements described in ESHB 1209. The result was the Washington Assessment on Student Learning (WASL). Further, it is intended that the WASL lead to the Certificate of Mastery. According to RCW 28A.630.885(3)(c), "...successful completion of the high school assessment shall lead to a certificate of mastery... The certificate of mastery shall be required for graduation but shall not be the only requirement for graduation..."

The HECB historically has supported incentive funding to encourage new ideas and creativity in postsecondary education. The HECB can prompt similar creative initiatives and collaboration in grades 11 and 12, and the first year of college by making incentive funds available to schools and institutions that partner to effect innovative change.

As part of the implementation of and continuing updates to the 2000 Master Plan, the HECB will seek strategies to involve more intensely Washington schools and colleges of education in the transformation of K-12 education to a performance-based system.

The Board also will strive to develop strategies to counter the effects of poverty on students' readiness to learn and their progress through postsecondary education.

b) **In the 2001-03 biennial state budget, the HECB will propose new connections between the Guaranteed Education Tuition (GET) Program and the Washington Promise Scholarship**, in order to encourage families to save for their children's college education, to encourage children to do well in school, and to encourage employer investment in families' college savings. This initiative seeks to accomplish the following:

- Encourage people to plan and save for their children's college education;
- Communicate to all children and families the possibility and value of going to college;
- Create a venue for employers to contribute to the college savings of employees; and
- Create an incentive for children to study hard and do well in school.

The HECB will, with legislative approval, reserve GET accounts with tuition units for all kindergarten students at public schools, and communicate to families that those who save their money and study hard can go to college. For those who do both, but still cannot afford all of the costs of college, a Washington Promise scholarship may be available. This message would be repeated to families when students are in fourth, seventh, and 10th grades. Additional tuition units would be added to accounts of students who pass the fourth- and seventh-grade WASLs (Washington Assessment of Student Learning).

In addition to the GET units, a Washington Promise scholarship equal to about two years of community college tuition would be available to the following students:

- Those whose family income is no greater than 135 percent of the state's median family income;
- Who pass the 10th-grade WASL and earn a Certificate of Mastery;
- Who graduate from a Washington high school; and
- Who enroll in an accredited Washington college or university.

The scholarship would complement other state efforts to make college affordable for all academically qualified Washington residents.

GOAL 3

Empower citizens to make the best use of the available range of learning pathways.

College information is available on thousands of Internet web sites and in brochures for those who have the experiences and skills to explore and interpret our complicated system of higher education. For those who are first in their family to go to college, struggling to make ends meet, or live in rural areas of our state, navigating and accessing the higher education system is daunting, if not impossible.

STRATEGY

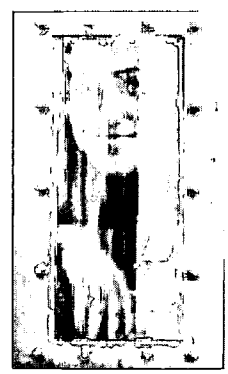
a) Create the Higher Education Lifelong Opportunity (HELLO) Network.

The HELLO network will provide the following consumer education and service functions:

- **provide college-bound audiences with information** about financial aid, admissions, transfers, and education services and requirements;
- **reach out to people historically under-represented in higher education** to inform them of the benefits of higher education, the academic requirements needed to get into college, and financial assistance available to those who qualify;
- **marshal education services in rural communities,**[15] bringing together all available higher education and community resources — public and private — to meet citizens' education needs collaboratively; and
- **guide citizens** through the on-line courses and programs available through a web-based, inter-institutional database of on-line courses, programs, and student services.

A Young Woman Lives Her Dream

Sandra Herrera spoke no English when she entered first grade in Wapato, WA. But a federal/state partnership provided Sandra access to computers, tutors, and mentors in the community. She visited college campuses, performed community service, and earned a scholarship. Now, the University of Washington junior spends three months each year, exploring the solar system at NASA's Jet Propulsion Laboratory. And she's living her dream... being the first in her family to get a college education.



At NASA's Jet Propulsion Laboratory, Sandra Herrera looks out of high-tech equipment used for space exploration.

[15] MGT Of America, *Postsecondary Education Needs of Okanogan and Jefferson Counties, Final Report*; September 14, 1998.

GOAL 4

Enhance higher education opportunity through greater use of e-learning technologies.

E-learning technologies can provide new ways for faculty to teach and students to learn — both in and outside of traditional classrooms. E-learning can bring to the classroom new opportunities for innovation and quality, while conserving space that will be sorely needed as thousands of new learners seek a college education. However, the adoption of these technologies is not automatic. Faculty and staff need to be trained in the use of these new technologies, encouraged to incorporate them into their teaching practices, and provided the necessary support to maintain and troubleshoot equipment.

The Internet Creates Potential for New "Lifestyle"

"...The Web Lifestyle — It's the idea that once you're taking the Internet and all the information that's out there on the web for granted, you'll use it for an incredibly wide variety of things. You'll want to learn that way, find new facts, get the latest research. You'll want to organize, plan things with friends, and you'll want to share your political ideas. You'll want to connect up with relatives and send pictures around. You'll want to find out what's the latest in sports, or what the latest forecast is. And it will become the world's marketplace."

BILL GATES, Microsoft Chairman and CEO, in a speech delivered as part of the Indiana University Lecture Series

STRATEGIES

a) Promote the expanded adoption of e-learning technologies.

The HECB will establish an e-learning advisory team to inventory existing training efforts and establish e-learning training targets. The team will develop an inter-institutional, cross-sector strategy to assist instructional staff in using e-learning techniques and best practices. The HECB will propose that the K-20 Educational Network Board establish a K-20 education program subcommittee and devise an incentive program that recognizes and rewards innovation and excellence in e-teaching.

b) Use public buildings to the fullest extent possible.

The Board has adopted the goal of serving an additional 52,500 (state-funded) students at public colleges and universities by 2010. To accommodate this growth, the HECB collaborated with the public colleges and universities to evaluate how buildings could be used more fully.[16] The Board found that modest increases in the amount of time that classrooms and class labs are scheduled for use each week would significantly increase the ability of colleges and universities to accommodate more students.

Based on those findings the HECB has recommended the state continue to build projects currently planned for construction through 2010. The HECB further recommends that institutions use classroom stations two additional hours per week, and that the *average* full-time student receives one and one-half lecture contact-hours per week through e-learning.

If colleges and universities can achieve these modest changes in the use of space, the state can accommodate as many as 42,000 additional full-time students (FTE) and save nearly $90 million in capital costs (in 1999 dollars).

[16] In 1997 the Legislature directed the HECB to undertake, in consultation with the public colleges and universities, an evaluation of the student enrollment capacity of existing and planned facilities. This study, which was completed earlier this year, will be updated on an annual basis, and was used to prepare the estimates of capital requirements associated with the HECB 2010 enrollment goals contained in this plan. Appendix 4 contains the detailed data of this study.

GOAL 5 Help colleges and universities meet student needs and compete in an increasingly complex marketplace.

Many rules are beneficial: they protect the welfare of students and the integrity of academic programs. When they do neither, we must revise and remove them — and we have. Although Washington has improved students' ability to move among colleges and universities, students say that they still experience barriers. Institutions say that rules — both their own and those of the state — hamper their ability to respond to the needs of students, particularly in creating or expanding high-enrollment programs.

STRATEGIES

a) Identify and remove unwarranted obstacles to student progress and meeting student program demand.

Colleges and universities, in collaboration with their students, will identify to the HECB obstacles to meeting students' program demand, including but not limited to barriers to the transfer of credits. The HECB will analyze these studies and, if warranted, recommend changes in policies, practices, and structures.

The Board will propose the creation of "opportunity zones" that would allow institutions to start high-demand programs free of unnecessary institutional and state "red tape." The Board will work with employers, learners, and policy-makers to identify high-demand programs to which the state should target new student enrollments.[17] And public and independent colleges and universities must communicate and collaborate to meet citizens' education needs.

b) Reward increased institutional productivity with greater flexibility to reinvest savings.

All institutions should make sustained improvements in the quality of instruction. Toward that end, institutions must have the flexibility and resources to attract, retain, and motivate the best and brightest faculty and staff. Our colleges and universities also must make the most effective use possible of personnel and other resources. Institutions currently reallocate funds within their budgets to reflect changing institutional priorities and opportunities. However, these ongoing efforts should be redoubled.

Institutions should regularly re-evaluate highest priority functions and direct internal resources to those priorities. Institutions should make measurable and significant progress in cost savings by using strategies that meet the unique circumstances of each college or university. Resources generated through savings then should be directed to such high-priority initiatives as faculty salary increases, investment in e-learning technology, staff and faculty training, recruitment and retention of high-demand faculty, and creating greater capacity in high-demand programs. This intensified reallocation process will enable each

Business Rallies to Accept the Challenge

College graduates with "high-tech" skills are in great demand. And in the next couple of years, the University of Washington, with the assistance of Microsoft Corporation, Visteon Automotive Systems, and the Intel Corporation, will double the size of its computer engineering undergraduate major program. The state sparked this successful partnership by earmarking $2 million to expand or create technology programs at public baccalaureate institutions. Schools had to match public funds with private cash or other donations. Institutions and corporations rallied to accept the challenge... to the benefit of students and the economy.

[17] In 1999 the Legislature earmarked 500 FTEs for "high-demand" programs to be allocated by the HECB [Ch. 309, Section 610, sub. 3, Laws of 1999].

college and university to put its money where its priorities are — and to generate support among policy-makers for further investment in those priorities.

c) Encourage education partnerships to enhance the quality and availability of higher education.

The partnerships should include public- and private-sector organizations and education providers at every level, from kindergarten through graduate school. Partnerships should identify the education and training needs for the state or a specific region; identify who can provide this training and education; and identify the specific contributions of each collaborator. Partnerships with industry currently generate a great deal of financial support. By properly coordinating this support, and by using its organizational expertise, industry can be more effective in achieving its workforce development goals.

d) Recognize and support "centers of excellence" at Washington State colleges and universities.

Throughout Washington State institutions there are academic programs that are distinguished for teaching, research, and public service. We should formally recognize and support the outstanding achievements of these programs to help colleges and universities attract the best faculty, the brightest students, and private-sector support.

Implementation Plan

2000 MASTER PLAN GOALS

The following goals are presented as part of a strategic plan designed to enhance higher education opportunity by placing the interests of learners at the center of higher education decision making and investing and exploring the rich possibilities of electronic learning technologies.

GOAL 1	Strategy	Recommended Actions
Make student learning the yardstick by which we measure accountability, efficiency, and effectiveness. 	**a) Identify the fundamental skills and knowledge required for statewide associate transfer degrees and with baccalaureate degrees.**	**By June 2001, the HECB**, in consultation with the administrators, faculty, and students of four-year institutions, will identify the fundamental student learning performance measures associated with baccalaureate degrees. We recommend that **the public four-year institutions** pilot one or more institution-appropriate assessment measures for student learning, in addition to writing, **by June 2001.** **By December 2001, the HECB**, in consultation with the faculty and students of **the public baccalaureate institutions** and **the State Board for Community and Technical Colleges**, will identify the fundamental learning performance measures associated with statewide transfer associate degrees. **For the 2001-2003 biennium, the HECB** will support linking appropriation of funds for innovative strategies that enhance the achievement of student learning.

GOAL 2	Strategies	Recommended Actions
Link K-12 achievement to higher education opportunity. 	**a) The HECB and postsecondary institutions will work to build strong, new connections among high schools, colleges, and universities.**	**For the 2001-03 biennium the HECB** will seek $4 million to administer, in collaboration with **OSPI**, a K-16 partnership innovation initiative. This initiative would fund innovative strategies to enrich curriculum and create seamless transitions among grades 11 and 12, and the first year of college. Grants would be available to school districts and postsecondary institutions that submit proposals jointly. In coordination with **administrators and faculty of public schools and baccalaureate institutions, by 2003 the HECB** will expand from four to 12 the number of school districts involved in curriculum and performance discussions associated with the Competency-based Admissions Standards project. **The HECB and its Strategic Planning Subcommittee** will seek information to support new strategies and partnerships to counter the adverse effects of poverty on student learning and, ultimately, on the participation of low-income students in higher education. The Board and its subcommittee also will look for opportunities to involve colleges of education and community and technical colleges in building strong and seamless transitions between K-12 and postsecondary education.
	b) Link the Guaranteed Education Tuition (GET) program with the Washington Promise Scholarship.	**During the 2000 legislative session**, we urge **the Legislature** to establish in law the Washington Promise Scholarship. We recommend that **the Legislature and Governor** authorize the **HECB by June 2001** to develop a program to reserve a GET account containing five tuition units for every kindergarten student at Washington public schools. Additional units would be reserved for students who pass the fourth- and seventh-grade WASLs. At each interval, the program would communicate to students and families the possibility and value of going to college; create a venue for employers to contribute to employees' college savings; and encourage children to study hard in school. We urge **the Office of the Superintendent of Public Instruction by September 2001** to authorize students to retake the 4th and 7th grade WASLs.

GOAL 3	Strategies	Recommended Actions
Empower citizens to make the best use of the range of learning pathways available.	**a) Create the Higher Education Lifelong Opportunity (HELLO) Network.**	**By August 2000, the HECB** will conduct studies, surveys, and focus groups to identify and articulate specific needs of target audiences, and will establish the HELLO citizen advisory board. **By December 2000, the HECB** will develop a strategic plan for citizen information and outreach. **By May 2001, the HECB** will implement initial website and links (to be constantly revisited and revised thereafter). **By September 2001, the HECB** will develop, prepare and disseminate marketing materials and conduct public information outreach efforts.

GOAL 4	Strategies	Recommended Actions
Employ e-learning technology to enhance higher education capacity and quality.	**a) Promote the expanded adoption of e-learning technologies.**	**By June 2000, public institutions** will conduct e-training faculty and staff needs assessments, inventory existing training efforts, and establish training level targets; **the HECB** will establish an e-training advisory team to plan inter-institutional training activities. We encourage **institutions by December 2001** to establish a cross-institutional e-training network and publish and disseminate a schedule of training opportunities and **by June 2001** to pilot inter-institutional training activities.
	b) Employ e-learning and other strategies to enhance capacity at public colleges and universities.	**By 2010,** the average full-time equivalent student will receive 1.5 lecture contact hours per week through e-learning; **by 2010, public colleges and universities** will use classroom stations an additional two hours per week. **By January 2000, the HECB** — in collaboration with **institutions, OFM**, and **the Legislature** — will establish capital budget guidelines for the 2001-2003 biennium that provide incentives for full utilization of public buildings.

GOAL 5	Strategies	Recommended Actions
Help colleges and universities meet student needs and compete in an increasingly complex marketplace.	**a) Identify and remove unwarranted obstacles to student progress and meeting student program demand.**	**By June 2000, public colleges and universities**, in collaboration with **faculty** and **students**, will identify institutional and other obstacles to meeting students' program demand and barriers to students' academic progress. **By October 2000, the HECB** will analyze these institutional reports and, if warranted, work across sectors and institutions to develop solutions that can be piloted within "opportunity zones." These pilot projects and high-demand programs to which the state should target FTE enrollments will be included in budget recommendations to the Legislature and Governor.
	**b) Reward increased institutional productivity with greater flexibility to reinvest savings.**	**By September 2000**, as part of their 2001-03 biennial budget proposals, **institutions** will demonstrate evidence of the actual and planned fund reallocations and reinvestments made during the 1999-2001 biennium. These reports will identify the high-priority programs and initiatives that have received the reallocated funds. **By November 2000, the HECB** will forward to the Legislature and the Governor institutional budget recommendations that recognize and, where appropriate, reward institutions for their commitment to high-priority improvements in program quality and teaching.
	c) Encourage partnerships to enhance the quality and availability of higher education.	Within overall budget priorities, **the HECB** will give greater support to institutional budget proposals that show partnerships among institutions: among K-12, and two and four-year institutions; among both public and independent institutions; and with education institutions and with businesses. We encourage **Washington business leaders, in coordination with the HECB and the higher education institutions,** to establish a statewide information clearinghouse **by June 2001** to coordinate and leverage industry support for higher education.[18] The clearinghouse will provide a centrally maintained and universally accessible database of industry support and higher education program needs within the state. Readily available information can alleviate the difficulty in effectively matching resources and needs. This clearinghouse also will be the focal point for implementing many of the other initiatives described in this section.
	d) Recognize and support "centers of excellence."	**By March 2000, the HECB** in collaboration with **two- and four-year institutions** will establish criteria required for an institutional program or initiative to be designated a "center of excellence," and an official process and forum for awarding such designation.

[18] American Electronics Association, Washington Council Higher Education Task Force; High Technology Industry, State Government and Higher Education: Teaming to build the Workforce of the Future; November 10, 1999.

Continuing Commitment

The fundamental message of the 1996 Master Plan was that the state would experience a significant increase in the demand for higher education through 2010. The 2000 Master Plan carries forward that message, which is the underlying premise for all of the recommendations included in the 2000 Master Plan. This Master Plan also carries forward the following strategies and identifies actions for renewing Washington State's commitment to higher education opportunity:

CONTINUING COMMITMENT

Renew Washington State's commitment to higher education opportunity.

Strategies	Recommended Actions
a) Reaffirm the policy goal of providing to state residents the opportunity for college education.	We recommend that **the Legislature** adopt **during the 2000 legislative session** the policy goal of serving an additional 52,500 state-funded students (FTE) in public colleges and universities by 2010. **By September 2000, the HECB in coordination with public and independent two- and four-year colleges and universities,** will prepare an enrollment accommodation plan for the years 2002 through 2010. This long-range plan will detail how enrollment growth will be accommodated; identify which institutions can add specific numbers of enrollments; describe the investments (operating, capital, cultural or management change, etc.) that must occur for this effort to be successful; and identify the high-demand programs that institutions should expand to meet student and employer demand.
b) Establish tuition policy that keeps public higher education student costs affordable and predictable.	We urge **the Legislature** to approve legislation **during the 2000 legislative session** that links future increases in tuition at public colleges and universities to changes in state per capita personal income (PCPI).
c) Provide financial aid — both grants and work study — that meets the needs of students.	We encourage **the Legislature, by 2003,** to fund state need grants at levels that equal the resident tuition rates at Washington's public colleges and universities, and that enable the state to continue to serve applicants whose incomes are below 65 percent of the state's median family income.

The Investments Required to Meet Higher Education Needs

— AND A PLAN TO PAY FOR THEM

Investments to Achieve the HECB Vision

Creating the student-centered higher education system described in the 2000 Master Plan will require new investments. Much of this investment is directly driven by the goal to provide college opportunity that is affordable. Our public colleges and universities, too, must contribute to developing new pathways to learning, to fostering creativity and effectiveness, and to enhancing the quality of higher education.

INVESTMENTS IN STUDENT CAPACITY AND SUCCESS

(Annual amounts required in 2010 above the FY 2001 budget level, in FY 2001 constant dollars)

	$ Millions
Provide opportunity at current levels	162.4
Fund current financial aid programs for these additional students	23.2
Provide additional access to upper-division/graduate students	187.9
Fund current financial aid programs for these additional students	4.1
Washington Promise Scholarship	59.6
Guaranteed Education Tuition Program	33.8
Support needy students through State Need Grant and Work Study	41.9
Create the HELLO network	4.6
Subtotal	**517.5**

INITIATIVES BY PUBLIC INSTITUTIONS TO ASSIST STUDENTS

Investments in quality enhancement and teaching incentives	102.1
Funding for innovation	4.0
Inter-institutional e-learning training for faculty and staff	2.0
Centers of Excellence	5.0
Subtotal	**113.1**
Total Annual Investments in 2010	**630.6**

Resources to Enhance Opportunity

The benefits of a strong higher education system are enjoyed by all segments of society: institutions, students, families, business, and communities. Therefore, all those who benefit should share the costs of these investments. Following is a summary of annual resources and potential savings that can be used to fund the investments proposed in the 2000 Master Plan.

	$ Millions
CONTRIBUTION BY INSTITUTIONS	
Reprioritize programs and functions; reallocate from lowest to highest priorities no less than 1 percent of institutional state funding per year through 2010	102.1
CONTRIBUTION BY STUDENTS AND FAMILIES	
Link tuition levels to growth in state personal income	65.3
Assume better preparation for college-level work allows the average high school graduate to enter college with the equivalent of one quarter of college credit, reducing time-to-degree	59.3
CONTRIBUTION BY BUSINESS	
Partner with institutions and students to provide financial and in-kind support, loaned faculty, and other arrangements	65.3
PUBLIC INVESTMENT	
Fund higher education at the current level of state support	161.5
Provide additional state funding to recognize student, employer and community needs	177.1
Total Annual Resources in 2010	**630.6**

Sharing contributions to support excellence and opportunity in postsecondary education is a balanced and equitable approach. All who benefit from a high-quality system of higher education share a responsibility to fund it.

The Governor and Legislature must implement the public investment items on this list. Maintaining the current level of state support for higher education is defined by increasing higher education funding at the rate statewide population grows. The estimate of statewide population growth is based on the Office of Financial Management projections of state population. State funding of the enrollments and initiatives proposed in this Master Plan would require additional resources above this level. Increasing the state's funding for higher education can be accomplished in increments over the next 10 years — but at a rate that is less than half the rate of increase accomplished in the last budget. This renewed commitment to higher education is possible — and necessary — if Washington citizens are to be prepared for life and careers in the next century.

The contributions from institutions, students, parents, and business can be implemented without specific state action/legislation in each year. The Legislature can grant institutions the authority to implement efficiency savings and redirect those savings into quality improvements.

Linking tuition increases to state per capita personal income will provide additional resources from students and families, while keeping tuition affordable. Schools and parents can participate in Running Start, College in the High School, Advanced Placement courses, and other existing programs that accelerate the completion of college credits before students begin their formal college education.

Business and labor can support higher education at the same time that they enjoy the economic and community benefits of an adequately trained and educated workforce. Private-sector contributions can take many forms: direct financial support of programs, or other in-kind support that cuts costs. For example, industry might contribute the use of facilities and equipment, staff time and expertise; discounted purchases, partnering, and mentoring; or loaned faculty and facilities for high-demand

Businesses Team Up for Student Success

Seattle middle-school students are staying in school and succeeding thanks to a public/private partnership that created the Seahawks Academy. This drop-out prevention program began when the Communities in Schools program and the Seattle School District joined forces with the Seattle Seahawks, Costco, Boeing, United Airlines, Global Leisure, and Gatorade. Now student success on standardized tests is up, and dropout, suspension, and expulsion rates are down. Initiatives like this give kids a better chance to make it through high school... and perhaps even to college.

2000 MASTER PLAN UPDATES ENROLLMENT GROWTH PROJECTION

1996 Master Plan (1997-2010) Additional FTEs		**84,100**
Independent institutions	**7,700**	
Public institutions (state-supported only)	**76,400**	
Updates to the 1996 Master Plan		**-13,200**
Additional independent institution FTEs*	**+5,800**	
Fewer FTEs due to revised population forecast**	**-4,900**	
Public institution FTEs funded (1997-2001)	**-14,100**	
2000 Master Plan (2001-2010) Additional FTEs		**70,900**
Independent institutions	**13,500**	
Public institutions (self-supported)	**4,900**	
Public institutions (state-supported)	**52,500**	

* An expanded list of independent institutions was surveyed to determine enrollment plans for the next 10 years.

** The Office of Financial Management reduced its state population growth estimates, resulting in a reduction in the demographic basis of the enrollment forecast.

programs. In addition, the private sector can provide financial support to assist students with their efforts to save for college through the GET program.

FACILITY UTILIZATION AND CAPITAL REQUIREMENTS THROUGH 2010

To accommodate projected enrollment growth at the public institutions, the HECB carefully evaluated current facility utilization practices, and considered how e-learning may change the average weekly amount of student "seat-time" in classrooms and class labs. The analysis revealed that modest assumptions about future non-seat-time instruction through e-learning and more intensive classroom-station scheduling can add capacity to colleges and universities.

Based on the study, the HECB recommends that institutions should use classroom stations an *average* of two additional hours per week. And the Board recommends that the *average* student (FTE) receive one-and-a half lecture hours per week through e-learning.

If colleges and universities can achieve these modest goals, the classroom enrollment capacity of existing and planned space will increase by as much as 42,000 student FTEs at the public colleges and universities.

The student enrollment capacity and associated capital cost estimates summarized below assume that the main campuses of the four-year institutions receive the same *proportion* of state-funded enrollment through 2010 as they did in 1998. Also, the capacity estimates account for institutional policies or regulatory constraints that might affect enrollment. Finally, the increased enrollment capacity for the branch campuses and centers assumes the state will build all facilities currently contemplated in the capital development plans.

STATE-FUNDED FULL-TIME STUDENT ENROLLMENT LEVELS AND PLANNED CAPACITY

Public two- and four-year colleges and universities

Fall 1998 total enrollment, public universities and colleges	**201,887**
HECB enrollment goal for 2010, public universities and colleges	**261,333**
Planned 2010 enrollment capacity	**264,623**
Needed capacity above Fall 1998 enrollment (FTE)	**62,736**

CAPITAL COSTS TO ACHIEVE PLANNED CAPACITY

(All figures rounded)

Cost Savings per New Utilization Goals		**$90 million**
Estimated Higher Education Capital Need Through 2010 *(1999 Dollars)*		
Cost to meet HECB enrollment goal for 2010		**$1.68 billion**
Minimum to preserve existing facilities		**$1.26 billion**
Total		**$2.94 billion**
Community & technical colleges	**$1.24 billion**	
Public colleges and universities	**$1.70 billion**	

Total, adjusted for construction inflation *(3.37% per year)*	**$3.45 billion**
Total estimated revenue for higher education capital* **Assumes higher education receives 50 percent of bond authorizations through 2007-2009 and 5-percent annual growth in non-bond revenue*	**$2.84 billion**
Estimated shortfall *(Difference between estimated revenue and inflation-adjusted need)*	
2001-2003	**$41 million**
2003-2005	**$144 million**
2005-2007	**$169 million**
2007-2009	**$254 million**

The table above projects a total capital revenue shortfall of $608 million over the next ten years, even if higher education receives one-half of all new general obligation bonds during that period. From a statewide perspective, the capital needs of higher education must be considered in the total context of state capital demands and revenue.

Options available to state lawmakers to increase the availability of revenue to support higher education capital budget needs include the following:

- authorizing a portion of higher education's total general obligation bond appropriation above the statutory debt limit[19] for a prescribed period of time, purpose, and amount,
- appropriating general fund reserves or revenues beyond the I-601 expenditure limit to offset the shortfall, and
- identifying a new source of revenue to help finance higher education capital needs.

[19] The statutory debt ceiling limits the amount of debt service in any future fiscal year to seven percent of the average of the prior three years general state revenues.

APPENDICES

The Master Plan and the following appendices are available on the enclosed CD-ROM, through our website at www.hecb.wa.gov/policy/masterplan/mpindex.htm, by calling (360) 753-7800, or by e-mail at info@hecb.wa.gov.

Appendix 1	Enrollment	Policy Paper #1 and #1-A, Enrollment Data
Appendix 2	Non-Traditional Providers	Policy Paper #2
Appendix 3	Use of Electronic Technology	Policy Paper #3 and #3-A
Appendix 4	Capacity and Utilization	Policy Paper #4 and #4-A, Capacity Data
Appendix 5	Future Enrollment through Better Connections Within and Across Systems	Policy Paper #5
Appendix 6	Affordable Access	Policy Paper #6
Appendix 7	Employer Survey	Elway Report
Appendix 8	Higher Education in Washington State	Facts

2000 Master Plan Participants

American Electronics Association | American Federation of Teachers | AVX Corporation | Bellevue Community College | Building Trades Council | Central Washington University | City University | Clark College | Columbia River Economic Development Council | Colville Confederated Tribes | Commission on Student Learning | Council of Presidents | Department of Employment Security | Eastern Washington University | F.T. Crowe & Company | Faculty Senate of Public Four-Year Institutions | Faculty of Public Two-Year Institutions | Gonzaga Preparatory School | Gonzaga University | Hazardous Materials Management & Emergency Response Team Education Center | Heritage College | Hewlett Packard | Higher Education Classified Staff | Inchelium School District | INTEC Enterprises | Latino Public Radio, KDNA | Linear Technology | Lower Columbia College | National Education Association | Office of the State Superintendent of Public Instruction | Pipefitters Union Local 44 | Planned Parenthood of Central Washington | Saint Martin's College | Seattle Chamber of Commerce | Seattle University | SEH America | South Seattle Community College | Spokane Community College | Spokane School District | State Board for Community and Technical Colleges | State Board of Education | Steelworkers Union Local 329 & 338 | Student Body Representatives Four-Year & Two-Year Institutions | Superintendent of Spokane Public School District #81 | The Columbian | The Evergreen State College | The Longview Daily News | The National Center for Public Policy and Higher Education | University of Phoenix | University of Puget Sound | University of Washington | Vancouver Chamber of Commerce | WaferTech | Washington Association of Independent Colleges & Universities | Washington Education Association | Washington Roundtable | Washington School Directors Association | Washington Software Alliance | Washington State Principals Association | Washington State University | Washington State University – Yakima County Extension | Washington State University – Tri-Cities | Washington State University – Vancouver | Washington Student Lobby | Washington State Parent Teacher Association | Western Washington University | Yakima Valley Community College | Yakima Valley Farm Workers Clinic | Yakima Valley Job Corps Center | Yakima Valley Regional Library

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Master Plan Policy Paper #1: Enrollment

February 1999

ISSUE AREA
Establishing a statewide enrollment plan through 2010.

POLICY ISSUE(S)
Determining the number of headcount and full-time equivalent student enrollment that should be accommodated in the state's public and private institutions through the year 2010.

STUDY QUESTION
What methodology should the HECB use to arrive at an enrollment plan for the 2000 Master Plan?

INTRODUCTION
This paper presents for the Board's consideration and adoption the methodology and philosophy the Board may wish to use to gauge enrollment recommendations of the 2000 Master Plan. This paper describes how and why participation rate methodology would be used to arrive at enrollment demand and HECB goals through the year 2020. The enrollment goals would take into consideration the following factors: population increases; the role of independent providers; the provision of education through alternative delivery systems, specifically distance education; and workforce demands.

BACKGROUND
The task of predicting future enrollment numbers is an important and very complex one. It is important because reliable numbers are needed for thoughtful, strategic planning. In addition, this is a critical component of master planning because the level of demand drives consideration of many other elements of the Master Plan: use of facilities, alternative service delivery modes, the role of independent providers, and, of course, funding, to name of few. It is complex because of the various factors that can be and, in many instances, should be taken into account in order to get reliable numbers.

In prior Master Plan efforts, the HECB has used a participation rate method to accomplish this task. The methodology is relatively straightforward. An enrollment number is arrived at by multiplying the number of people in a particular age group by the percent of that age group that *will* or *should* enroll. Those that *will* enroll constitute "demand"; those who *should* enroll constitute the Board's "goal."

Since 1987, the HECB has used participation rates to assess the level of participation of the State's population in higher education. The HECB compared Washington's participation rates

with those of other states and determined that Washington lags in our enrollments at the upper-division and graduate levels. Consequently, the HECB has set goals to increase the upper-division and graduate/professional enrollments to the national average by 2010 and the 70th percentile by 2020.

Participation Rates Method

Assessment of previous enrollment projections using participation rates, and consideration of alternative forecasting models has led HECB staff to recommend continued use of the participation rate methodology, with some modifications to the process.

As in previous years, the forecast would begin by calculating future enrollments based first upon current participation rates applied to population projections. The HECB's current goals for increasing participation rates reflecting the most current national numbers available would then be applied. Finally, adjustments or refinements to these projections would be added to reflect various important and influential factors, such as specific workforce training needs, and reduced demand resulting from distance education, availability and independent institutions.

Alternative forecasting models: the OFM study

Variations on the participation rates methodology are limited only by the availability of data. Scores of factors can be introduced to this methodology. Ironically, although the participation rate methodology can be very complex, it has been criticized for being too simplistic, because it simply multiplies a population number by the percentage deemed appropriate to participate in higher education. That criticism has led some to seek alternative methods for projecting enrollment.

The motivation for seeking alternative forecasting models is the hope that new methods will more accurately predict future enrollments. Further, some policy makers hope that an alternative approach would demonstrate how social and economic factors, or policy mandates might be expected to affect enrollments in the future by showing how such changes affected enrollment in the past.

Last year, the Legislature directed the Office of Financial Management (Engrossed Substitute Senate Bill 6108) to develop alternative methods of projecting long-term enrollment demand. OFM studied a statistical methodology they referred to as time series regression (TSR). TSR uses variations in historical data to explain the variation in enrollment numbers over time. Some of those factors are population demographics, state and national economic conditions, and public policies. In the process, a model emerges, determining the degree to which each factor influences enrollment; that is, whether and how much the factor increases or decreases enrollment.

For predicting enrollment, OFM came up with three different models: one for public four-year institutions, a second for public two-year institutions, and the third for private four-year institutions. The model for public four-year institutions included the following factors:

(1) Washington population age 17-22,
(2) U.S. average wages of high school graduates age 18-24,
(3) Washington unemployment rates,

(4) Washington knowledge-based industry employment,
(5) Washington state expenditures on four-year institutions,
(6) Washington policies regarding enrollment caps,
(7) war effect (Vietnam War), and
(8) recession effect.

To use the model to predict future public four-year institution enrollment, it was necessary for OFM to estimate future values to each of these factors. In testing, OFM presented three scenarios: a high-prediction scenario, a medium-prediction scenario, and a low-prediction scenario.

The data in Table 1 show that the HECB participation rate projections generally fall between the extremes of the TSR range of projections.

Table 1. Four-Year Public System*

	Time Series Model I			Other Projections	
	H	M	L	Current Part Rate	HECB Goal
1997-98 *actual*	81,000	81,000	81,000	81,000	81,000
2009-10	117,000	107,000	99,000	101,000	116,000
2019-20	123,000	110,000	97,000	104,000	141,000
Difference 1998-2010	36,000	26,000	18,000	20,000	35,000
Difference 1998-2020	42,000	29,000	16,000	23,000	60,000

**State funded FTEs.
Source: Report on OFM study sent to the Advisory Group for ESSB 6108 Higher Education Enrollment Forecasting Project, January 26, 1999.

The TSR model presents an extreme range of enrollment projections that may not be helpful to policy makers. OFM was constrained by time and data in development of these models and, therefore, it is not clear that these models would be better able to predict enrollments than the participation rate methodology, which has proven extremely accurate over time. (See appendix A for the Findings and Conclusion chapter of the OFM report which compares TSR to participation rate modeling.)

The search for better alternatives has not ended. For this Master Plan, however, staff recommend continued use of the participation rate methodology. The greater task, therefore, is to decide what our enrollment projections will reflect — need, demand, or other normative goals — and what adjustments to the participation rate model the Board should consider.

III. Current Participation Rates

The HECB has typically used the following participation-rate categories: institutional sector, age, and class standing (lower-division, upper-division, graduate/professional).

- **Analysis by institutional sector:** Theoretically, the nonprofit independent, for-profit independent, and the public sectors have somewhat different missions, which may influence enrollment projections. The best data source is different for each of the sectors.

• **Analysis by class standing:** The use of class standing is important for two reasons. First, as we have seen, in national comparisons, Washington ranks very high in participation rates at the lower-division level, but falls short in upper-division and graduate levels, compared to national participation rates. Only by calculating separate participation rates for class standing is this disparity evident. Second, in response to wanting to raise the state's participation rates at the upper-division and graduate level and also in response to workforce demands, it is necessary to be able to independently manage participation rates for each class-standing category.

• **Analysis by age group:** Finally, the use of age groups is essential because growth rates of different age groups vary over time. Age-specific participation rates allow us to account for these differences in growth rates and their expected effect on enrollment projections.

Figures 1-4 show an age profiles of Washington's population typically involved in post-secondary education; that is, 17 years and above. Figure 1 shows that the 17 years-and-above population is expected to increase over time. Figure 2 divides this population into four mutually exclusive age groups. The trend lines show an increase in the 17-24 group until 2015 and then a decrease until 2019. The trend for the 25-34 year group decreases until 2002 and then increases to 2020. For the 35-64 age group as with the 65 and above age group, the trend lines show increases to 2020. Figures 3 shows growth rates for 17 and above as well as for the age 17-24 and 25-34 age groups.

Figure 1
Population Projections: Ages 17 and Above

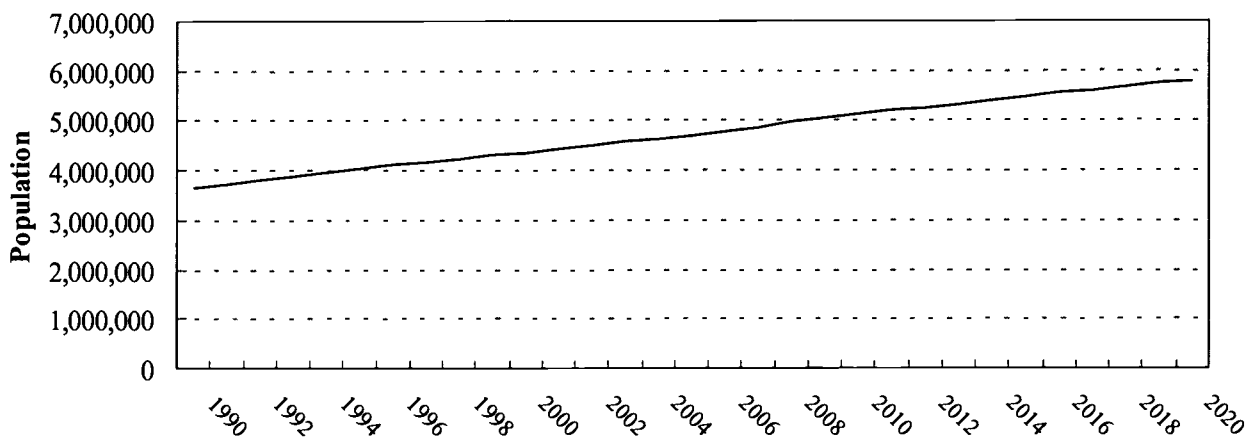


Figure 2
Population Projections by Age Groupings:
17-24, 25-34, 35-64, 65 & Above

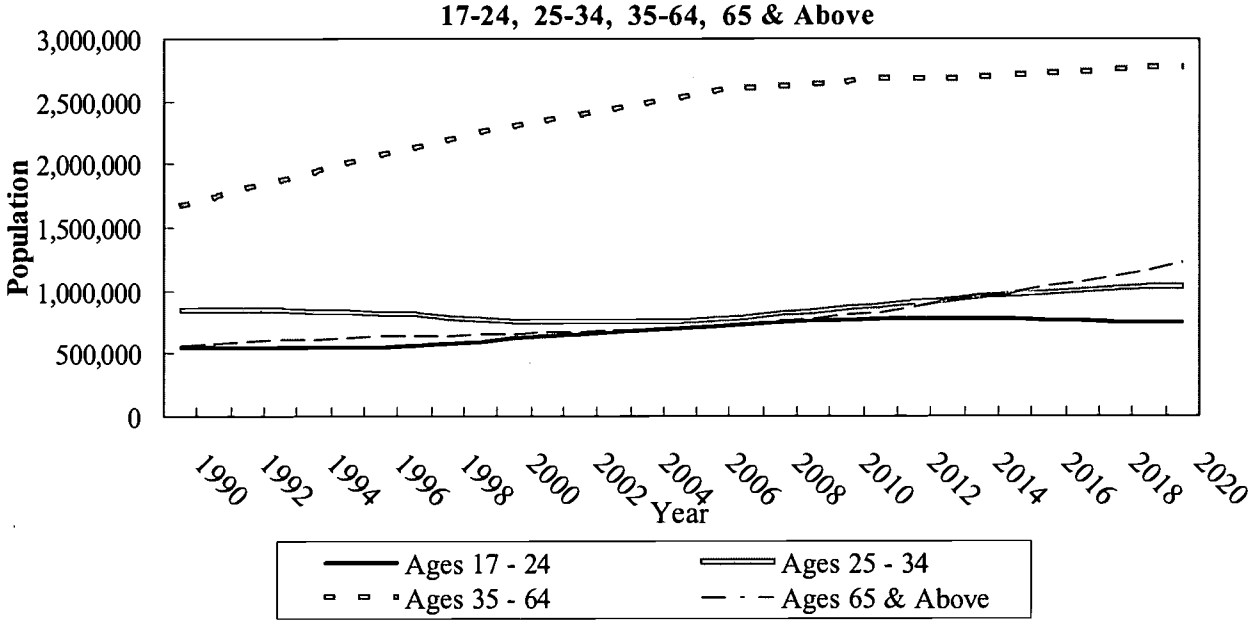
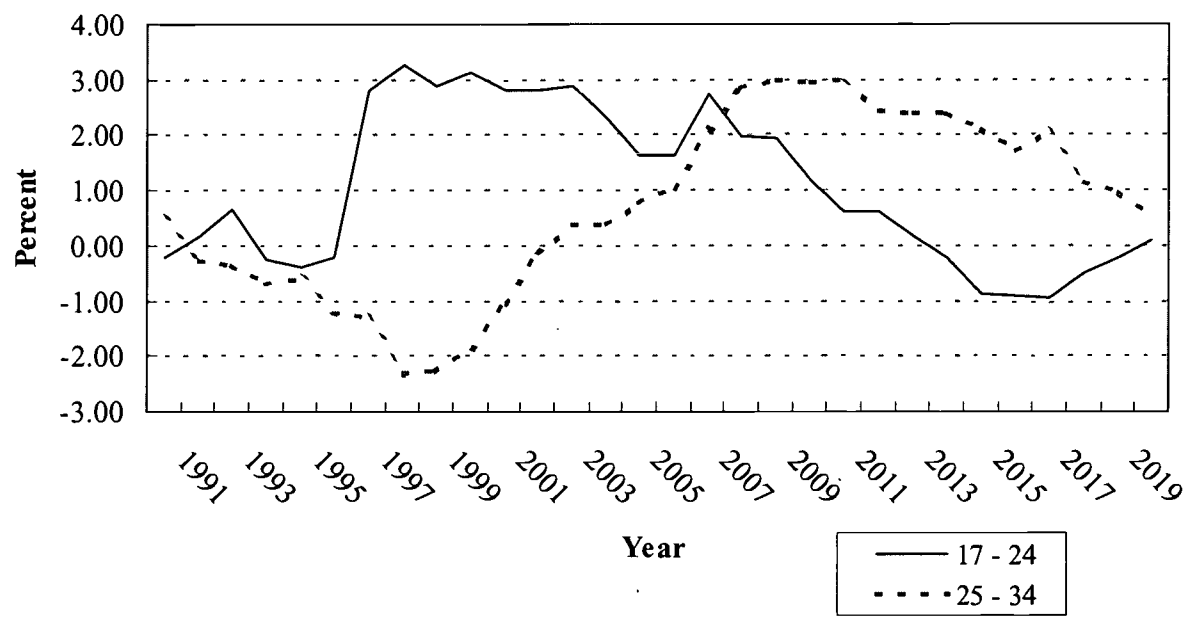


Figure 3
Year-to-Year Percent Change in Population: Ages 17-24 & 25-34



Data Source Variables

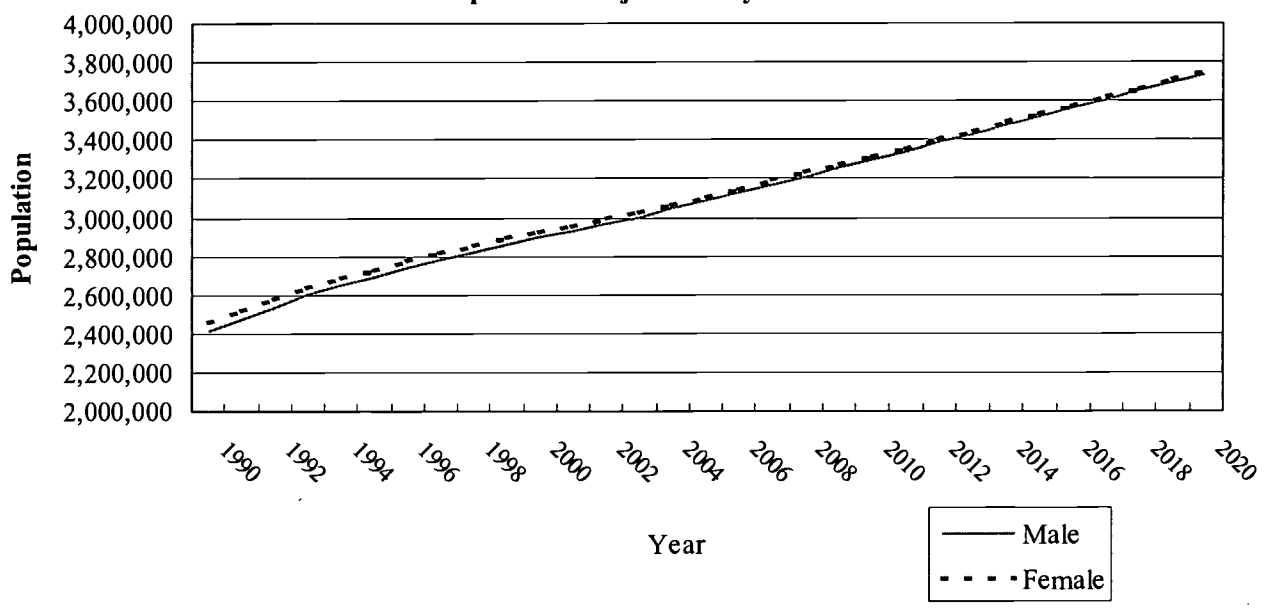
The characteristics of the age grouping and class standing categories shown above are dictated by the manner in which data are collected by our data sources. For public two- and four-year institutions, students are classified into one of 26 age categories. Students at independent four-year institutions are placed into one of 11 age categories. For age-by-class standing categories, public four-year institutions use class levels that are combined to obtain four classifications: lower-division, upper-division, professional, and graduate. For independent four-year institutions, age-by-class standing data are reported in three categories: undergraduate, professional, or graduate. All students at public two-year institutions are considered to be in the lower-division class standing.

Participation rate analysis can incorporate other characteristics such as gender, county of residence, and race/ethnicity. But there are several reasons not to do so:

- **Gender:** the distribution of males and females in the population is expected to remain stable across time and by age group (see figure 4 below). Therefore, this analysis would have minimal impact on enrollment projections using current participation rates.

- **County of residence and race/ethnicity population projection** data are not available by age for the 1998 forecasts. Consideration of these two factors may be part of the refinements to be done at later steps.

Figure 4
Population Projections by Gender



Differences from Prior Participation Rate Calculations

Although the basic participation rates recommended are virtually the same as used in the prior Master Plan, there are a few differences proposed for consideration. These are described below by sector.

• **Rural Natural Resources Dislocated Workers.** In prior Master Plans, the public four-year institution participation rates included students participating in the Rural Natural Resources Dislocated Workers program. In fall of 1998, there were 242 Dislocated Workers enrolled at WSU and 17 at WWU. The impact of these FTE on participation rates is perhaps negligible but conceptually may have greater import.

The Dislocated Worker Program is conceptually different from the general enrollment of the institutions; it's initial purpose was to answer retraining needs in the wake of a significant decline in the timber industry in the late 1980s. It was later expanded to include workers dislocated by the decline of the salmon industry. Questions such as "Will this program expect to maintain or change enrollments?" and "Will this program be in existence in 2010 or 2020?" appear to be questions that need answers before incorporating these enrollment numbers in the projections. For that reason staff propose to remove these FTEs from participation rate calculations, and address them at the refinement stage.

• **Separate class-standing categories for graduate and professional students.** In past years, the HECB has reported students into one of three class-standing categories: lower-division, upper-division, and the single category of graduate/professional. Although both graduate and professional students are post-baccalaureate students in graduate-degree programs, it is proposed report on graduate and professional students separately. Doing this does not affect the projected enrollments. However, doing so communicates the message that these post-baccalaureate programs are conceptually different and also allows the Board to apply different participation rate goals to them, if needed.

• **Closer analysis of contract-funded FTEs.** Public two-year institutions report on their enrollments by funding source. That is, they report on students who are state-funded, contract-funded, and student-funded. In the past, projections included state-funded students only. For the current basic enrollment projections, it is proposed to continue to calculate public two-year participation rates for state-funded students only.

However, in light of our discussions on new trends in enrollment patterns, contract-funded enrollments may change in ways that could affect enrollment of state-funded students. As a result, it may be helpful to analyze the current distribution of state- and contract-funded enrollments, and how each could change in the future.

Student-funded enrollments may not be as essential a consideration. The nature of student-funded coursework typically differs from that of state- or contract-funded. Also, although the student-funded enrollment is considerable, the data in Table 2 shows that the FTE number is somewhat less than contract-funded and considerably less than state-funded FTEs.

Table 2

Fall 1998 Headcounts and FTEs by Funding Source, Community and Technical Colleges

Funding Source	Headcount	FTE
State-Supported	177,265	113,796
Contract-Supported	84,912	498.23
Student-Supported	92,353	218

• **Analysis of "age by intent."** Traditionally participation rates for community and technical colleges have not taken into account program **intent** — the kind of coursework a student intends to pursue upon enrollment: academic/transfer, vocational/workforce training, basic skills, and developmental. However, age-by-intent data are available.

In fall 1998, 37 percent of FTEs at state community and technical colleges were enrolled as academic, 37 percent as vocational, 14 percent as basic skills, and 13 percent as developmental. Staff recommend that the participation rate calculations separate age-by-intent participation rates so the Board will better be able to plan accordingly for capacity needs and costs.

• **Refinement of independent institution analysis.** Historically, participation rates for independent four-year institutions have been based on institutions that submitted data to the national Integrated Postsecondary Education Data System (IPEDS). Presently, the HECB has data for the fall of 1997; fall 1998 data are not yet available. For the fall of 1997, 22 such institutions responded. Most of these institutions are physically located in Washington and accredited as required. However, five of the institutions are unaccredited but authorized to offer degree programs in the Washington through the Degree Authorization Act (DAA), which is administered by the HECB. Although past participation rates for independent degree-granting institutions have included both types of institutions, staff recommend a refinement of that analysis into two categories: not-for-profit and for-profit.

IV. Modification and Refinements to the Basic Participation Rates

The use of current participation rates to estimate future demand assumes that in the future people will make similar decisions about the sector in which to enroll, and that they will be at class standings in the same proportions as they are now. The application of HECB participation rate goals is a modification based on HECB anticipated changes regarding the participation of Washington State residents in upper-division and graduate/professional education. It perhaps goes without saying that the basic participation rate model does not capture all the needs, demands, and HECB goals regarding future post-secondary enrollment. Changes in workforce needs, the changing technology environment of which distance education is a major part, and the increasing role of private institutions are all influences that may affect enrollment projections.

Furthermore, the changing demographics may change patterns of enrollment. For example, population projections indicate an aging workforce.[1] This, coupled with the rapidly changing

[1] See OFM, 1998 Long-term Economic and Labor Force Forecast for Washington, April 1998. Web address: http://www.wa.gov/ofm/long_term.

nature of many jobs due to advanced technologies, may suggest an increased need for job re-training.

In considering all of the possible influences on enrollment demand, the Board also should consider whether different delivery systems will change participation rates at the traditional two- and four-year institutions. These changes may provide access to people who were not previously served, and also may change enrollment.

V. Recommended Participation Rate Methodology

Figure 5 below illustrates conceptually the recommended participation rate methodology. It divides the future world of postsecondary education into a number of component parts. The next step will be to determine current enrollments or proportion of post-secondary enrollments in each of these components. Then, to determine potential, expected, and/or desired changes in the distribution of future enrollments. These would include HECB goals to match or exceed national participation rates at the upper division and graduate levels; consideration of increases in demand due to the influences of factors such as K-12 reform, which is expected to better prepare students for post-secondary education and thereby stimulate such demand; and the growing expectation of the capacity for lifelong learning, which will increase demand from adult learners.

As presented, postsecondary institutions are either in the public or the nonpublic sector:

• **Public Institution Categories.** The public sector consists of either four-year or two-year institutions. Enrollment at two-year institutions is divided by program intent: academic/transfer, vocational/workforce training, or basic skills and developmental; all enrollment at four-year institutions is considered academic. At four-year institutions, enrollment is categorized as being delivered on the main campus, on a branch campus, or through distance learning technologies. At two-year institutions enrollment is categorized as being delivered on the main campus (including on-site classes provided at auxiliary sites), or through distance learning technologies.

Finally, enrollment at the four-year institutions is divided into four class standings: lower division, upper division, graduate, and professional; enrollment at two-year institutions is all considered lower division.

• **Non-Public Institution Categories.** The non-public sector consists of not-for-profit and for-profit institutions. Under each of these categories are degree-granting and not-degree-granting institutions. Enrollment at each of these types of institutions is further classified as being delivered on-site or through distance learning technologies. Finally, enrollment at degree-granting institutions is divided into four basic class standings; enrollment at not-degree-granting institutions is for the purposes of this analysis classified as lower division.

At present current enrollment is available for only some of the categories in the figure. Initial data collection efforts indicate some difficulties with obtaining data for other categories. It is hoped that surveys, interviews, and other reports will produce enrollment numbers or educated estimates on the proportional distribution of current enrollment among all sectors and categories. Finally, enrollment analysis will allow projection of future enrollment distributions and levels based on expected need, expected demand, and HECB goals.

Figure 5. Recommended Framework for the Participation Rate Methodology

Public Institutions										
	4-Year			2-Year						
	Academic			Academic		Vocational		Basic Skills/Developmental		
		On-site				On-site				
	Main	Branch	Distance	Main	Distance	Main	Distance	Main	Distance	
Lower Division										
Upper Division				N/A	N/A	N/A	N/A	N/A	N/A	
Graduate				N/A	N/A	N/A	N/A	N/A	N/A	
Professional				N/A	N/A	N/A	N/A	N/A		

Non-Pubic Institutions								
	Not-for-Profit				For Profit			
	Degree Granting		Not Degree Granting		Degree Granting		Not Degree Granting	
	On-site			On-site	On-site			
	Main	Distance	Main	Distance	Main	Distance	Main	Distance
Lower Division								
Upper Division			N/A	N/A			N/A	N/A
Graduate			N/A	N/A			N/A	N/A
Professional			N/A	N/A			N/A	N/A

VI. Next Steps

With Board adoption of an enrollment analysis framework, in April a follow-up paper will be presented that will include the following:

- **Population profile.** The population profile will include information on the age and gender composition of Washington's population for the years 1990 to 2020. Other information being considered for the profile includes geographic distribution, race/ethnicity composition, and high school graduate numbers.

- **Student profile.** The student profile will include information as described for the framework in Figure 6. That is, it will provide information by sector, class standing, program intent, and delivery mode. Staff research also will attempt to generate information on gender, county of origin, and race/ethnicity.

- **Preliminary enrollment forecasts**. Preliminary enrollment forecasts will be presented that will reflect (1) current participation rates, and (2) various scenarios of future participation rates, which will be based on expected demands, needs, and HECB goals.

Appendix A. Part III of the report on the OFM study sent to the Advisory Group for ESSB 6108 Higher Education Enrollment Forecasting Project, January 26, 1999.

PART III

Findings and Conclusions

1. The Participation Rate (PR) approach (using current PR or PR goals) is the predominant method for projecting *long term* higher education enrollment in Washington and in nearly all of the other states.

2. The PR method is relatively simple, has relatively modest data requirements, can be applied objectively (once PR goals are established), and reflects the impact of population change on enrollments.

3. Although variations of the PR approach are pre-dominant in ***long term*** forecasting, a considerable number of states (and institutions) use more elaborate models to develop ***short-term*** higher education enrollment forecasts.

4. Short term models used by other states include demographic factors as well as factors involving ***student flow*** (retention, length of stay, high school graduation rates, transfer policies), ***price factors*** (tuition/financial aid) and ***local economic conditions*** (local unemployment rate and wages/incomes).

5. The PR approach for long term forecasting in Washington is supplemented by analyses of vocational and workforce training needs (e.g., Workforce Training Board studies) as well as other special analyses (e.g., SBCTC consideration of re-training needs or impact of Work First on enrollments).

6. The PR approach, however, has some weaknesses. The PR approach:

- Does not capture the effects of factors other than demographics, such as economic and labor market conditions and public policy.

- Reflects policy choices and constraints, as well as economic and cultural factors, inherent in the current PR or the PRs of other states.

- Does not always specify the public policy and administrative interventions needed to achieve enrollment goals (e.g., financial aid, additional spending, additional capacity, geographic accessibility, modified admissions requirements).

- Does not always differentiate among different types of enrollment (e.g., degree areas, vocational/academic).

- Is not based on an objective assessment of forces affecting enrollment.

- Is not based on economic, labor market, or social conditions specific to Washington.

7. Experimental "time series regression" (TSR) models developed by OFM address some of the shortcomings of the PR method, but have weaknesses of their own.

8. Illustrative forecasts produced by the TSR Models suggest that:

- Forecasts based on the current participation rate are well within the range of plausible projected enrollments.

- Factors such as wage disparity between college and non-college graduates, employment growth in knowledge based industries, and public spending and enrollment policies will determine whether actual demand is above or below the current participation rate projection.

- Projections through 2010 based on HECB participation rate goals are also well within the range of plausible projected enrollments produced by the multi-factor time series model.

- However, projections for 2020 based on HECB participation goals are closer to the high end of the illustrative forecasts produced by the multi-factor time series models. This suggests that certain policy, economic, and cultural factors responsible for current participation rates must change in order for the year 2020 goals to be achievable.

TOTAL SYSTEM, Projected FTE Increases
(Public Two-Year + Four-Year +Private Four-Year)

	Time Series Model			Other Projections	
	H	M	L	Current Part Rate CF	HECB Goal
Difference 1998-2010	89,000	62,000	35,000	52,000	74,000
Difference 1998-2010	112,000	77,000	51,000	69,000	122,000

	Time Series Model			Other Projections	
	H	M	L	Current Part Rate CF	HECB Goal
Difference 1998-2010	71,000	51,000	39,000	52,000	74,000
Difference 1998-2010	93,000	67,000	52,000	69,000	122,000

9. The TSR models are an improvement because they:

- Are based on population factors, as well as tuition, financial aid, economic, and public policy factors.

- Do not assume participation rates hold steady.

- Rely mainly on factors reflecting Washington conditions.

- Provides a range of projections (high, medium, and low), depending on assumptions about future conditions.

- Provide perspective on the range of plausible forecasts and the risk in forecast results.

- Highlight the fact that government policy has a major effect on higher education demand and enrollment.

- Use relatively objective statistical procedures to identify the factors that significantly affect state post-secondary enrollment.

10. The TSR models, however, also exhibit several significant weaknesses:

- Since historical demand for higher education has never been completely unconstrained by public policy, TSR models (based on historical experience) are limited.

- New or emerging factors affecting demand for higher education (e.g., Internet access) cannot be fully captured by TSR models.

- TSR models essentially assume the current method of delivering educational services.

- Data are inadequate to fully capture and model the effects of certain variables on demand for higher education, such as labor market factors or technological change.

- Factors may be omitted from the models due to the lack of historical data.

- Procedures for selecting (and rejecting factors) require considerable judgment and discretion.

- The weights assigned to various factors are relatively unstable – i.e., they can change based on new data or the introduction of new factors in the model

- The method contains many subjective elements.

11. Overall, the TSR models:

- Add to our understanding of the factors affecting higher education enrollments.

- Highlight issues and factors which policy-makers need to consider in planning for higher education needs.

- Highlight the fact that demand for higher education is not something that exists objectively, apart from policy, but is highly dependent on public choices and policies.

- Help policy-makers understand the magnitude of upside and downside risks inherent in higher education forecasts.

- Are potentially helpful and useable in formal, long term higher education forecasting as a compliment to other perspectives, provided that

1. Data limitations are ameliorated,

2. Weights assigned to various factors are stabilized, AND

3. The forecast effort is supported by a formal assumption setting process which includes:

    - Input from policy-makers.

    - Input from stakeholders.

    - External technical review.

Appendix B. Institutions by Sector

PUBLIC 4-YEAR INSITUTIONS

Central Washington University
Eastern Washington University
The Evergreen State College
University of Washington – Seattle
University of Washington – Bothell
University of Washington – Evening
University of Washington – Tacoma
Washington State University – Pullman
Washington State University – Vancouver
Washington State University – Spokane
Washington State University – Tri Cities
Western Washington University

PUBLIC 2-YEAR INSTITUTIONS

Bates Technical College
Bellevue Community College
Bellingham Technical College
Big Bend Community College
Centralia College
Clark College
Clover Park Technical College
Columbia Basin College
Edmonds Community College
Everett Community College
Grays Harbor College
Green River Community College
Highline Community College
Lake Washington Technical College
Lower Columbia College
North Seattle Community College
Olympia College
Peninsula College
Pierce College
Renton Technical College
Seattle Central Community College
Seattle Vocational Institute
Shoreline Community College
Skagit Valley College
South Puget Sound Community College
South Seattle Community College
Spokane Falls Community College
Spokane Community College
Tacoma Community College
Walla Walla Community College
Wenatchee Valley Community College
Whatcom Community College
Yakima Valley College

INDEPENDENT 4-YEAR INSTITUTIONS*

Antioch University - Seattle
Bastyr University
City University
Cornish Institute
Gonzaga University
Henry Cogswell College
Heritage College
ITT Technical Institute of Seattle
Lutheran Bible Institute of Seattle
Northwest College of the Assemblies of God
Northwest Baptist Seminary
Northwest College of Art
Northwest Institute of Acupuncture & Oriental Medicine
Pacific Lutheran University
Puget Sound Christian College
Seattle Pacific University
Seattle University
Saint Martin's College
University of Puget Sound
Walla Walla College
Whitman College
Whitworth College

*These institutions report to IPEDS.

RESOLUTION NO. 99–06

WHEREAS, The Higher Education Coordinating Board is directed by statute [RCW28B.80.330 (3)] to prepare a Master Plan for higher education in the state, and the next update is to be presented to the Legislature in 2000; and

WHEREAS, An integral part of the Master Plan will be an analysis of expected higher education enrollment levels in this state in future years; and

WHEREAS, The Board, in previous Master Plans, has established headcount enrollment levels based upon decisions about the percentage of certain age groups that should be enrolled in postsecondary education (the participation rate method); and

WHEREAS, No other, more reliable or accurate methodology has been identified for determining enrollment demand, and

WHEREAS, Interest in accessing higher education services may increase for many citizens in this state; and

WHEREAS, Alternative technologies for delivery of instruction (such as distance education) will effect a more widespread availability of higher education services in the future;

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board, in developing the Master Plan, will use participation rate methodology to determine baseline, future enrollment needs, and will augment and refine these enrollment projections with analyses of increased interest and demand from citizens for higher education services, and the emergence of alternative delivery technologies.

Adopted:

February 17, 1999

Attest:

Bob Craves, Chair

David Shaw, Secretary

Master Plan Policy Paper #1-A: Master Plan Enrollment Goals and Enrollment Forecasting Analysis

April 1999

ISSUE AREA

Establishing enrollment goals through 2020.

POLICY ISSUE(S)

1. Will the 2000 Master Plan continue and reaffirm the enrollment goals established in the 1996 Master Plan:

   a) **for upper-division enrollment**: by 2010 achieve the national-average participation rate, and by 2020 achieve the national 70th-percentile participation rate; and
   b) **for lower-division enrollment**: maintain the current high participation rates through 2020.[1]

2. Should the enrollment projections of the 2000 Master Plan reflect the HECB's stated goal of supporting the broadest possible definition of higher education participation?

STUDY QUESTION(S)

1. What is the current student profile?
2. What is the forecasted population profile?
3. How are current enrollment patterns expected to change through 2010? 2020?
4. At what rate will enrollment increase by sector and by class standing?

OVERVIEW AND POLICY CONTEXT

The Higher Education Coordinating Board (HECB) has adopted the use of the participation rate methodology to project postsecondary enrollment. The participation rate methodology, which has projected increasing enrollments in prior Master Plans, employs population forecasts as a major determinant of such enrollment numbers. However, projecting postsecondary enrollment requires consideration of other factors that drive enrollment demand, and that reflect enrollment needs and desired goals.

[1] For this Master Plan, the national average participation rates and 70th-percentile national participation rates for the upper-division and graduate/professional levels are based on 1996 data from the Integrated Postsecondary Education Data System (IPEDS). All postsecondary institutions that receive federal Title IV funds are required to report to IPEDS a broad range of fiscal, demographic, and organizational data.

This paper presents relevant information about the profile of the forecasted population, and the current enrollment patterns in Washington's postsecondary institutions. In past Master Plans, enrollment projections have focused solely on state-funded FTEs at public institutions, and on a subset of private, degree-granting institutions. A goal of the current Master Plan is to consider all strategies or pathways that citizens may choose to reach postsecondary education goals.

Enrollment patterns in 1998 suggest that individuals are already using a variety of pathways to meet their higher education goals. The majority of participants in postsecondary education are being served by Washington's public two- and four-year institutions.[2] Independent degree-granting institutions that belong to the Washington Association of Independent Colleges and Universities (WAICU[3]) also serve a substantial number of students. Additionally, a varied group of other degree-granting institutions and private career colleges provide postsecondary opportunities in Washington. Finally, Washington residents are able to access courses and programs through electronic delivery systems (referred to as e-learning) from institutions physically located outside of the state.

The analysis presented in this paper attempts to provide a more comprehensive picture of current postsecondary participation[4] than presented in previous Master Plans. It considers 1) changes in desired educational goals of the state's constituencies, 2) changes driven by the social and economic context of the state, and 3) changes resulting from increased state funding of higher education FTEs. These factors are expected to induce enrollment growth at rates higher than that for the general state population.

Participation Rate: What It Is and How It Works

Participation rate is the percentage of the population engaged in or "participating" in postsecondary education. In past years, the participation rates by class standing have been of interest and concern to the HECB. In 1994, although Washington's lower-division participation rate was relatively high, Washington's upper-division and graduate/professional participation rates were among the nation's lowest. In the 1996 Master Plan, the HECB articulated a goal that the enrollment in Washington upper-division and graduate/professional level education should a reach the national average participation rate by 2010, and the national 70th-percentile participation rate by 2020. (*See Appendix A, Tables 7 and 8 for more detail*)

The way the state supports greater participation is to fund more FTEs, creating more opportunity to accommodate more demand. Accordingly, the Board adopted, most recently in 1996, an incremental approach to increasing upper-division enrollments. This plan would reaffirm the 1996 policy to raise the level of participation in upper-division programs to the national average by the year 2010.

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[2] Of the postsecondary FTE enrollment that has been captured for this paper, almost 85 percent are being served by public two-year or four-year institutions; nearly 75 percent are state-funded FTE.

[3] WAICU members include Seattle Pacific University, Seattle University, University of Puget Sound, Pacific Lutheran University, Gonzaga University, Heritage College, St. Martin's, Walla Walla College, Whitman College, and Whitworth College.

[4] This enrollment picture does not include participation in religious-exempt institution, foreign-degree granting institutions, and non-degree granting participation not already included in relevant sectors.

So far, the theory behind the numbers has been supported. Specifically, the Legislature has funded additional enrollments close to the recommended HECB levels, and actual enrollment (the test of the theory) has grown accordingly. This also suggests that the incremental plan to reach the national average by 2010 is at least equal to, and may be below, actual demand.

The Application of Participation Rate: Three Models

Using the enrollment projection method approved by the Board at its February 1999 meeting, three enrollment models have been developed. These models address the two underlying policy issues articulated at the beginning of this paper:

MODEL ONE

The first model mirrors the process used in the 1996 Master Plan. Specifically, this involved establishing current participation rates for state-funded enrollments at public institutions, applying those participation rates to the population forecasts, and incorporating current and projected enrollment figures from WAICU institutions in the following manner:

- **Public two-year institutions.** Fall 1998 participation rates of state-funded headcounts were applied to population forecasts for 2010 and 2020. FTEs were calculated using OFM FTE-per-headcount ratios.
- **Public four-year institutions.** Fall 1998 lower-division participation rates were applied to population forecasts for 2010 and 2020. The national average participation rate was applied to population forecasts for upper division and graduates/professionals for 2010, and the national 70th-percentile participation rates for 2020. In addition, 50 FTEs were added to the base enrollment and to the 2010 and 2020 enrollments to reflect budgeted upper-division FTEs for the Rural Natural Resources Impact Area Program.
- **WAICU institutions.** The current FTEs are based on numbers reported to IPEDS. The projected enrollment for 2010 includes an increase of 8,000 FTEs as indicated by WAICU; this level of FTEs is maintained in 2020.[5] The current and projected FTE enrollments for 2010 and 2020 derived from this model are presented in Table A.

Table A: Model 1 – Current and Projected FTEs, Public State-funded Enrollment and WAICU Institutions

Institutional Sector	1999	2010	Difference 1998-2010	2020	Difference 1998-2020
Public two-year State-funded (n=33)	122,121	144,228	22,107	153,877	31,756
Public four-year State-funded (n=6)					
Lower Division	27,959	35,878	7,919	34,554	6,595
Upper Division & Grad/Professional	53,093	81,227	28,134	107,960	54,867
Public four-year subtotal	81,052	117,105	36,053	142,514	61,462
WAICU (n=10)					
Lower Division	9,220	12,355	3,135	12,355	3,135
Upper Division & Grad/Professional	14,302	19,166	4,864	19,166	4,864

[5] The decision to maintain 2010 WAICU levels into 2020 is conservative. It assumes that by 2010 schools will have met capacity and are not likely to increase much beyond the 2010 levels. Individual schools were administered the HECB survey; their responses to the survey were used to substantiate the WAICU estimate of 8,000 additional FTES in 2010. Nine of the ten WAICU schools responded to the HECB survey; four of the nine indicated additional growth between 2010 and 2020. This additional growth is not, however, reflected in the 2020 projections.

WAICU Subtotal	23,522	31,521	7,999	31,521	7,999
Grand Total	226,695	292,854	**66,159**	327,912	101,217

The resulting projected increase in FTE enrollments from 1998 to 2010 is 66,159. This is less than the projected increase of 84,100 in the 1996 Master Plan.[6] The major factors that account for the difference between the projection obtained in 1996 and the current projection for this 2000 Master Plan, include 1) legislative funding of additional higher education enrollments between 1996 – 1998; 2) slower increases in the forecasted population, and 3) decreases in national participation rates.

Model One Summary:

- Lower-division enrollment grows to 192,461 in 2010 and 200,786 in 2020
- Upper-division/Graduate/Professional enrollment grows to 100,393 in 2010 and 127,126 in 2020.
- Overall additional higher education enrollments: 66,159 in 2010 and 101,217 in 2020.

MODEL TWO

In the second model, additional enrollments are incorporated to provide a more comprehensive picture of postsecondary participation in the state. Projected enrollments are based on what individual institutions have indicated or, in the absence of institutional projections, on increases relative to expected population growth.

- **Public two-year institutions.** Fall 1998 non-state-funded FTEs are added to the enrollment base. Increases in 2010 and 2020 are proportional increases based on the state-funded increases and fall 1998 distribution between state-funded and non-state-funded FTEs.
- **Public four-year institutions.** Fall 1998 non-state funded FTEs as reported to OFM through Higher Education Enrollment Report (HEER), or reported directly to HECB through telephone inquires were added to the base enrollment. Increases for 2010 and 2020 were proportional increases based on the state-funded increases and fall 1998 distribution between state-funded and non-state-funded FTEs.
- **Other degree-granting institutions.** The current student population incorporates information provided by institutions through IPEDS, the HECB survey, HECB interviews, and Degree Authorization Act (DAA) applications. Increases in 2010 and 2020 are based on information provided by the individual schools on the HECB survey, or through HECB interviews, or, in the absence of such information, on increases proportional to the population increases.
- **At the 44 private career schools**[7], the student population consists of what was reported to IPEDS for fall 1997. Increases for 2010 and 2020 are proportional increases based on the population increases.

[6] For more detail see The *Challenge* for Higher Education, 1996 State of Washington Master Plan for Higher Education published by the Washington Higher Education Coordinating Board.

[7] Note that the Private Career Schools sector includes only those schools that reported enrollment data to IPEDS for fall 1997. There are substantially more schools approved by the Workforce Training and Education Coordinating Board that offer courses and programs for Washington residents. However, these schools are not required to provide data to IPEDS.

The current and projected FTE enrollments for 2010 and 2020 derived from the second model are presented in Table B.

Table B: Model 2 - Current and Projected FTEs, Public, WAICU, Other Degree-Granting, Private Career Schools

Institutional Sector	1999	2010	Difference 1998-2010	2020	Difference 1998-2020
Public two-year Institutions (n=33)					
State Funded	122,121	144,228	22,107	153,877	31,756
Non-State Funded	24,663	29,128	4,465	31,076	6,413
Public two-year Subtotal	146,784	173,356	26,572	184,953	38,169
Public four-year Institutions (n=6)					
Lower Division - State Funded	27,959	35,878	7,919	34,554	6,595
Upper Division &Grad/Professional - State Funded	53,093	81,227	28,134	107,960	54 ,867
Upper Division &Grad/Professional - Non-State Funded	3,417	4,937	1,520	6,009	2,592
Public four-year Subtotal	84,469	122,042	37,573	148,523	64,054
WAICU Institutions (n=10)					
Lower Division	9,220	12,355	3,135	12,355	3,135
Upper Division & Grad/Professional	14,302	19,166	4,864	19,166	4,864
WAICU Subtotal	23,522	31,521	7,999	31,521	7,999
Other Degree-Granting (n=38)					
Lower Division	3,167	4,882	1,715	5,860	2,693
Upper Division & Grad/Professional	6,596	11,422	4,826	12,927	6,331
Other Degree-Granting Subtotal	9,763	16,304	6,541	18,787	9,024
Private Career Schools (n=44)	8,221	9,924	1,703	11,307	3,086
Grand Total	272,759	353,147	**80,388**	395,091	122,332

Model Two Summary:

- Lower-division enrollment grows to 236,395 in 2010 and 249,029 in 2020
- Upper-division/Graduate/Professional enrollment grows to 116,752 in 2010 and 146,062 in 2020.
- Overall additional higher education enrollments: 80,388 in 2010 and 122,332 in 2020 .

MODEL THREE

A major consideration of the current Master Plan is the role of technology and e-learning in enhancing access to postsecondary education. Through the HECB survey and interviews, institutions have indicated a wide range of efforts to provide courses through electronic delivery systems. In addition, institutions have indicated that the use of technology for different *aspects* of postsecondary education is widespread. Although many expect that the future will bring more electronic course and program offerings, currently the proportion of such offerings appears to be less than five percent of total offerings. Some institutions claim not to participate at all in e-learning, while others describe it as their primary education-delivery method.

Model Three adds estimates of participation through e-learning. Nearly 300 institutions make available e-learning-only degree programs to Washington state residents. A placeholder figure of 2500 FTEs was added to the enrollment base for e-learning-only programs. The increases for this e-learning-only sector are proportional to the increases in population forecasts. This 2500 FTE

placeholder will be replaced with enrollment projections gained from a survey now in progress. The survey recipients are institutions physically located outside this state, who offer to Washington State residents higher education degree programs solely through distance-learning technology.

The current and projected FTE enrollments derived from Model 3 for 2010 and 2020 are presented in Table C.

Table C: Model 3 - Current and Projected FTEs, Public, WAICU, Other Degree-granting, Private Career Colleges, Distance Education-only

Institutional Sector	1998	2010	Difference 1998-2010	2020	Difference 1998-2020
Public two-year institutions (n=33)					
State Funded	122,121	144,228	22,107	153,877	31,756
Non-State Funded	24,663	29,128	4,465	31,076	6,413
Public two-year subtotal	146,784	173,356	26,572	184,953	38,169
Public four-year institutions (n=6)					
Lower Division - State Funded	27,959	35,878	7,919	34,554	6,595
Upper Division & Grad/Professional - State Funded	53,093	81,227	28,134	107,960	54,867
Upper Division & Grad/Professional - Non-State Funded	3,417	4,937	1,520	6,009	2,592
Public four-year subtotal	84,469	122,042	37,573	148,523	64,054
WAICU institutions(n=10)					
Lower Division	9,220	12,355	3,135	12,355	3,135
Upper Division &Grad/Professional	14,302	19,166	4,864	19,166	4,864
WAICU subtotal	23,522	31,521	7,999	31,521	7,999
Other Degree-granting (n=38)					
Lower Division	3,167	4,882	1,715	5,860	2,693
Upper Division & Grad/Professional	6,596	11,422	4,826	12,927	6,331
Other Degree-Granting Subtotal	9,763	16,304	6,541	18,787	9,024
Private Career Schools (n=44)	8,221	9,924	1,703	11,307	3,086
E-learning Only (n=~300)	2,500	2,969	469	3,382	882
Grand Total	275,259	356,116	**80,857**	398,473	123,214

Model Three Summary:

- Lower-division enrollment grows to 237,879 in 2010 and 250,720 in 2020
- Upper-division/Graduate/Professional enrollment grows to 118,237 in 2010 and 147,753 in 2020.
- Overall additional higher education enrollments: 80,857 in 2010 and 123,214 in 2020.

RECOMMENDATIONS

The following actions are recommended to effect the HECB's recognition and support of multiple pathways to postsecondary education:

1) Maintain enrollment goals articulated in the 1996 Master Plan:

   a) for lower-division enrollment: to maintain the current high participation rate, and
   b) for upper-division and graduate/ professional enrollment: by 2010 achieve the national average participation rate, and the national 70th-percentile participation rate by 2020.

2) Adopt Model Two for the development of enrollment levels for the 2000 Master Plan, and

3) Continue to monitor and develop Model Three, specifically, data relative to the participation of students in postsecondary education through distance learning.

ASSUMPTIONS AND METHODOLOGY BEHIND ENROLLMENT ANALYSIS

Enrollment projections using the participation rate methodology incorporate student enrollment patterns and population forecasts. The specific methodology chosen for the present enrollment projections makes the following assumptions:

- Current participation rates at public two-year and four-year institutions were calculated for each age, gender, and class-standing category, based on fall 1998 *actual* enrollments. Enrollment projections employing the participation rate methodology are based on current age and gender participation rates in Washington's postsecondary institutions. The OFM and the HECB have used age and gender participation rates as the basis of past enrollment projections. In addition, the HECB has incorporated class standing (i.e., lower division, upper division, graduate, and professional) designations into the HECB participation rates.
- At public two-year and four-year institutions, the current (1998) lower-division participation rates were applied to population forecasts through 2020. For 2010, the upper-division and graduate/professional participation rates were increased to the national participation rates; for 2020 they were increased to the national 70th-percentile participation rates.[8]
- Enrollment at WAICU institutions was increased by 8000 FTEs in 2010, and maintained through 2020.
- The enrollment at other independent, four-year degree-granting institutions was increased in 2010, and in 2020 either as institutions indicated they expected to grow, or relative to population increases (for those institutions that did not provide projection information).
- The enrollment (FTEs) at private career institutions was increased in 2010, and at the forecasted rate of population increase for 2020.
- As a "place-holder," current FTE participation through e-learning-only courses not included in the other sectors is estimated to be 2500 FTEs, with increases in 2010 and 2020 proportional to population increases. The HECB is seeking additional data for distance learning enrollment, which is expected to be available in late spring.
- For the purposes of this analysis, "off-site" is defined as offerings that do not involve a physical seat in a classroom (that is, a classroom on an institution's campus or in a facility leased for the specific purpose of offering a course). Students may access "off-site" courses residence halls, homes, work offices, or other similar space. Current estimates of such

[8] The national average participation rate and national 70th-percentile were based on the most current final IPEDS data available, which was for fall 1996.

offerings amount to less than three percent of FTEs in the sectors defined, with the exception of the e-learning-only sector. There is an expectation that the "off-site" share of the FTE enrollment will change substantially by 2010.

Calculating and Expressing Enrollment: Headcount and Full-time Equivalent Students

Unduplicated headcount is used to generate age-specific participation rates. That is, the total number of state residents of a particular age in a given year is multiplied by the participation-rate goal. These numbers are then converted to full-time student equivalents.

The headcount-to-FTE conversion method used in this study depended on the institutional sector, and, in some cases, on the data provided by the institutions. For example, some institutions provided only FTE data and, therefore, it was not possible to calculate headcount participation rates for them; their FTEs numbers were added at the appropriate step.

For Washington public institutions, headcounts were converted to FTEs using the most current available headcount-to-FTE conversion ratios provided by OFM. For other institutions, the federally-accepted conversion assumptions were used: a full-time headcount being one FTE, and the part-time headcount being a third of an FTE (*available headcount data are presented in Appendix A, Table 3*).[9]

Although the refinements of the particular ratio used are based on reasonable assumptions, we have simplified the process and elected to use the three-year-annual-average ratio for calculating FTEs from headcounts for all years 2000-2020. The most current three-year-annual-average ratio is based on 1995-96 to 1997-98 numbers. (The 1998-99 annual FTE count will not be available to update the three-year average until fall 1999.) For the year 1999-2000, the prior year's (1997-98) annual average ratio is used. The headcount to FTE ratios shown in Table 11 represent the OFM ratios for public institutions and ratios calculated using a federally-accepted calculation for the WAICU, Other Degree-Granting, and Private Career Schools. Historical data show year-to-year changes in the ratios are present but minimal.

Higher Education Sectors Included in Enrollment Projections

The sectors that are included in the present participation rate calculations include the following:[10]

1. **Washington's public two-year institutions:** This sector includes the 33 community and technical colleges. FTE enrollments in these institutions are funded by one of three sources: **state, contract, or student. Contract and student-funded** courses are those for which no state funds are used to cover costs of instruction.

   According to the *Academic Year Report* of the State Board for Community and Technical Colleges, "The costs for contract-funded courses are paid by an enterprise such as an

[9] In past years, OFM has applied a five-year annual average FTE in making the conversions to all future years. Most recently OFM has used the following convention: the previous year of 1997-98 for 1999-00 to 2001-02, three year average of 1995-96 to 1997-98 for 2006-07 to 2019-20, and an equal increment FTE of the difference between 2003-2006.

[10] See the appendix for a listing of the institutions included in each of the sectors.

employer or social service agency for the benefit of its employees or clients."[11] In 1998, the SBCTC had several types of contracts including Running Start, Contract International, Department of Corrections, and local businesses contracts. The *Academic Year Report* further reports that, "Student-funded class costs are paid entirely by the individuals who enroll. Student-funded offerings include avocational courses such as foreign language for travelers, and training courses such as microcomputer applications."[12] About 82 percent of the fall 1998 FTEs participating in the community and technical colleges were state-funded, about 15 percent were contract-funded, and 3 percent were student-funded.

In past Master Plans, enrollment projections for the community and technical colleges were based on state-funded enrollments only. The procedures used in this Master Plan use state-funded enrollment only in the calculation of the baseline participation rate data. Contract- and student-funded FTEs are applied subsequent to the baseline calculations. Current participation rates for the public two-year institutions are based on fall 1998 enrollments provided by SBCTC.

2. **Washington's public four-year institutions**: This sector includes main and branch campuses of the state's six public four-year institutions. Current participation rates for public four-year institutions are based on fall 1998 enrollments, which are provided to OFM through the Higher Education Enrollment Report forms.

3. **Private four-year degree-granting institutions:** This sector includes institutions that are part of the Washington Association of Independent Colleges and Universities (WAICU). There are 10 institutions in this sector. Headcount and FTE information for these institutions are based on fall 1997 data that WAICU institutions reported to the federal Integrated Postsecondary Education Data System (IPEDS).[13]

4. **Other Degree-granting Institutions:** This sector includes the 38 institutions categorized as follows:
   - Those that reported to IPEDS on their 1997 or 1998 fall enrollments (n=12);
   - Those authorized through the Degree Authorization Act (DAA) and responded to the HECB Survey (n=19); and
   - Those authorized through the Degree Authorization Act that did not respond to the HECB Survey but provided expected enrollment data in their DAA application or responded to a telephone interview (n=7).

5. **Private Career Institutions**: This sector includes 44 schools that reported to IPEDS in fall 1997. These institutions are two-year-or-less institutions.

[11] SBCTC, Academic Year Report 1997-98, pp.3.
[12] Ibid.
[13] Institutions that receive federal Title IV dollars are required to fulfill IPEDS reporting requirements. Data for religious exempt schools are not included in the participation rates for this sector. Data are available by **not-for-profit and for-profit** separately. However, in studying enrollment patterns it became evident that the profit status of an institution is not a major factor in difference in enrollment patterns. It is rather whether schools enroll a more traditional-age student population or not. Therefore, four-year degree granting institutions that are not Washington public schools are divided into those that belong to the WAICU and those that do not.

6. **Distance Education-only Institutions:** These are institutions that are physically located outside of Washington, and provided only distance education courses and programs to Washington residents. An estimated 277 such institutions presently offer such courses and programs.

The assumptions and methodologies described above were used to provide the data in Table D. This table illustrates differences in enrollment projections in 2010 and 2020 under three different conditions. The difference among the three results from the use of different participation rates at the upper-division and graduate/professional levels at public four-year institutions in 2010 and 2020.

- Under the first condition, current 1998 participation rates are applied to population forecasts in 2010 and 2020.
- Under the second condition, the upper-division and graduate/professional participation rates are increased to the (1996) national participation rate levels in 2010 and 2020.
- Under the third condition, the upper-division and graduate/professional participation rates are increased to the national average participation rates in 2010, and to the 70th percentile in 2020.

Table D: FTE Enrollment Projections

	1998-1999	2010	Difference 1999-2010	2020	Difference 1999-2020
Condition 1: Current Service Level					
Lower Division	195,351	236,396	41,045	249,029	53,678
Upper Division/Grad/Professional	77,408	100,600	23,192	107,579	30,171
TOTAL	272,759	336,996	64,237	356,608	83,849
Condition 2: 2010 GOAL-National Average Participation Rate					
Lower Division	195,351	236,395	41,044	249,029	53,678
Upper Division/Grad/Professional	77,408	116,752	39,344	125,292	47,884
TOTAL	272,759	353,147	80,388	374,321	101,562
Condition 3: 2020 GOAL- National 70th Percentile Participation Rate with 2010 Goal - National Participation Rate					
Lower Division	195,351	236,395	41,044	249,029	53,678
Upper Division/Grad/Professional	77,408	116,752	39,344	146,062	68,654
TOTAL	272,759	353,147	80,388	395,091	122,332

Note: Does not include religious exempt, foreign degree-granting, DAA-exempt institutions, and e-learning-only institutions.
Increases in 2010 & 2020 reflect 1) population forecasts, 2) HECB participation-rate goals, 3) 8,000 additional FTEs reported by WAICU institutions, 4) FTE increases as reported by institutions responding to the HECB survey, and 5) increases proportional to population forecast increases for remaining institutions.

UNDERLYING DEMOGRAPHICS: WHAT CHANGES TO EXPECT IN WASHINGTON'S POPULATION

The State's Population Through 2010: A Population Profile

The Washington State Office of Financial Management (OFM) is the state's central agency for budget management and forecasting data. State law [RCW 43.62] designates OFM as the state's official population and student enrollment forecasting entity. Therefore, for all enrollment planning and analysis, the HECB uses OFM data. Extensive analysis of demographic data indicates that the demographic profile of Washington residents participating in postsecondary education will not change significantly between 2000 and 2010. Following is a brief overview of the analysis and the conclusions reached. The information presented in this section is about the profile of the population forecasts and the scope of available data.

OFM's recent population forecasts show the following:

- The rate of increase for the general population of Washington state through 2010 will be 14.9 percent and 30.4 percent through 2020;
- The state's 17-year-old-or-above population will increase 18.7 percent through 2010, and at the rate of 35.4 percent through 2020;
- Racial/ethnic minority populations are forecasted to increase faster than other groups, but are likely to remain a relatively small proportion of overall enrollment;
- Population growth will continue to be the highest in the Vancouver area, as well as Thurston, Pierce, King, and Snohomish counties;
- The number of high school graduates will continue to increase;
- The population growth rates for women and men are forecasted to remain constant; participation rates for women are higher than for men in each of the different sectors and in the state's 17-or-above population.

The age profile of the state's forecasted population is important for conducting enrollment projections. Because participation rates and growth rates for different age groups in postsecondary education vary, applying individual-age group participation rates to the relevant age-group population forecasts provides a more precise enrollment projection than by using multiple age categories. The information that follows provides an indication of how the growth of relevant postsecondary age groups varies.

In 1998, 74.7 percent of the state's population was 17 years old or above. This percentage is forecasted to increase to 77.3 percent by 2010, and 77.5 percent by 2020. Between 1998 and 2010 the 17-or-above population is expected to increase at a rate (20.6 percent) faster than that of the total population (16.4 percent). Further, between 2010 and 2020, the growth rate of the 17-or-above population is expected to be 13.5 percent, about the same as for the total population. (*See Appendix A, Table 1*)

Less is known about population increases by regarding race and ethnicity.[14] Data is not available in the detail required for meaningful analysis. Although OFM has provided current forecasts by racial/ethnic breakdown for the specific year 2020, more detailed forecasts by year and age between 1999 and 2020 are not currently available. The 2020 forecasts show that the proportion

[14] The race/ethnic projections were provided by OFM for the 2020 Commission; OFM did not provide projections for 2010.

of specific racial/ethnic minority groups in the state's population are expected to increase. For example, in 1998 six percent of the state's population was of Hispanic background; by 2020 over nine percent is expected to be of Hispanic background. (*See Appendix A, Table 2*)

Population growth and participation rates by county

OFM population forecasts by county show that counties that are the centers of population in 1998 are expected to continue to remain centers of population in 2010 and 2020. For example, in 1998, King county had the highest percentage of the state's population, 29.3 percent, and it is forecasted to continue to do so in 2010 (28.0 percent) and in 2020 (26.7 percent).

Between 1998 and 2010, Jefferson, San Juan, Thurston, Island, and Franklin counties are expected to experience the largest *percentage* increases in their county populations. However, the absolute number of people represented by those increases is relatively small, especially compared to expected actual numerical population increases in counties with large populations such as King and Pierce counties. Consequently, the population of Jefferson, San Juan, Thurston, Island, and Franklin is expected to grow only from six to seven percent of the total state population between 1998 and 2010.

There are many factors that drive county participation rates. Among them are proximity to postsecondary institutions, economic incentives for obtaining a postsecondary education, and cultural norms regarding participation in postsecondary education. That is, the reasons why students seek acceptance at and subsequently enroll in any of the postsecondary institutions vary. Although the county data[15] themselves do not indicate the extent to which local access to postsecondary education impacts participation, other studies have indicated that it does to a large extent.[16]

County participation rates at public two-year and public four-year institutions in fall 1998 varied by sector.[17] At the public two-year institutions, the five counties with the highest participation rates were Ferry, Whatcom, Walla Walla, Franklin, and Lewis; those with the lowest were Douglas, Whitman, Kittitas, Skamania, and Klickitat. At the public four-year institutions, the five counties with the highest participation rates were Kittitas, Whitman, Benton, Garfield, and Lincoln; the five with the lowest were Pacific, Wahkiakum, Mason, Island, and Jefferson.

The number of high school graduates is also on the increase, according to OFM, which estimates that in 2009-2010, the number of graduates will be 70,151, an increase of 19.1 percent. This increase in graduates indicates a potential increase in demand for postsecondary education. Because of K-12 school-reform efforts, more high school graduates are expected to be ready for postsecondary education, and may place an even greater demand on higher education services. Currently, analysis shows that the greatest proportion of students, 40 percent, is in vocational programs and over a third are in academic/transfer programs.[18] *(See Appendix A, Table 9 for detail)* From the ratios presented in Table E, it appears that more students attend fulltime at public four-year and private career schools than at the public two-year, WAICU, and Other Degree-granting institutions.

[15] County-origin data are available for public four-year and public two-year institutions only.
[16] One such study was the Rural Counties study conducted by HECB.
[17] This information is based on data included in a forthcoming OFM publication.
[18] The counts by intent are duplicated counts. That is, some students indicated more than one intent and were counted for each intent. The total headcount by intent is 224,710, while the total unduplicated count is 177,265, a difference of 47,445.

Table E: FTE-to-Headcount Ratios by Sector*

Sector	Ratio of FTE to Headcount
Public two-year	0.69
Public four-year	0.91
WAICU	0.85
Other Degree-Granting (n=11)	0.77
Private Career Schools (n=44)	0.94

*The FTE-to-headcount ratios for public institutions are three-year annual averages computed by OFM. The most current three-year average available is for the 1995-96 to 1997-98 school years. The FTE-to-headcount ratios for other sectors are based on current fall enrollment. #FTEs = (# full-time +1/3# part-time) headcount.

APPENDIX A

TABLE 1

Table 1. Percent of State Population 17 Years Old or Above by Gender

Year	Male	Female
1998	49.3	50.7
2010	49.5	50.5
2020	49.6	50.4

TABLE 2

Table 2. Percent of State Population and Percent of Change in Population by Racial/Ethnic Identification

Racial/Ethnic Group	Percent of State Population in		Change in Percent of Population 1998 to 2020
	1998	2020	
White/Caucasian	83.5	76.9	-6.6
Hispanic	6.0	9.1	+3.1
Asian & Pacific Islander	5.6	8.6	+3.0
Black/African American	3.2	3.7	+0.5
Indian, Eskimo, & Aleut	1.6	1.7	+0.1

*The numbers in column 2 do not add to 100 and the numbers in column 4 do not add to zero due to rounding.

TABLE 3

Table 3. Fall 1998 Headcounts and Percentages of the 17-Year-Old-or-Above Population by Sector

Sector	Headcount	Headcount Percent of 17-or-Above Population
Washington Public two-year – State Funded (n=33)	177,265	4.18
Washington Public four-year – State Funded (n=6)	88,857	2.09
WAICU four-year Degree Granting Institutions (n=10)	27,563	0.65
Other Degree Granting Institutions (n=37)	13,099	0.31
Private Career Schools (n=44)	8,757	0.21
TOTAL	**315,541**	7.43

The following are not represented in the above headcounts: Public two-year (24,663 FTEs) and four-year (3,417 FTEs) non-state funded; University of Phoenix (700 FTEs), and e-learning only.

TABLE 4

Table 4. Percent of State Population Enrolled (Headcount) By Age Group and Sector (i.e., participation rate)

Headcount Percent of State Population Age						
Sector	**17-or-Above**	**17-24**	**25-34**	**35-64**	**65-or-Above**	**Unknown**
Public two-year Institutions	4.2%	12.5	5.4	2.3	0.8	0.1
Public four-year Institutions	2.1%	10.5	2.3	0.4	0.0	0.0

TABLE 5

Table 5. Percent of State Population 17-of-Above Enrolled (Headcount) by Gender and Sector

Sector	Male	Female
Public two-year Institutions	3.6	4.7
Public four-year Institutions	2.0	2.2
WAICU Institutions	0.5	0.8
Other Degree-Granting (n=11)*	0.2	0.2
Private Career Schools (n=44)	0.2	0.3

*Headcount by gender were only available for 11 of the "Other Degree-Granting Institutions.

TABLE 6

Table 6. Gender Distribution of Student Population

Sector	Male	Female
State 17-or-Above Population, 1998	49.3	50.7
Public two-year Institutions	42.5	57.5
Public four-year Institutions	46.7	53.4
WAICU Institutions	40.6	59.4
Other four-year Degree-Granting (n=11)	44.1	55.9
Private Career Schools (n=44)	38.9	61.1

*Headcount by gender were only available for 11 of the "Other Degree-Granting Institutions.

TABLE 7

Table 7. Percent of Current Enrollment (Headcount) by Class Standing

	Percent Designated as		
	Lower Division	**Upper Division**	**Graduate/ Professional**
Public four-year Institutions	34.5	48.6	16.8
WAICU Institutions	35.9	40.1	24.0
Other Degree-Granting Institutions (n=37)	31.3	37.3	39.4

TABLE 8

Table 8. Percent of State Population 17-or-Above Currently Enrolled (Headcount) by Class Standing (i.e., participation rates)

	Percent Designated as		
	Lower Division	Upper Division	Graduate/ Professional
Public four-year Institutions	0.7	1.0	0.4
WAICU Institutions	0.2	0.3	0.2
Other Degree-Granting Institutions (n=37)	0.1	0.1	0.1

TABLE 9

Table 9. Percent of Currently Enrolled Headcount and State Population 17-or-Above by Intent, Public two-year Institutions, State-Funded Enrollment*

	Percent of Total Headcount	Percent of State Population 17-or-Above
Academic	34.3	1.8
Vocational	40.4	2.1
Basic Skills/Developmental	25.4	1.4

*Counts by Intent are duplicated counts.

Appendix B. List of Institutions

Public Two-year Institutions

Bates Technical College
Bellevue Community College
Bellingham Technical College
Big Bend Community College
Centralia College
Clark College
Clover Park Technical College
Columbia Basin College
Edmonds Community College
Everett Community College
Grays Harbor College
Green River Community College
Highline Community College
Lake Washington Technical College
Lower Columbia College
North Seattle Community College
Olympia College
Peninsula College
Pierce College
Renton Technical College
Seattle Central Community College
Seattle Vocational Institute
Shoreline Community College
Skagit Valley College
South Puget Sound Community College
South Seattle Community College
Spokane Falls Community College
Spokane Community College
Tacoma Community College
Walla Walla Community College
Wenatchee Valley Community College
Whatcom Community College
Yakima Valley College

Public Four-year Institutions

Central Washington University
Eastern Washington University
The Evergreen State College
University of Washington Seattle
University of Washington Bothell
University of Washington – Evening
University of Washington Tacoma
Washington State University Pullman
Washington State University Vancouver
Washington State University Spokane
Washington State University Tri-Cities
Western Washington University

WAICU Institutions

Gonzaga University
Heritage College
Pacific Lutheran University
Seattle Pacific University
Seattle University
Saint Martin's College
University of Puget Sound
Walla Walla College
Whitman College
Whitworth College

Other Degree Granting Institutions

Antioch University - Seattle
Bastyr University
Chapman University (several locations)
City University
Columbia College
Cornish Institute
DigiPen Institute of Technology
Embry-Riddle Aeronautical University
Fred Hutchinson Cancer Research
George Fox University
Golden Gate Baptist
Golden Gate University-Seattle
Henry Cogswell College
ITT Technical Institute of Seattle
Johns Hopkins
Lewis & Clark
Linfield College
Lutheran Bible Institute of Seattle
Northwest Aviation College
Northwest College of Art
Northwest College of the Assemblies of God
Northwest Indian College
Northwest Institute of Acupuncture & Oriental Medicine
Nova University
Old Dominion University
Pacific Oaks College NW
Park College
Pepperdine University
Puget Sound Christian College
Seattle Institute of Oriental Medicine
So. Illinois University Carbondale
U of Portland
University of Phoenix
Vincennes University
WA School of Professional Psychology
Walden University
Western Oregon
Western Seminary

Private Career Colleges

Academy of Hair Design
American College of Professional Education
Art Institute of Seattle
Bellevue Beauty School
Bellingham Beauty School
BJ'S Beauty and Barber College
Brenneke School of Massage
Bryman College
Business Computer Training Institute (7 locations)
Clare's Beauty College
Court Reporting Institute and Agency
Divers Institute of Technology
Eton Technical Institute (3 locations)
Everett Plaza Beauty School
Gene Juarez Academy of Beauty
Gene Juarez Academy of Beauty –Branch Campus
Glen Dow Academy of Hair Design
Greenwood Academy of Hair
Interface Computer School
International Air Academy incorporate
ITT Technical Institute (2 locations)
Magee Brothers Beauty School
Mt. Vernon Beauty School
Perry Technical Institute
Phagans' Orchards Beauty School
Pima Medical Institute
Professional Beauty School (3 locations)
Resource Center for the Handicapped
Seattle Massage School – Tacoma Campus
Seattle Massage School – Everett Campus
Seattle Massage School -- High Tide Inc.
Stylemaster College of Hair Design N
Western Business College

RESOLUTION 99-10

WHEREAS, the Higher Education Coordinating Board believes there are many paths Washington State citizens may follow in order to achieve their postsecondary education goals; and

WHEREAS, those education goals might result in a certificate, skill-set, or degree; might occur at a public or private institution, or at a two- or four-year institution; or might occur entirely in an electronic format; and

WHEREAS, enrollment is the common measure of participation in postsecondary education activities in this and other states; and

WHEREAS, the state's higher education enrollment can be established in terms of the participation rate of Washington citizens in higher education compared to similar measures of those in other states; and

WHEREAS, the higher education aspirations of Washington citizens are likely equal to or greater than that of their counterparts across the nation; and

WHEREAS, long-term projections of the state's population will fluctuate over time as will other states' participation rates and other factors used in enrollment projections;

WHEREAS, since the 1996 Master Plan, the state has made good progress toward Master Plan enrollment goals to maintain the current participation rate for lower-division higher education, and for upper-division and graduate/ professional levels to achieve the national-average participation rate by 2010 and the 70th percentile nationally by 2020

NOW THEREFORE BE IT RESOLVED, in order to provide as complete picture as possible of postsecondary education in the state, the Board's Master Plan for the state to the extent possible should reflect the variety of providers and their contribution to postsecondary education in the state, and

BE IT FURTHER RESOLVED, the HECB should maintain enrollment goals articulated in the 1996 Master Plan: to maintain the current high participation rate goal for lower-division enrollment, and to achieve the national average participation rate by 2010 and the 70th percentile nationally by 2020 for upper-division and graduate/ professional enrollment.

Adopted:

April 14, 1999

Attest:

David Shaw, Secretary

Larry Hanson, Member

FTE ENROLLMENT TO REACH HECB 2000 MASTER PLAN GOAL

	STATE FUNDED										
	CTCs	Four - Year			Total State	Public Non-state		Other	Grand	Annual	Cumulative Increase
FY		Lower Div	Upper Div	Grad/Prof.	Funded	Funded	WAICU*	Private**	Total	Increase	over 2001
1999	118,526	28,304	39,870	13,828	**200,528**	28,130	23,522	18,156	**270,336**		
2000	120,529	28,945	40,090	14,293	**203,856**	28,674	24,249	18,927	**275,707**		
2001	123,332	29,267	41,217	14,988	**208,805**	29,218	24,977	19,699	**282,698**		
2002	125,495	29,937	42,567	15,941	**213,940**	29,762	25,704	20,470	**289,876**	7,178	7,178
2003	127,696	30,622	43,960	16,954	**219,233**	30,306	26,431	21,241	**297,212**	7,336	14,513
2004	129,936	31,322	45,400	18,032	**224,690**	30,850	27,158	22,012	**304,711**	7,500	22,013
2005	132,215	32,039	46,886	19,178	**230,319**	31,395	27,886	22,784	**312,382**	7,671	29,684
2006	134,534	32,772	48,421	20,397	**236,125**	31,939	28,613	23,555	**320,231**	7,849	37,533
2007	136,894	33,522	50,006	21,694	**242,116**	32,483	29,340	24,326	**328,265**	8,034	45,567
2008	139,295	34,289	51,644	23,072	**248,300**	33,027	30,067	25,097	**336,492**	8,227	53,794
2009	141,738	35,073	53,334	24,539	**254,685**	33,571	30,795	25,869	**344,920**	8,428	62,221
2010	144,228	35,878	55,079	26,098	**261,282**	34,115	31,522	26,640	**353,559**	8,640	70,861

Increase: 2001 to 2010

	20,896	**6,611**	**13,862**	**11,109**	**52,477**	**4,897**	**6,545**	**6,941**	**70,861**
public lower division		27,507							
public upper division/grad/prof.			24,971						
public: funded & self-support/contract					57,374				
WAICU & other private institutions							13,487		

Note: The increase of 24,971 upper/grad/prof. enrollment includes 8,819 (8,242 upper, 577 grad) to maintain the current participation rate, and an additional 16,152 (5,620 upper, 10,532 grad) to increase the upper division rate to the national average by 2010. The four-year lower division increase of 6,611 over 2001 and the 20,896 CTC increase over 2001 is all to maintain the current (1998) participation rate.

* Includes ten WAICU private institutions with lower divison, upper division, and graduate/professional FTEs

** Includes other degree-granting institutions and private career schools

Master Plan Policy Paper #2-A: Non-traditional Degree-granting Providers

May 1999

ISSUE AREA

The role of independent institutions, particularly "non-traditional" degree-granting providers, in addressing the state's enrollment demand.

POLICY ISSUE(S)

To consider the extent to which non-traditional providers will play a role in providing postsecondary education in the state of Washington.

STUDY QUESTIONS

I. What is an independent education provider, and what is a "non-traditional" degree-granting provider?
II. What is the likely response of various independent education providers to a growing demand for higher education?
III. What sorts of students are likely to use non-traditional providers, and what impact will these providers have on the demand for higher education at other institutions?
IV. Is it appropriate for public funds to be available at non-traditional institutions?
V. What is the role of non-traditional providers in the context of higher education planning?

INTRODUCTION

The Higher Education Coordinating Board has long championed the value of broad access to higher education. The Board further recognizes the long-standing public policy of Washington to support public higher education, as a way of investing in the enrichment, education, and training of its citizens.

As the HECB seeks new ways to meet the increasing demand of citizens for higher education, a factor to be considered is the role of non-traditional, degree-granting independent providers in meeting the state's higher education participation goals. This paper seeks to better understand these providers: their mission, their current and future service levels, and their clientele.

I. *What is an independent provider, and what is a non-traditional degree-granting provider?*

When we speak of "independent education providers" one way to begin is by asking "independent of what?" The initial answer would be "independent of control by political

authorities"— the Legislature and Governor — at least in a set of basic decisions about curriculum, admissions, and setting prices. The schools that have been historically independent of public authorities are private, nonprofit colleges and universities, either sectarian or nonsectarian.1

For-profit degree-granting institutions / corporations have traditionally been absent from the landscape, either by custom or by law. In Pennsylvania, for example, the law forbade the incorporation of a for-profit college or university. However, in the 1990s a wave of for-profit educational corporations has been launched on Wall Street. Some, such as the University of Phoenix, have gained authority to grant degrees from regional accreditation agencies. Others, such as the Caliber Learning Network, have established partnerships with established nonprofit colleges and universities. Therefore, on the brink of the 21st century, the universe of degree-granting institutions that are "independent" (of political authorities) has been irrevocably changed: it now consists both of for-profit and nonprofit colleges and universities.

This distinction, however, is only a legal distinction. It doesn't explain how these "independent" educational institutions actually operate, or, most important, how they will respond to a burgeoning demand for higher education. In his paper, "When Markets Matter," Robert Zemsky suggests that all higher education institutions now operate within a highly segmented marketplace. The education marketplace is defined by students who seek some combination of prestige and convenience in their education, subject to budget constraints. At one end of the market are what Zemsky calls "selective name-brand" schools — public or private — which attract applications and enrollments from students seeking prestigious degrees. These institutions, writes Zemsky:

> "...are places, settings really, for the young. It is the style and rhythms of the traditional rite-of-passage college student that dominate a name brand institution. Name-brand educations are also experiences that students buy whole, rather than in part, a semester or course at a time. What matters as well are campus amenities: field houses, good dorms, good social life, even fraternities and sororities or their social equivalent."2

At the other end of the marketplace is what Zemsky calls the "convenience" schools. Writes Zemsky, "these institutions attract more diverse, older, more experienced, more work-savvy learners who frequently purchase their education in parts." Seeking job-related skills and occupational certification, these learners chiefly care about *"...amenities that make their enrollment easier: flexible schedules, nearby locations, childcare, ...and parking."*

Schools, like firms, compete against one another within their market segments. For example, in the Puget Sound metropolitan area the "convenience" market segment is populated by a host of degree-conferring education institutions. They include nonsectarian and sectarian nonprofits, independent for-profits, and a number of public institutions, such as Central Washington University's centers, and several community colleges. Also operating in this marketplace are independent institutions serving mainly military bases, either through on-site adjunct faculty or distance learning technologies. New to this sector is the "virtual university" — such as Western Governors University — operated as a consortium of several states. Other programs, or selected

course offerings, have become available to Washington residents exclusively through electronic technologies, especially the Internet. Over 200 institutions have been identified in this latter category, including both public and independent out-of-state colleges and universities that solicit students within Washington.

As we struggle to define the new breed of "independent" higher education provider, we find that the category name of "independents" encompasses institutions that are fundamentally dissimilar in their mission and strategies. In part, they are dissimilar because they operate in very different market segments, ranging all the way from "selective brand name" to "convenience."

Non-traditional Degree-granting Providers

This paper is particularly concerned with degree-granting institutions labeled as non-traditional independents. All of these specialize in the "convenience market;" many, though not all, operate as for-profit providers; many began operations only within the past ten years; and most are able to initiate new sites and/or programs within short time frames in response to perceived markets. The focus of service by these providers tends to be older working students needing flexible scheduling and delivery modes. Types of programs offered are shaped to a large extent by the interests of these students, interests that frequently involve job-related training and skill development.

Although not examined in this paper, there are many postsecondary education and training activities **not** conducted in conjunction with degree programs. Several hundred trade/career/vocational schools operate in this state. These postsecondary providers —either nonprofit or for-profit — focus on specific types of workforce preparation. Often courses and programs are of short duration; many award certificates and/or provide experiences for obtaining various types of licenses (e.g., cosmetology).

II. *What is the likely response of various independent degree-granting providers to a growing demand for higher education?*

Research suggests that different types of institutions respond differently to changes in the "market" — the supply of people seeking admission to higher education. Demographic data indicate that Washington's population is increasing, which should result in a greater demand for higher education services. As evidenced by a survey of degree-granting independent institutions (conducted by HECB in March 1999), many institutions expect to augment enrollments.

One segment of independent institutions in Washington is comprised of private sectarian colleges/universities. Ten of these, with a long history in this state, belong to the Washington Association of Independent Colleges and Universities (WAICU)[3]. Overall, these institutions enroll about 23,000 full-time equivalent (FTE) students, and expect enrollment to increase by another 8,000 FTE students by 2010. Within that group, at least three schools expect to maintain current enrollment levels, while the others anticipate increases. These institutions' enrollments include many in the age group characteristic of traditional students (i.e., 17 – 25 years old). These institutions offer a broad range of established degree programs in arts and sciences. In

addition, many adult learners enroll in WAICU colleges and universities; several institutions have incorporated non-traditional and "convenience" elements in their programs. The range of programs and types of students at WAICU institutions presents a comprehensive spectrum of higher education services. This group of institutions plays a major role in the provision of higher education to the citizens of Washington, and will continue to meet nearly 10 percent of the state's expected enrollment demand through 2010 and beyond. Over the years, the presence of WAICU institutions has been vital to Washington's ability to educate its citizenry.

In addition to those affiliated with WAICU, most other degree-granting institutions in Washington expect enrollment increases in the future. Many, though not all, have parent institutions in another state, and operate under the Degree Authorization Act (DAA) in this state. This "other" category encompasses a range of institutions, some with a long history in Washington. Some are "traditional," and several are "non-traditional." In total, these institutions will accommodate about 6,400 additional FTE enrollments by 2010. (For more information about enrollment projections, see "Master Plan Policy Paper #1-A: Master Plan Enrollment Goals and Enrollment Forecasting Analysis," HECB, April 1999.)

Degree-granting Non-traditional Providers

A subset of the "other" category just discussed, encompasses what this paper calls *independent degree-granting non-traditional institutions*. There is no clear delineation between "traditional" and "non-traditional." Hence, no exact enrollment figures are attributed to "non-traditional," and this is not a category in the April 1999 HECB "Master Plan Enrollment Goals" paper. But several institutions in this state exhibit attributes of this designation. These non-traditional providers may be nonprofit or for-profit, but operate either entirely or in part in the "convenience" market segment. They are positioned to respond in similar ways to an increasing demand for higher education: by increasing enrollments.

For-profit institutions may differ from nonprofit institutions, not so much in their aims as in their access to capital — and therefore, to newly developed learning technologies. These institutions are likely to open new locations quickly in convenient suburban locations, introduce new courses, and employ the latest learning technologies. They will be able to lease space and add instructors in a short time period. Nonprofit institutions that operate either wholly or in part in the convenience market segment may do so as well.

At the moment, *for-profit providers* are a small part of the degree-granting higher education marketplace. According to estimates for the nation as a whole, "for-profit and non-traditional" providers comprise two percent of the market.[4] Here in Washington for-profit enrollments are relatively small. According to the HECB survey (March 1999), ten for-profit institutions now enroll about 1,400 FTE students in Washington. By 2010, this number would expand to about 4,200 FTE students, based on projections derived from the survey. If these projections materialize, for-profit degree-granting institutions would account for about 3.5 percent of the total enrollment **increases** projected for the state by 2010; their total share of all higher education enrollments in Washington would continue to be approximately 1 percent.

The emergence of non-traditional degree-granting institutions is recent. Survey results can inform planning to some extent, but it is unknown whether greater numbers of such institutions will assume a larger share of higher education services in Washington. Currently, the University of Phoenix is the most well known of the for-profit providers. Enrolling nationally 50,000 students in 65 sites, the University of Phoenix focuses solely on working adult students. In 1997, Phoenix opened its first site in Bellevue, Washington, and by January 1999, the site enrolled nearly 700 FTE students.[5] The institution has estimated that FTE enrollment in Washington may reach 2,500 by 2010. Phoenix tends to enroll students who might not otherwise be participating in a degree program but for the convenience and flexibility of the programs they offer. Many convenience / for-profit institutions focus on adult learners, which may contribute to Washington's goal of increasing upper-division and graduate-level enrollments in this state.

Many nonprofit degree-granting colleges and universities array their programs and course schedules to accommodate the needs of working students. Some, while directing the core of their efforts toward traditional, on-campus students, also offer weekend and evening classes. Others view their core mission as that of "convenience" provider, with the majority of programs and schedules designed to meet the needs of working students. Most institutions of higher education have moved toward convenience- or student-centered programming, at least to some degree.

Identifying which nonprofit institutions should be classified wholly in the "convenience" market sector is difficult. Although several might fit the designation, one that is often mentioned is City University. City University has conducted programs and courses in several sites around the state and beyond, and has expanded overall enrollment numbers quickly. Currently, their Washington state enrollment is slightly over 5,000 students (headcount).

Another example is Chapman University with a current enrollment of about 500 students. Although Chapman operates at five military bases, only 40 percent of their students are affiliated with the military. The institution is considering expansion into other sites, and projections for future enrollment are characterized as "nearly unlimited" (HECB survey, March 1999).

III. *What sorts of students are likely to use non-traditional institutions, and what impact will these providers have on the demand for higher education at other institutions?*

Initial analysis indicates that, generally, for-profit institutions enroll working adult learners.[6] At the University of Phoenix, for example, the average age of students is 35, and 85 percent of students are between the ages of 25 and 49.[7] Its students are slightly more likely to be female than male (55- 45 percent), and fully 37 percent are not of European ancestry.[8] It is likely that many non-traditional providers respond to students with this student profile.

Adult learners highly prize convenience and generally they are uninterested in forming attachments to residential collegiate life. Discussing his national study of their attitudes Arthur Levine writes, "they wanted a different kind of relationship with their colleges than undergraduates have historically had. They preferred relationships like those they already enjoyed with their bank, their gas company, or their supermarket."[9]

Demographic characteristics: Non-traditional providers tend to eschew majors and courses in the social sciences, the humanities, the natural sciences, or costly applied sciences. But they *have* offered adult students what they want: courses and majors that are directly job-related, such as business management, information technology, education, and health care. Conversely, traditional students — those in the 17-25 age range — are likely to be among those who continue to seek traditional kinds of educational institutions that provide them with more traditional settings.

Geographic distribution: Another way of thinking about "which students" are served by non-traditional providers is to focus not on demography, but on geography: where will these providers choose to locate? Focused on adult students who are looking to augment their work-related skills at convenient locations, these schools generally have chosen to locate in the shopping malls and office parks of fast growing and affluent suburbs throughout the nation.[10] Neither rural communities nor inner cities are likely venues for newer non-traditional institutions. King County suburbs are currently under consideration for additional University of Phoenix sites, for example.[11]

Impact on public and other independent higher education institutions: Given the pricing strategies and target market of non-traditional institutions, the impact of their competition for students is likely to be felt chiefly by other independent, traditional institutions. The prices per credit hour of many traditional independent institutions are higher than those of non-traditional providers, and they lack the capacity to lower prices by providing larger subsidies to students (e.g. financial aid).[12] Nonprofit institutions operating in the convenience market often look to business administration and similar programs for a large share of their net revenues, and may rely upon them to subsidize programs with few majors or high costs. Should they lose enrollments in these revenue-generating programs, they could well find themselves in financially constrained circumstances.

And what of public institutions? Colleges and universities serving traditional residential students will be less affected, since they operate in a different market. However, it may be a different situation for public institutions that operate within the Puget Sound metropolitan area that also serve the convenience market. The state's long-standing policy of public investment in higher education allows public institutions to operate with tuition and fees that create broad public access to higher education. Those rates are lower than those of non-traditional competitors. Hence, students who are likely to select a non-traditional provider over its public competitor will be those who are willing and able to pay for the convenience, or whose tuition and fees are substantially subsidized by their employers.

IV. *Is it appropriate for public funds to be available at non-traditional institutions?*

State Support to Institutions

State appropriations support the cost of instruction at public universities, colleges, and community and technical colleges.[13] Although tuition paid by students contributes revenue to institutions, on average about two thirds of the cost of instruction at public institutions is

comprised of state tax revenues. There is no similar support for non-public institutions; state funds have generally been provided to **students** enrolled in these institutions, rather than directly to the institution itself.

Financial Aid Currently Available to Students

In addition to the state's policy of support for public higher education institutions, Washington also supports broad access to higher education by directly helping students to pay for their education. This *direct* aid consists of state funds for individual students provided though several programs, mainly State Work Study, State Need Grant, and the Educational Opportunity Grant programs. In addition to students attending public institutions, most nonprofit independent providers, with their base location in this state, are eligible for their students to participate in these state-funded financial aid programs.

Issues Surrounding Public Support of Non-traditional Providers

Institutional support: There is no precedent in Washington of institutional support to either nonprofit or for-profit independent postsecondary education institutions. There is, however, ample precedent for public dollars flowing to for-profit corporations in *other* policy areas, including for-profit providers of social services, such as nursing homes and hospitals. If full utilization of all public higher education facilities is eventually achieved, it might be appropriate to ask whether it is feasible for the state to contract for higher education services from non-traditional providers.

Any examination of future support of non-traditional institutions would entail many considerations, including costs and benefits of public institutions compared to their non-traditional counterparts. Another concern would be the issue of "quality" of non-traditional providers. Though of critical importance, reliable indicators of quality are difficult to define and measure.

Financial aid: Under current law, many non-traditional colleges and universities may not be eligible for participation in state financial aid programs – particularly if their institutional accreditation is not in compliance with existing requirements. State statutes articulate which schools are eligible to participate in the State Need Grant and Educational Opportunity Grant programs in this way:

> "...any institution, branch, extension, or facility operating within the state of Washington which is affiliated with an institution operating in another state must be a separately accredited member institution of any such accrediting association..." (RCW 28B.10.802)

Many non-traditional providers in Washington are affiliated with out-of-state parent institutions, and their accreditation does not conform to current regulations.

On the other hand, students who currently attend non-traditional institutions may place little demand on existing direct-aid programs, since they are adult learners who are often employed on a full-time basis. For example, of students enrolled at the University of Phoenix, roughly half

are reimbursed by their employers for their schooling,[14] and they rarely qualify for federal need-based aid.[15]

Any future examination of state financial aid policies in the context of non-traditional providers would involve several concerns:

- Will the number of non-traditional providers increase significantly, and/or will existing institutions focus more intensely on convenience markets? If non-traditional providers enroll more students, will there be a greater demand for financial aid for these students?
- If the convenience orientation increases, will more institutions deliver courses with alternative modes (Internet, video, etc.) and will these qualify for assistance under existing financial aid regulations (state and federal)?

HECB Master Plan goals recognize the need for many kinds of postsecondary education and training; many unique pathways are acknowledged as legitimate and appropriate to fulfill the needs of the state's citizens. In the context of the Master Plan, financial aid considerations related to non-traditional providers may need to be examined.

V. *What is the role of non-traditional providers in the context of higher education planning?*

The emergence of non-traditional degree-granting providers, particularly those that are for-profit, has added a new dimension to planning for higher education services in the state. Although these institutions serve a small proportion of total enrollment currently, it is unknown whether these providers and their associated enrollment levels will increase significantly in the future. At the very least, it seems that a focus on "convenience" and service to students will likely grow, both at traditional and non-traditional institutions.

HECB Master Plan enrollment projections have taken into account the current levels of service among these non-traditional providers and extrapolated future expectations. But predicting with certainty the nature and scope of non-traditional contributions to future higher education in the state is not possible at this time. The current enrollment and future enrollment plans at independent institutions will continue to be monitored and analyzed as the Board seeks every opportunity to enhance access to postsecondary education in Washington State.

Endnotes

1.While highly autonomous in making basic operating decisions (e.g. setting prices and creating programs), even these schools have been subject to *some* regulation by public authorities, including degree authorization (Washington Code, Chapter 28B.85) and financial aid regulations (e.g. those attached to VA program).

2. Robert Zemsky, "When Markets Matter," October 1998.

3. Members of the Washington Association of Independent Colleges and Universities (WAICU): Gonzaga University, Heritage College, Pacific Lutheran University, Saint Martin's College,

Seattle Pacific University, Seattle University, University of Puget Sound, Walla Walla College, Whitman College, and Whitworth College.

4. Marchese, "The Shape of Things to Come," 1998.

5. Interview, Craig Swenson, Northwest Regional Director, University of Phoenix, 1-14-99, Bellevue, Washington.

6. For a list of major for-profit higher education companies, see "For-Profit Higher Education Sees Booming Enrollments and Revenues," *The Chronicle of Higher Education*, January 23, 1998.

7. 1998 Fact Book, University of Phoenix, p. 10.

8. The race and ethnicity of entering students in 1998 was: Hispanic (14 percent), African-American (14 percent), Asian (6 percent), Native American (1 percent), unknown (2 percent), White (63 percent).

9. Levine, "How the Academic Profession in Changing," *Daedalus*, Fall 1997.

10. The University of Phoenix, for example, "leases multiple sites in many of the cities where it operates, choosing them so that no student has to drive more than twenty minutes to get to class" (Traub, 1997). The University routinely undertakes a zip code analysis of its enrolled students, and each community that contains more than 200 students receives its own "learning center."

11. Interview, Craig Swenson, Northwest Regional Director, University of Phoenix.

12. "For-Profit Higher Education: Godzilla or Chicken Little?" Gordon Winston, Williams Project for the Economics of Higher Education, November 1998.

13. This sum, the "state funded instructional cost per undergraduate," is estimated to range from 3,336 at community and technical colleges to 5,091 at the comprehensive institutions. Source: "Total Weighted Average State Instructional Cost by Sector Per FTE Undergraduate and Graduate Student, FY 1999"

14. Telephone interview with Karen Spahn, Director of Institutional Research, University of Phoenix.

15. Fewer than 5 percent of UOP student qualify for Pell Grants. Interview, Karen Spahn, Director of Institutional Research, University of Phoenix.

Master Plan Policy Paper #3: The Use of Electronic Technology in Delivering Postsecondary Education

April 1999

ISSUE AREA

The use of electronic technologies to deliver postsecondary education.

POLICY ISSUE

Can electronic learning (E-learning) technologies enhance access to postsecondary education in Washington State?

STUDY QUESTIONS

- What are the dominant E-learning technologies and how are they used?
- What differentiates distance learning from other uses of E-learning technologies?
- Does E-learning affect the quality of the learning experience?
- How are E- learning technologies affecting higher education culture?
- Can E-learning provide Washington's citizens with more access to education?
- What are the policy implications of enhancing E-learning opportunities?

INTRODUCTION

This paper is intended to provide an overview of E-learning technologies in higher education to determine how they can be used to enhance access to higher education in our state. To address the question, the paper defines and explains the primary technologies that are in use. It discusses the cultural changes and effects of these new instructional delivery systems on students, faculty, and institutions, and then suggests some arenas where policy initiatives could address obstacles and assist their development.

HOW TECHNOLOGY IS CREATING A NEW LEARNING ENVIRONMENT

Computers, telecommunications, and the Internet are changing the way schools do business. Advanced media and technologies offer today's colleges a rich mix of learning tools for use both inside and outside the classroom. These tools support the recent research on diverse learning styles that has changed our idea of "best practice" in teaching.

A campus-based instructional model was once the most efficient way for students and faculty to gain access to education resources. The interaction among students, faculty, the library, campus, laboratory facilities, and administration framed our idea of what constitutes higher education. Electronic technology has decentralized many of these resources, putting them within reach of faculty and students with the necessary skills and motivation to access them. Students no longer need come to a centralized physical facility to interact with many education resources and processes, or even to interact with faculty and peers.

Most people still think of college as lectures, books, and papers, but technology has already begun to alter that thousand-year-old paradigm. Only a few years ago, overhead transparencies were the dominant instructional media. Video, computers and the Internet are quickly overtaking them. The hardware, software, and delivery systems we use are changing and converging so very quickly that any description can only be a snapshot in time. Today's college students can review their syllabi on Web pages, visualize complex processes with computer graphics, and practice skills through games and simulations. Students communicate via e-mail and use the World Wide Web for research. On campus, they are introduced to state-of-the-art resources specific to their fields of study.

Some people view electronic information technologies as a "technological fix" for a host of problems from enrollment demand to remediation. But E-learning technologies are *tools* for instruction. Electronic courseware that is well designed and used with care *can* enhance student learning. Poorly designed courseware is, predictably, less effective. The same is true for traditionally designed and delivered courses. Best practice in instructional design, whether electronic or traditional means choosing the medium best suited for the characteristics and location of the learner, the course content and course objectives. Television is different from the Internet; two-way interactive video (ITV) is different from computer-based instruction. All of the new course delivery options require significant investments of time, energy, training, and money for implementation.

Just as the availability of textbooks does not eliminate the need for teachers, neither does the proliferation of learning content on video or the Web eliminate the need for faculty, formal courses of study, or organized learning activities. Regardless of instructional media — books, overheads, video, or CD ROM — high-quality education requires thoughtful planning and design, engaged learners, and faculty who have the training, the time, and the motivation to engage the latest delivery strategies to enhance student learning.

E-learning Technologies and Their Application

In order to understand the impact of E-learning, we need to identify the key learning technologies, then understand how they are being applied to postsecondary instruction. Categories of E-learning can be established in any of the following ways:

- by a particular *kind* of hardware or delivery system such as computers or video;
- by the *locus* of instruction -- onsite or offsite; or
- by defining whether the students and faculty meet and work at the same time, generally referred to as "synchronous" (at the same time), or "asynchronous", (anytime, anywhere instruction).

The following is a summary of the dominant E-learning technologies in use in Washington State today. *(Please refer to Appendix A for more detailed descriptions.)*

▸ Teleconference Technologies

Interactive Television (ITV) courses are characterized by their ability to provide two-way interactive "live" instruction telecast to outlying sites where students participate in the class through cameras and microphones in specially designed and designated classrooms. ITV courses are distributed throughout Washington State schools via the K-20 network.

Satellite Teleclasses generally provide information via one-way video (from a studio) and two-way audio (via telephone). Satellite teleclasses are used primarily for 'just-in-time' training that requires wide dissemination.

▸ Pre-Recorded Materials

Telecourses are complete instructional systems that rely on video for their primary delivery, supplemented by textbooks, study guides, and other materials.

Computer Based Training (CBT) generally denotes computer-based learning packages that do not rely on telecommunicated transmissions for delivery. Most frequently, the student utilizes CBT packages alone or in computer labs. The content is distributed on digital storage media such as diskette, CD-ROM, or Digital Video Disks (DVD).

▸ Internet and Online

Online courses are delivered over the Internet, using computer communications to link faculty and students. Internet classes vary in technical sophistication, and may incorporate e-mail, listservs, resources and courseware on the World Wide Web, or specialized course-management software.

Defining Common Terms for the Purpose of the Master Plan

- *At WSU Vancouver, students take courses through two-way interactive video from teachers based at WSU/Pullman. Sometimes the instructors teach from Vancouver and the students in Pullman become the remote site. Course materials are sent via courier or fax and distributed by site facilitators.*

- *Through a consortium called Washington Online, community college students sign up for courses through their local college, but their teacher might be employed at any Washington community college. All of the course interactions take place through computers. A team of faculty creates the course to assure that it meets statewide standards for the subject.*

- *A student in Friday Harbor visits her local library to view a tape from a telecourse series supplied by Skagit Valley College. After viewing the materials and reading the textbook, she completes an assignment and sends it to the mainland for grading and feedback.*

Distance E-learning

There are many ways to apply the term "distance learning." One of the earliest applications was correspondence study, popularized at the turn of the century.

Distance learning at its most basic level, takes place when teachers and students are separated by physical distance for most of the instructional delivery. For the purposes of the master plan, the term "distance learning" course or program should only be used if:

- Teachers and students are separated for at least 75 percent of the contact hours;
- The content has been specifically designed as a course of study to increase and assess student knowledge or skills; and
- An education institution provides the course content and is responsible for assessment of student achievement through credits, certification, or degrees.[1]

For the purpose of this paper, we will focus on E-learning technologies used to deliver instruction by a body authorized to grant credentials. This definition distinguishes more formal instruction from independent E-learning for personal development. In other words, a student may be able to use a search engine to find information on the World Wide Web, buy an

[1] This definition excludes site-based instruction offered in-person using facilities other than those on a main campus. For the purposes of the master planning process, that should be identified as site-based external delivery.

educational CD-ROM, or register for a commercial online training package. However, if the student wants credentials for the learning, they will need to engage in a course of study that likely includes reading about it, writing and synthesizing their learning, participating in some dialogue with fellow students, and/or performing some activity that establishes their competence in the subject. Institutions offering programs or degrees via distance will be expected to meet quality standards such as those articulated by the Western Cooperative for Educational Telecommunications. (*See Appendix B*)

It is important to recognize that the term "distance" in this case does not necessarily imply great geographical separation. Campus-based students often take distance classes to supplement on-campus courses, fill in prerequisites, or accommodate complicated schedules. "Distance" education can take place with the faculty and student separated by many miles or just a few blocks. Data from the University of Washington Extension shows that 30 percent of their distant learners are matriculating students. Washington Online's statistics show that 50 percent of their students are also enrolled in on-campus classes.[2]

▸ Multi-modal or "Distributed" Instruction

There are many ways to apply, combine, and use E-learning technologies for education. For the purpose of planning, it will be useful to distinguish these applications from 'pure' distance learning where the teacher and student are seldom physically together.

Multi-modal and distributed instructional systems are fast becoming the dominant approaches to instructional delivery, because they take advantage of the best aspects of both in-person and E-learning. While pure (100-percent) distance learning remains controversial among some in higher education, multi-modal E-learning is being applied in the service of all kinds of instruction inside and outside the classroom. Computers, Internet, video, the World Wide Web, and interactive video are all available as learning tools.

Multi-modal or distributed instruction means the information is delivered, and learning takes place through the use of several technologies. The term *distributed education* is often used when communications technologies supplement class time to expand classroom resources or facilitate convenience scheduling. This can be as simple as a faculty member placing a syllabus on the Web.

[2] These statistics may reflect the audience to whom the courses have been marketed so far. Additional marketing and recruitment strategies might be designed to encourage other audiences.

Examples of multi-modal instruction:

- *At the University of Washington, lectures in computer programming have been converted to CD-ROM and World Wide Web pages. Students can view the content live in the lecture hall or watch it on cable TV. Later, students can view it on their computers through the Web, simultaneously watching the instructor at the podium, and reviewing the print materials (via Power Point slides). As students pursue their assignments they can e-mail or "dial up" a tutor. The tutor can answer questions by phone or actually take over the student's work on the computer via "NetMeeting," and correct the work.*

- *At Seattle Central Community College in a "tutored lecture" environment, students use course materials prepared by the UW. They watch the materials with a tutor/facilitator. Every four minutes there must be either a question/answer in the recorded materials, or a question from the classroom. Otherwise the tutor is required to stop the playback and raise a question for student discussion. This class takes place on campus, and since the class materials are prepared at the UW, the student is assured the course credits can be applied to UW computer science degree requirements.*

- *At North Seattle Community College, students of biology attend class in the "Cities" classroom where media technology and class activities are intricately interwoven. Instructors use sophisticated graphics and simulations available from CD-ROMs or the Internet, and students can use workstations spaced along the perimeter of the room to follow up, perform experiments, or do research.*

- *The University of Washington offers an MSW program at Peninsula Community College to a 'cohort' of social workers. The students meet for intensive weekend activities, aided by a facilitator who works on-site full time to organize the program. The program faculty teach full time at the UW main campus. By conducting some of the classes via two-way video from Seattle, they can serve both on- and off-campus learners.*

- *At the Evergreen State College, a group of students study management, also taking classes on weekends. The additional interactions needed to process and explore the class content are accomplished on-line through e-mail and electronic conferencing. Students submit papers to instructors as e-mail file attachments.*

How Does E-learning Affect Instructional Quality?

Any time courses are rewritten, a fresh start provides an opportunity to reconsider how content has been presented in the past and to rethink how to enable the learning process. Similarly, when

curriculum is rethought and converted for E-learning technologies, the new approach and new beginning offers the opportunity for new learning strategies. However, the preparation of E-learning materials requires significantly more attention to instructional design and implementation than the development of traditional classroom instruction.

Curriculum design is key to the success of E-learning technology. Training faculty for E-learning is more about revising curriculum and instruction than about the mechanics of a particular technology. Course conversion requires a focus on learning objectives and finding the ideal way to achieve them. Often, when a team approach is applied to electronic course development, the result can bring more knowledge and perspective to the process of course creation. A typical team could include one or more content specialists, an instructional designer, software programmer, media producer, and computer network specialist.

No matter how well designed E-learning curriculum may be, some still believe that in-person instruction is intrinsically superior to distance learning or multi-modal instruction. Clearly, that is not the case. A lecture course delivered without inspiration or imagination to a large student audience does not necessarily constitute a "quality" learning environment, although it may well be a person-to-person mode of delivery. Conversely, "screen time" that invites interaction through e-mail exchanges, listservs, chat rooms, and other interactive features may engage students deeply in the learning, and thereby enhance it. In short, no one method automatically precludes a quality learning experience.

Similarly, E-learning does not automatically imply a lack of student-to-faculty contact. In fact, it may result in *greater* student-to-faculty communication, as well as greater communication among students. Instructors who have taught online uniformly state that such instruction enables and requires far more one-on-one interaction than occurs in the classroom.

Many studies have attempted to determine whether E-learning is or can be qualitatively comparable to face-to-face instruction. Supporters will quote the "no significant difference" findings documented by Thomas Russell of North Carolina State University. Russell has posted a page on the World Wide Web that chronicles 248 studies that found no significant differences between technology-based instruction and traditional classroom instruction.[3]

In fact, because uncertainty is so high about the effect of moving learning out of the classroom, distance instruction is generally held to a *higher* assessment standard than most classroom instruction. For example, many schools require all distance learning courses to be reevaluated by their curriculum committees even if the course content is exactly the same as the on-campus class.

In summary, although some disciplines or course content may be more easily adapted to E-learning technologies, the manner in which E-learning affects the quality of instruction will depend largely on the degree to which the technologies enable students to become actively engaged in the learning.

[3] Available at http://teleeducation.nb.ca/nosignificantdifference/

HOW E-LEARNING IS CHANGING THE CULTURE OF HIGHER EDUCATION

> *No professionals in history have been asked en masse to change what they're doing in the middle of their professional lifespan. We've never before in history seen an abyss of change that is this deep and this broad.*
>
> *Jennifer James: Thinking in the Future Tense*
>
> *If change is indicated, and one does not change, one is bound to go in the direction one is headed.*
>
> *Chinese Proverb*

How E-learning is Transforming Traditional Ideas About Higher Education

E-learning, with its ability to serve new learners, eliminates geographic barriers, provides instruction at the convenience of the student, and transforms traditional ideas about student-faculty relationships, faculty load, and institutional autonomy. Enabling E-learning means policy makers must revisit all the formulas by which we organize and operate our systems and individual institutions — many of which are driven by traditions and power structures developed under a thousand year-old paradigm.

A student-centered, reach-anywhere approach to education means new cooperation among higher education institutions as they compete in the marketplace with schools from around the country and the globe. Rather than duplicating courses and programs, the colleges will need to find niches and specializations. Armed with E-learning technologies, and a mandate to reach out, they will be driven to create consortia and share resources. To accomplish these goals, institutions will have to resolve operational differences such as academic calendars, regional variations in faculty and staff compensation, and grading policies. More important, shared program delivery will mean coming to agreement on core values and outcomes in subject and content areas.

The Challenges to Traditional Administration, Support and Management

Reforming systems to support E-learning is a challenge that affects all educational management systems and formulas. E-learning, with its different infrastructure and support systems, demands new models for operations, for faculty and staff training and support, and alternative funding formulas.

E-learning, with its capacity for flexibility and just-in-time learning, challenges assumptions about the academic calendar, space planning, and scheduling that are as old as the Academy

itself. Even the traditional week-long calendar can take on a new look with "24 by 7" operations: processes and programs available to learners 24 hours per day, 7 days per week. Telecommunications challenge the ages-old axioms about seat-time and all that public policy has attached to that unit: contact hours, credit hours, degrees, and FTEs, to name a few.

As students, faculty, and administrators face challenges to tradition and existing policies, they will need help in making prudent responses that put learning first. Up to now, support has come mostly from external sources, such as industry and foundation grants. This year, the Fund for the Improvement of Postsecondary Education (FIPSE) is awarding grants for "Learn Anywhere, Anytime Partnerships" (LAAP). Accreditation agencies are also reviewing and adjusting their techniques and methods of assessment.

Program Design for E-learning

E-learning changes the formulas by which education is constructed. Start-up costs for new courses and programs are higher because the programs generally must be completely designed and produced in advance. In traditionally delivered programs, "course design" involves research on the subject material to be covered, the development of syllabi and lectures, and other tasks, shaping an E-learning course takes faculty into an entirely different arena.

In addition to curriculum design, there is graphic design, copyright clearance, and attention to intellectual property rights. Shared course delivery means coming to agreement on core values in subject and content areas. Faculty must choose the medium or combination of media best suited for the characteristics and location of the learner, the course content, and course objectives. Television is different from the Internet; two-way interactive video (ITV) is different from computer-based instruction.

All of the new course delivery options require significant investments of time, energy, training, and money for implementation. Technical support becomes a high-cost, constantly evolving area, including human resources, technical infrastructure, training, troubleshooting, maintenance, and upgrading of hardware and software.

E-learning also is likely to cause us to rethink personnel systems and flow charts. Already, many institutions have consolidated audio-visual, information, and library services. Institutions need new job descriptions for people with skills that incorporate computing, network management, instructional design, and media production.

Support for E-learning technologies will mean keeping up with a moving target. In 1994, the leading technology for distance education was videotape. By 1996, most institutions delivered distance education using two-way interactive television. In 1999 the Internet is the "hot" technology. And by 2006, all television as we know it will be converted to a new digital standard.

The point is, change is happening so fast that it is impossible to predict what lies around the corner. The public sector can't afford to take the same risks as the private sector. It will be

important to plan flexible, adaptive systems and that allow public higher education to keep up with changes in the way we learn and work.

How E-learning Challenges Traditional Faculty Roles, Rewards and Expectations

Faculty care about ensuring the quality of instruction, working conditions, and intellectual property. They work hard to stay on top of their own fields while incorporating new technologies into their teaching. E-learning in general, and distance learning in particular, inspires both great uncertainty and high expectations, but if faculty think E-learning is threatening their way of life and unreasonably contributing to an already high workload, then they have few incentives to embrace E-learning and the redesign of courses and programs.

In the campus-based academic tradition, teaching has been a "cottage industry," where instructors personally crafted each of their classes. E-learning courses are now professionally designed and include detailed lesson plans, interactive lessons, pre-tested student exercises, answers to frequently asked questions, corrections for common misconceptions, and student discussion questions. Teaching through technology means the faculty member, once liege of the classroom, is likely to be a team player. Team-based course-development limits instructor control of intellectual property.

Faculty have always enjoyed significant control over the courses they chose to offer, the information and values imparted in the courses, how students would be assessed at the end of a course, and even over their teaching schedules. Departments still control most program content, and determine course and program competencies. Team teaching, interdisciplinary course development and new consortially delivered courses mean less control for the faculty of any one department or institution. In short, the realities of e-learning are a significant change to current models of faculty autonomy and control.

Even with their concerns about adding distance instruction to their own traditional load, full-time faculty are also concerned when pre-prepared courses are routinely assigned to part-time instructors. Part-time teachers are less likely to be able to help students through the maze of academic cultural and logistical issues. Part-timers often have limited access to equipment; they may work from home or in cramped offices shared by many others. Most receive no training compensation; they have less loyalty to the institution, and often are not in the community communications loop.

Perhaps most important is the lack of incentives for college teachers to focus their attention on delivery of instruction. In industry, new hires and promotions are determined by measuring the person against a skill standard. However, in research institutions, faculty promotions and incentives are still based upon research and publication. In most institutions, implementing e-learning requires faculty to divert their energy from those activities linked to compensation. Efforts to develop and incorporate new techniques and strategies bring them no reward in tenure or pay.

Change is hard. Many educators believe that physical presence is a requirement for learning. Transforming traditionally delivered programs and courses into formats compatible with E-

learning requires that faculty understand the new models, and have the resources needed to engage them. This requires training, practice, technical support, and time.

How E-learning is Affecting Student Behavior and Expectations

Many students entering college in 2005 will come to campus — virtual or otherwise — with different expectations and abilities than students of ten or 20 years ago. They will have grown up with a computer at home and at school. For them, the Internet and World Wide Web will be as familiar as card catalogues and *The Reader's Guide to Periodical Literature* were to a different generation. They will be accustomed to finding information on the World Wide Web; many will be skilled in computer applications. They will have developed their kinetic responses by playing video games and surfing the Internet for play or schoolwork. They will be used to getting information at their fingertips — immediately and on demand.

E-learning means students can be better consumers, if they know how to shop. Students who understand technology can use it to match their own learning styles and abilities. If they understand how the system works, they can earn their undergraduate degree by completing a degree from a single institution, accumulating credits from several institutions, or proving their competencies. Qualified students will be able to complete their college degrees by taking courses from alternate providers, during the summer, or on overload.

E-learning students will get information on courses, programs, and their own academic progress whenever they want it. Online and distance courseware will provide educational options for the time- and place-bound whether in urban centers or rural communities. Multi-modal and distributed learning will allow students to minimize their trips to campus or classroom and help schools organize programs to fit the needs of working adults.

The potential for E-learning is vast, but there is much work to do.

Student Services on a Virtual Campus

Good distance learning programs offer coordinated services and dedicated personnel to help students navigate education systems. Many students who rarely or never go to a campus need specialized support systems and points of contact where they can find the information and human resources they would have formerly found on campus:

- **Program advising:** (What should I take? From whom should I take it? What programs and degrees are available to meet my interests and career goals?); and

- **Prior learning assessment:** (Do I have the skills and competencies to pursue a particular path? Will my courses transfer between institutions and their degree requirements?)

If institutions do not organize to support the E-learner, he or she will have to spend an enormous amount of time trying to negotiate processes such as admissions, registration, financial aid advising, computer connections, and library support.

- **Financial aid information:** Financial aid itself is a significant issue for E-learners. Financial aid award systems revolve around traditional time-based standards — seat time, credit hours, and clock hours — which may be irrelevant to E-learners. Unless an educational program or a student's enrollment pattern can be configured to fit the traditional model, it is difficult, if not impossible, to award state or federal student financial aid. This year, in recognition of this obstacle, the Department of Education is funding demonstration projects to experiment with federal aid for E-learners.

- **Program availability and compatibility:** E-learning students need to understand the extent to which a desired course or program can be accomplished at a distance. Some courses may require laboratories, exams, or face-to-face sessions. Each school has some residency requirements setting the number of credits they must take to receive a degree from a particular institution. Not all courses are available every quarter or semester.

- **Resource availability and facility:** E-learning students need specialized skills and specialized tools. One of E-learning's great misconceptions is that E-learning is done alone. Rather, E-learning takes a high degree of facility with computing tools and consistent Internet access because, *far more than in the ordinary classroom, student-to-student interaction and active participation are a required condition of performance.*

There are significant differences in resources available throughout the state. Students on the I-5 corridor have a significant advantage over rural students in the Internet services and speeds available to them, and the cost for distance courses can vary with the availability of telecommunications resources. Several institutions have developed their distance education through self-support units. This means comparable classes offered via distance are more expensive than those in the classroom.

Clearly, the promise of E-learning is a student-centered learning environment, in which students have greater control of the pace and the immediacy of courses, research, and campus information. But the legacies of traditional time-based, campus-based systems will have to be altered, and the technology itself made more available before the advantages of E-learning can truly be realized.

CAN E-LEARNING PROVIDE WASHINGTON'S CITIZENS WITH MORE ACCESS TO EDUCATION?

Instruction through telecommunications technologies offers new pathways for access to education. By combining the use of E-learning technologies and sound educational practices, technology can be used to bring courses to place-bound individuals, help students achieve their academic goals efficiently, and provide training and enrichment for lifelong learners.

Using telecommunications technologies is not an inexpensive proposition for the state, the student or the institutions. With cultural and policy changes institutions may be able to find economies of scale. But additional investment will be needed for expanding and maintaining E-

learning facilities and operations, as well as for faculty training and technical support. *Technology will not necessarily generate significant overall cost reductions or savings*, but it will make education more available and accessible for learners, if given the resources to set up self-sustaining systems.

Which Applications Work Best for Whom?

Distance education is not for everyone. It can meet specific needs of specialized audiences when matched with specific types of learners and specific kinds of content. Electronic delivery works better access for some subjects than others. Certain disciplines or course content may lend themselves more easily to E-learning technologies.[4]

Distance learners have a different demographic profile than campus-based students. Generally, they are older working adults, mostly female, who must earn their degrees along with other responsibilities, usually work and family. Most students who enroll in distance education courses are over 25 years old, employed, and have previous college experience.[5]

Off-campus distance learners take fewer credits per quarter, and prefer programs that provide open, compressed, or accelerated learning opportunities, such as open enrollment (start anytime) or weekend "intensives," courses that pack the maximum amount of coursework into a few weekends, instead of an entire semester or quarter. Many prefer the "asynchronous" instructional options that do not require attendance at a particular place or time.

Students who take courses that are delivered *totally* via distance (e.g. they never go to a campus) must be clear about their educational goals and already know how to learn. If they are taking online courses, they must have computer skills and access to the computers, software, and connectivity required to handle the course materials. They need the discipline to establish a regular study schedule, and sufficient motivation to complete the course or program on their own. Most reputable purveyors of ***online*** instruction provide some sort of student intake or self-assessment to determine whether potential students are good candidates for this kind of instruction.

Distance learning via ***ITV*** is somewhat different because the format of instruction mirrors the traditional classroom. Though away from the home campus, the class meets at a set time and requires a specially designed location. ITV is more often used to bring teachers to off-campus sites. In Washington State, the Washington Higher Education Telecommunications System (WHETS) network has brought instruction to such places as Yakima, Vancouver, and Spokane.

Distance learning can be used to provide access for students in rural areas. Many distance learners are only looking for a skill set or credential and do not seek the traditional campus experience, replete with homecoming games, the student union building, and dorm life.

[4] In general, areas of current representation or scholarship are most likely to have internet based resources while historical subjects and ancient texts are less likely to have been translated to electronic form. Also, courses with extensive laboratory, clinical or mechanical requirements are more difficult to deliver at a distance.
[5] "Who is learning at a Distance? from Peterson's Web site http://www.petersons.com/dlearn/who.html

However, some distance learners who do seek an education comparable to a traditional college experience will not get it unless provided equivalent services and resources.

A campus environment provides "in-person" student services — technical help for computing questions, library resources geared to academic research (different from the focus of community libraries), specialized laboratories and tools. And a traditional campus includes people to help with the personal side of getting through college such as scholarships, financial aid, and domestic issues. These systems will need to be rethought and revised to serve learners who do not come to campus. They will need to be centered on the needs of students rather than the operations of a physical plant. This means a "24x7" (24 hours a day, seven days a week) approach to scheduling facilities, faculty and staff support – a significant changes in the way colleges do business.

APPENDIX A

Distance Learning Technologies

Print

Correspondence courses are individualized, self-paced studies, traditionally print based and conducted by mail. Correspondence courses are still very popular and are frequently supplemented by e-mail and telephone interactions between instructor and student. Correspondence courses allow students to complete course work at home on a self-paced schedule.

Teleconference Technologies

Interactive Television (ITV) courses are characterized by their ability to provide two way interactive 'live' instruction telecast to outlying sites where students participate in the class through cameras and microphones in specially designed and designated classrooms. Interactive television courses are distributed throughout Washington State schools via the K-20 network, which links schools and government agencies throughout the state. Both the University of Washington and Washington State University offer upper division courses on community college campuses using interactive video. This allows geographically dispersed students to attend the same 'live' classes. Course materials are prepared and sent in advance or faxed to remote student groups. Occasionally the instructor will travel between sites.

While on the surface ITV classes seem cost effective, practitioners know that they require a higher degree of faculty preparation than the classroom. "Talking heads" are deadly and ineffective in this medium and faculty must be trained in active learning techniques and remote site class management. In addition, support is needed at each remote site for movement and management of course materials and to facilitate physical (doors, locks, hours, scheduling etc.), technical (connection, camera switching, troubleshooting, microphone placement, room configuration, etc.) and student (books and materials, advising, library) support.

Satellite Teleclasses generally provide information via one way video and two way audio. Used primarily for 'just in time' training that requires wide dissemination, satellite teleconferencing enables broad dissemination of materials rather than being limited to reception by sites attached to the K-20 system or the Internet. In satellite based instruction, a mix of live and recorded video is sent to a satellite transponder via an 'uplink'. From the satellite the content is beamed back to earth over a broad reception area (called "footprint") where anyone with a satellite receive dish can become a downlink site. Interaction is most commonly accomplished by telephone though Internet, fax, or print material may also be instructional components.

Pre-Recorded Courses

Some courses are available as pre-recorded media such as video or audiocassettes, or CD-ROM. After listening to or viewing the course materials, students are expected to take action doing assignments, worksheets and/or participatory activities.

Telecourses are complete instructional systems that rely on video for their primary delivery, supplemented by textbooks, study guides, and other materials. Telecourse students work independently, watching the television programs, reading the print materials and doing course assignments. There are few, if any, on-campus meeting times, at the discretion of the instructor.

With such course offerings, faculty members guide students via a variety of communications and instructional techniques including exercises, Web-based research or even labs and fieldwork. Telecourse faculty members usually maintain office hours and are available to assist students by phone, e-mail or in person. In-person seminars may be held for orientation, testing and to complete laboratory exercises.

Commercially produced telecourses are often shown on public broadcasting stations and cable education channels and can be taped off-air. Sometimes colleges establish community viewing sites or tape rental services. Institutions pay for the rights to use these materials, hire faculty, and monitor student outcomes.

Institutions that choose to invest in the production of telecourses themselves (*self-produced*), then own the copyright to the materials. Telecourse quality (and cost) varies widely, from the individual instructor lecturing as a 'talking head', to intricately designed graphic presentations, to complex productions utilizing teams of content experts and sophisticated production personnel.

Computer Based Training (CBT) generally denotes computer based learning packages that do not rely on telecommunicated transmissions for delivery. Most frequently, the student utilizes CBT packages, distributed as CD-ROM, DVD (digital video disk) or software on diskette alone or in computer labs.

Internet and Online

Internet and Online Courses are delivered over the Internet, using computer communications to link faculty and students. Students with a computer and modem can access online course materials from anywhere. A good online course will require students to be actively involved in interactive learning and group participation. When taking an online class, students still utilize other resources such as textbooks, study guides and audio-visual materials. Courses that use additional materials require support mechanisms such as mail order book ordering; community based viewing, or laboratory and test sites to enable students to achieve all of the required course outcomes.

The Listserv or E-mail classroom

Classes conducted via e-mail allow students to download messages and upload assignments. They often use listservs, which take messages sent to a specific e-mail address and distribute them to all members of a particular group. For e-mail-based classes, the listserv is the virtual classroom. In this way, all the students in that class share comments, questions, and discussions that are sent to the class address. Every student comment or question, every instructor answer or comment is saved for everyone else in the class to read and respond to.

For questions or comments that need to be directed privately, regular e-mail is used Questions, comments and answers that would normally be made during class are directed to the class listserv so that all can benefit from them. Questions or comments that would normally be asked of an instructor before or after class are directed through private e-mail. Private e-mail is used for feedback from instructor to student, and for submitting homework, quizzes, and tests.

E-mail based classes were among the earliest ways classes were delivered via the Internet, and many still exist today. However, course development and class management (tracking students, file attachment technologies, organizing student interactions) can be cumbersome and limited using only these methods, requiring extra time commitments from both students and teachers.

Web-based Classes

In distance learning, the World Wide Web (WWW, or Web) is frequently used for class presentation and class materials such as the syllabus, lecture information, illustrations and assignments. When there is sufficient capacity, even video can be delivered over the Internet through video 'streaming'. Because the Web is such a valuable resource, Web-based classes will take advantage of links to other Internet resources that apply to the course curriculum. Online research is frequently included in the course learning activities. Specialized software also allows for "threaded conferencing," that visually organizes online class discussions. Conferencing software facilitates online student-to-student and teacher-to-student written discussions. It enables the equivalent of in-class participation on the learner's schedule. This kind of interaction is generally termed "asynchronous".

Course Management Software and Outsourcing

Many institutions have purchased specialized software packages and/or services through which they manage the online, Web-based classroom. In addition to providing a place and format for course content, such software can also administer tests, provide user e-mail, facilitate public discussions, or create and manage small work groups within the class. Depending on the system, teachers may be able to monitor the number of student interactions and track assignments. Some of these systems require students to load proprietary software onto their own computers and therefore require specialized technical support.

Generally speaking, larger institutions have the organizational capacity to manage the support systems (servers, Internet access, student support, faculty training, and course development)

themselves. An alternative for smaller institutions has been to outsource these functions paying fees to companies such as "Real Education" or "Embanet", for the operational or technical infrastructure needed to manage the online learning environment.

APPENDIX B

PRINCIPLES OF GOOD PRACTICE FOR ELECTRONICALLY OFFERED ACADEMIC DEGREE AND CERTIFICATE PROGRAMS

Preamble

These Principles are the product of a Western Cooperative for Educational Telecommunications project, **Balancing Quality and Access**: Reducing State Policy Barriers to Electronically Delivered Higher Education Programs.

The three-year project, supported by the U.S. Department of Education's Fund for the Improvement of Postsecondary Education, is designed to foster an interstate environment that encourages the electronic provision of quality higher education programs across state lines. The Principles have been developed by a group representing the Western states' higher education regulating agencies, higher education institutions, and the regional accrediting community.

Recognizing that the context for learning in our society is undergoing profound changes, those charged with developing the Principles have tried not to tie them to or compare them to traditional campus structures. The Principles are also designed to be sufficiently flexible that institutions offering a range of programs--from graduate degrees to certificates--will find them useful.

Several assumptions form the basis for these Principles:

- The electronically offered program is provided by or through an institution that is accredited by a nationally recognized accrediting body.
- The institution's programs holding specialized accreditation meet the same requirements when offered electronically.
- The "institution" may be a traditional higher education institution, a consortium of such institutions, or another type of organization or entity.
- These Principles address programs rather than individual courses.
- It is the institution's responsibility to review educational programs it provides via technology in terms of its own internally applied definitions of these Principles.

CURRICULUM AND INSTRUCTION

Each program of study results in learning outcomes appropriate to the rigor and breadth of the degree or certificate awarded. An electronically offered degree or certificate program is coherent and complete.
The program provides for appropriate real-time or delayed interaction between faculty and students and among students.
Qualified faculty provide appropriate oversight of the program electronically offered.

INSTITUTIONAL CONTEXT AND COMMITMENT

Role and Mission

- The program is consistent with the institution's role and mission.
- Review and approval processes ensure the appropriateness of the technology being used to meet the program's objectives.

Faculty Support

- The program provides faculty support services specifically related to teaching via an electronic system.
- The program provides training for faculty who teach via the use of technology.

Resources for Learning

- The program ensures that appropriate learning resources are available to students.

Students and Student Services

- The program provides students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technological competence and skills, technical equipment requirements, availability of academic support services and financial aid resources, and costs and payment policies.
- Enrolled students have reasonable and adequate access to the range of student services appropriate to support their learning.
- Accepted students have the background, knowledge, and technical skills needed to undertake the program.
- Advertising, recruiting, and admissions materials clearly and accurately represent the program and the services available.

Commitment to Support

- Policies for faculty evaluation include appropriate consideration of teaching and scholarly activities related to electronically offered programs.
- The institution demonstrates a commitment to ongoing support, both financial and technical, and to continuation of the program for a period sufficient to enable students to complete a degree/certificate.

EVALUATION AND ASSESSMENT

The institution evaluates the program's educational effectiveness, including assessments of student learning outcomes, student retention, and student and faculty satisfaction. Students have access to such program evaluation data.

The institution provides for assessment and documentation of student achievement in each course and at completion of the program.

Master Plan Policy Paper #3-A: Strategies to Enhance Higher Education Access through E-learning

May 1999

ISSUE AREA

The use of electronic technologies to enhance access to postsecondary education.

POLICY ISSUE

What initiatives will foster use of electronic technologies to enhance postsecondary education in Washington State?

STUDY QUESTIONS

- How can the state leverage its investment in the K-20 Network to expand educational opportunities?
- How can e-learning technologies be used to support a learner-centered system?
- How could traditional practices be realigned to integrate electronic learning into the traditional learning environment?

INTRODUCTION

Washington State is a recognized leader and innovator in applying information technologies to matters of public policy. In 1997 and 1998 the state won the coveted "Digital State" award from the Progress and Freedom Foundation, in association with the publication *Government Technology*. The foundation noted that Washington State uses technology to eliminate barriers between departments so that when citizens interact with state agencies, the transactions are smooth.

According to @ccesswashington, winning this award "validates Governor Gary Locke's priority to make government more responsive and efficient by using technology to help citizens get better service from their government."[1]

It is fitting, therefore, for the state's education institutions to take a parallel approach in serving the education needs of its citizens. In the "Digital State," advanced information and learning technologies can make education more accessible, responsive, and efficient. And technology can

[1] http://access.wa.gov/news/news0912.asp 5/10/99

help students focus on their learning objectives and education goals while reducing the barriers to achieving them.

The 1996 Master Plan acknowledged technology's new and growing role in providing instruction, and raised a number of key questions regarding investment, productivity and student learning.

Since then, the use of technology in instruction has continued to grow and to consume ever-greater amounts of budgets, staff time, and resources. The state is installing the K-20 Network, which provides infrastructure designed to meet Washington's diverse needs. It allows "students and educators in every community to use the Internet, video-conferencing and satellite-delivered video programs to share information, conduct research and communicate with one another without the traditional constraints of time, distance or resources."[2]

Distance learning options have been particularly attractive for those seeking new strategies to expand access to higher education in a restricted budget environment. However, the cost of incorporating technology may be more of a challenge than originally expected. Early discussions lead to the hope that investments in technology would yield economies of scale and diminishing marginal costs once the basic infrastructure was in place. However these savings are proving to be elusive — if not non-existent.

In fact, technology does not replace costs, it simply adds another kind of cost to the equation. In some cases it may change the nature of costs, but there is no evidence that total costs do anything but keep growing. Heavy reliance on technology may reduce the need for bricks and mortar expenses, but increase the costs of acquiring equipment, upgrading equipment, developing coursework, technical support, student services, and information and communication costs. This is not to say technology should not be integrated into higher education as both a quality and access tool, but it is to say that that these tremendous opportunities will not come at bargain prices.

Education is not about wires and infrastructure or bits and bytes. It is not about computers or connectivity. Education is about people and ideas and processes and progress. It is about giving people the tools and understanding they need to lead richer and more productive lives. Washington's vision for electronic learning must therefore go beyond a static understanding of a technological environment — one that could radically change with each new technological breakthrough — to a systemic approach to e-learning that demands innovation, quality, vision, and collaboration to serve our learners and our economy.

How can the state leverage its investment in K-20 to expand educational opportunities?
Electronic learning technologies provide instructional opportunities in many ways, whether on campus or at a distance. Faculty use electronic technologies, for example, to support campus-based classes through web pages, online resources, and electronic discussion groups. Off-campus, the World Wide Web can deliver entire courses to the distance learner. Some schools

[2] http://www.wa.gov/K20/

teach classes away from their home campus and take advantage of two-way interactive video to connect faculty and students.

The K-20 network enables institutions to interconnect bringing digital transmission capacity to the doorstep. This is analogous to bringing electricity to the home. The capacity is of little use without the internal wiring or the appliances that make use of the electrical current. In order to take advantage of K-20, the state will need to leverage its initial investment in the network by fostering collaboration and resource sharing, and by supporting the learning communities that use K-20's digital resources.

Foster coordination among education sectors and shared use of learning facilities.
There are a host of locations around Washington State where people go to learn. Each of the public baccalaureate institutions has branch sites in some form, whether established branch campuses, rural learning centers, or resources found in towns, communities or neighborhoods. Some of these operate jointly with community colleges and their many off-site centers, while others rely on community libraries or health facilities; still others are classrooms and computer labs in rented storefronts and old schools.

In addition, many communities have created their own computer labs to provide Internet access for their citizens. Phase I of the K-20 system provided Internet connectivity to school districts throughout the state. But connectivity and infrastructure are not enough. Aggregation and shared use of these makes sense. The state could leverage investments in technology and infrastructure by taking inventory of existing sites, including state-run facilities and those available through non-profit organizations and industry. Then a coordinated effort could be made to help these sites leverage their human, technical and instructional resources in a coordinated fashion to serve the lifelong learning needs of Washington's citizens. Rather than build new buildings, the state could contract with such facilities to become distributed learning centers with the technical and human resources to provide educational resources and student services, including enrollment, advising, technical support, student mentoring, and computer labs or electronic classrooms.

Phases I and II of the K-20 network provided connectivity to public schools and colleges throughout the state. To help the state realize the potential of its initial investment and take full advantage of this new resource, operational and organizational components will be needed. Additional hardware, software, support staff and training, as well as creative ways to share responsibility for site operations and accessibility, are some of the issues that will need to be addressed. By organizing and sharing resources, for example, college classes could be offered in empty high school classrooms at night; community college classes could fill (predominantly daytime) unused capacity at branch campuses.

Although there are many existing facilities, currently, the host institutions must individually maintain and supply them. Coordination exists within the K-12, community and technical college, and baccalaureate sectors but not *among* them. Some rooms and labs are heavily used and in high demand, while others lie fallow for lack of incentive, interest, or funding. In addition, whenever an institution wishes to use a shared facility, it must individually coordinate and

contract with the host. The HECB could assist by taking inventory and coordinating a resources utilization assessment to help maximize use of existing facilities.

Capital funding decisions could encourage and prioritize shared use of facilities and facilitate physical change or expansion that supports e-learning. While some institutions have excess capacity, others are too full. Some existing or potential facilities need to be redesigned or spaces retrofitted to maximize their usefulness. The state's capital funding priorities and K-20 planning could provide incentives for institutions to collaborate in the development of new capacity (physical space, infrastructure, and technology) within existing facilities.

E-learning facilities could be recognized and funded as capital expenditures. If technological infrastructure is to extend the capacity of existing facilities and serve growing or under-served communities, then the cost of technological infrastructure investments could be similarly funded. Until now, the costs of computers and learning labs have been funded in a number of ways — often through special subsidies, and external funding. To be sustainable, technology must not be viewed as an "add-on" when funds are available, but incorporated in the capital planning for instructional capacity.

HOW CAN E-LEARNING TECHNOLOGIES BE USED TO SUPPORT A LEARNER-CENTERED SYSTEM?

Prudent combination of digital and human resources will help the state provide students and families with information about education opportunities. Coordination of information and data keeping practices will help institutions realign their administrative practices to support e-learning.

With existing technology, students today in theory should be able to enroll or learn anytime, anywhere. To achieve this goal, first the state would need to provide students and parents complete information on available education programs by career or academic goal, geographic area, and institution.

The state also would need to provide students with "one-stop shopping" through electronically supported enrollment services. A shared web site and database of available classes and programs would integrate and market the state's instructional offerings and student services through a coordinated intake and referral system. Such a system could incorporate advising, financial aid, and enrollment assistance in addition to listing courses and programs. Some of this effort could be supported through resources on the K-20 network. These, in turn, could be supplemented with human and technical support at distributed learning centers. The organization, management, and personnel required to coordinate such a system would require the commitment of all state institutions and centralized funding to support the effort.

Institutions in the digital state also, theoretically, have the ability to coordinate their administrative and instructional information systems. The information age could facilitate consistent data management and warehousing practices across institutions. To that end,

administrative systems for record management and credit transfer could be coordinated across institutions and sectors.

On the instructional side, consistently coded information systems could make course data accessible for prospective students and their advisors. Such data would assist the state in tracking program developments such as delivery methods and student retention. Once in place, such practices would create efficiencies for both students and institutions and would support statewide online access to classes and services.

Statewide, student services could be handled through a clearinghouse with cross-trained student service technicians. Currently, student services are campus- or institution-based; student credits are re-evaluated if the student wishes to transfer credits among institutions. In a shared intake environment, backed up by a comprehensive data-base, personnel could focus on the human-to-human aspects of helping students follow many pathways to a degree or certificate. This would require that student services personnel receive cross-training to support shared intake and recruitment efforts.

Once the online environment is created, it will be important to use multiple media to reach students and their parents. It is not enough simply to create a web site or intake unit and wait for people to find it. A focused information and outreach effort throughout the state would help ensure that potential students know where to find information about the state's higher education opportunities. This would be particularly critical for learners in rural areas where education facilities are few and far between. This outreach effort would identify and leverage information partnerships with K-12 schools, libraries, and employment and community centers. This information "campaign" would continuously promote the availability of the online and centralized resources through all media, including print, radio, television, and online.

Using e-learning technologies to serve non-traditional learners and those in rural areas.
Non-traditional learners may find education programs more accessible if they were offered in compressed, revolving, or alternative scheduling that maximizes use of time on site, and makes use of technological delivery of instruction wherever feasible.

The state could encourage and support partnerships with industry to install and support short-term or revolving specialized learning facilities. This could include a "loaned executive" project to supply managers and faculty for niche market programs such as computer science education.

E-learning technologies can help institutions revolve programs among institutions and geographic locations. For example, institutions could offer specialized degree programs at three locations over six years. Nursing, social work, or environmental programs could reach cohorts of rural learners on a revolving basis.

In 1971 the New York Board of Regents founded Regents College. This institution offers no instruction, but it helps individuals get degrees based on assessment and testing. When a student needs to develop specific competencies for a degree, the institution helps the student find the courses required, favoring opportunities in the student's home state. Now that courseware is

widely available online, and with the advent of Western Governor's University, a state-run clearinghouse could help students coordinate, aggregate, and certify their credentials.

Integrating e-learning technologies into the traditional learning environment?
The HECB recognizes that electronic learning is only one of many pathways to knowledge. There will always be the need for traditional campuses, faculty-student contact, seminars, socialization learned in on-campus life, and the synergism of an intellectual learning community. But there also will be a new feature in this environment that allows faculty to reach out across distance and time, and interact with those who cannot come to the campus.

E-learning is a supplement to traditional teaching and learning strategies; it is a tool for instruction. Students, staff, and faculty need support and resources to achieve equivalent outcomes and quality no matter the means of instruction. Faculty are critical to high-quality e-learning, just as they are to a world-class traditional learning environment.

Administrative components of a traditional campus are critical to the success of e-learning. But a learner-centered instructional environment requires administrative systems that minimize barriers to student success. Content and interaction can take place through the World Wide Web; illustrations and lessons can be delivered via video tape or CD-ROM. Yet student schedules and course design are still required to fit frameworks defined by contact hours and seat time.

Some students achieve competencies or absorb course materials more quickly than others. E-learning can provide asynchronous self-paced materials enabling the student to shorten their time-to-degree. In a traditional learning context, time and place set the framework to measure student progress. In the e-learning environment, students have many ways to gain competencies. Schools can use alternative methods to assess both prior learning and competencies in a given subject or field. The state could establish and review pilot programs to test alternatives to FTE-based funding to encourage use of these new measures.

Clearly, e-learning provides new opportunities for enhancing access to postsecondary education. But if e-learning is to be embraced as an accepted, viable, way of learning, then one challenge for the state will be to determine an affordable, predictable tuition policy for distance learning. Currently Washington State has no set policy on what tuition rate could be charged students who are engaged in distance learning. Among other policy questions, Washington needs to determine whether its tuition policies – especially those associated with self-supported distance learning programs – create additional financial obstacles for students.

And institutions and the state budget policy will need to understand that higher education faculty and staff are "knowledge" workers. Over the next ten years they will need continuous training and retooling to keep up with the changes in the new information economy. Faculty and staff development is simply the cost of keeping a top-flight workforce and could be built into hiring and retention practices and planning.

Similarly, to encourage faculty to embrace and integrate the new opportunities available through technology, faculty should be rewarded for innovation and scholarship in instructional

development. Traditional faculty reward systems focus on scholarship and research. A student-centered system also would reward faculty for effective teaching and the development of new teaching methods, and for excellence in instructional development. Staff similarly should be recognized and rewarded for innovative use of technology that enhances students' access to data and services.

Meeting the special needs of distance learners.
Electronic learning technology offers new strategies to meet the education needs of underserved learners in the most remote areas of our state. But to serve rural, place-bound and time-bound students may require first the realignment of organizational practices and procedures.

Some distance learners aggregate courses from various institutions while they work toward degrees, or when they are attending school on a part-time basis. Washington's financial aid rules could be reviewed in the light of changing federal policies and constraints placed on distance learners and then realigned to serve the needs of non-traditional learners. Distance learners also need library and research services no matter where they study. The state could partner with regional libraries to provide resources for distance learners

Additionally institutional residency policies may create obstacles to rural learners achieving their goals. Residency policies are those that require learners to take a minimum number of at a given institution in order to earn a degree from that institution. Requirements that include actual presence on campus, or "continuous enrollment" may unnecessarily inhibit student's ability to complete degree programs in a modern technological world.

SUMMARY: STRATEGIES TO ENHANCE HIGHER EDUCATION ACCESS THROUGH E-LEARNING

As a "digital state," Washington is well positioned to use its digital network capacity to enhance quality in and access to higher education. It is in the interest of the citizens of the state to leverage existing investment in the K-20 system to assure that the connectivity and capacity are fully utilized.

To achieve this goal, the state, through the leadership of the HECB, may want to consider the following actions:

- *Inventory existing facilities and their operational capacity to ascertain the level of need for additional learning centers throughout the state.* Such centers could become community-based resources for access to higher education by providing technical resources such as internet access, electronic classrooms, computer labs as well as human resources for enrollment, financial aid, career/instructional matching and library services

- *Build mechanisms for cross-sector facilities management and support, and set capital funding policies to reflect the state's needs for shared use of facilities and infrastructure.* If

e-learning is to function in lieu of "bricks and mortar," then the infrastructure and resources that make this possible must be funded as physical facilities.

- *Coordinate data reporting and management practices to facilitate a statewide database of instructional opportunities.* Advances in information technology can support learners and enhance the learning environment. Better information about courses and programs is an important starting place.

- *Integrate electronic learning into the traditional learning environment.* Methods for granting credentials, funding formulas in support of alternative learning systems, tuition and financial aid policies for distant learners are only some of the practices that could be examined.

- *Provide incentives to encourage faculty and staff to pursue the professional development needed to work productively in an E-learning environment.*

Master Plan Policy Paper #4: Facility Capacity and Utilization to Provide a Quality Educational Experience

April 1999

ISSUE AREA

How can existing facilities be better utilized to enhance enrollment opportunity for Washington citizens?

POLICY ISSUES

- How will Washington State develop and implement changes that promote the integration of technology with the best use of physical spaces to expand and improve educational opportunity?
- How can the planning for additional enrollment capacity encourage and reflect institutional operating practices that promote the full use of existing and planned spaces?
- Should planning for enrollment growth be based on modifying institutional space utilization practices to optimize use of existing and planned physical spaces?
- What actions can be taken to enhance the quality of the learning environment and improve utilization practices?

STUDY QUESTIONS

- What is the existing enrollment capacity of the public institutions of higher education under current utilization standards for classrooms, class labs, and faculty offices?
- How do adjustments in (1) the average weekly hourly use of instructional space and (2) the average weekly hours of "seat-time" in classrooms and class labs affect projected enrollment capacity?
- How can these adjustments in space utilization be implemented to improve the quality of the educational experience?
- What are the constraints associated with achieving increased utilization levels?
- What is the practical range of institutional growth capacity?

OVERVIEW

This is the first of two papers to be presented to the Board concerning the enrollment capacity and utilization of Washington's public institutions of higher education. This topic is one of several the Board will examine as it seeks new strategies to accommodate significant higher education enrollment demand. These strategies will be set forth to the Legislature and governor in the Board's 2000 Master Plan for Higher Education.

This paper discusses principles of capacity and utilization and, by providing the baseline enrollment capacity estimates for existing facilities, lays the groundwork to consider and evaluate alternatives for achieving greater enrollment capacity through changes in utilization levels. This paper also distinguishes between capacity estimates based on numeric calculations and the real or desired growth capacity of the institutions. Finally, this paper examines options to achieve enhanced utilization of physical facilities while improving the quality of the educational experience.

The data provided in this report concerning the effect of increased utilization assumptions on enrollment capacity are presented at a system level for policy discussion purposes. In May 1999, the follow-up analysis to this report will provide specific recommendations concerning institutional capacity levels and utilization goals. The May update also will provide cost estimates associated with increased capacity levels.

POLICY CONTEXT

The relationship of the physical capacity of institutions of higher education to current or projected student enrollment has significant policy implications. If capacity substantially exceeds enrollment, the Board may wish to consider why space is not being used more intensively. For example, the programs offered may need to be redesigned to better suit the facilities available, tuition and fees might be too high, population shifts might have occurred, or admission policies might be overly restrictive. Changes in policy may be needed to more effectively use the capacity that has or will be created.

Conversely, if the capacity is substantially less than current utilization or projected demand, policies need to be examined to determine the most appropriate steps to meet the demand. The purpose of this paper is to examine the relationship of enrollment capacity of the public colleges and universities and their branches, centers and programs, to state policies on student access.

Finally, changes in space utilization practices may have an affect on fundamental cultural values and expectations at the institutions — both for the faculty and students. Efforts to use facilities more intensively must recognize and address these issues. The goal of continuous improvement in the quality of postsecondary education must not be impaired. Indeed, finding creative approaches to the use of facilities and technology should enhance it.

Background: Traditional Assumptions About the Use of Campus Facilities

Traditionally, higher education institutions and the state have provided the space to support the range of services deemed necessary for a college experience. Typical degree institutions are in part residential and have their roots in the days in which they acted *in loco parentis*, at least for their undergraduates. In addition to classrooms, laboratories, and faculty and administrative offices, college campuses provided a range of support facilities: gymnasiums and field houses, auditoriums and theaters, student services spaces, and museums and galleries, as well as space for recreational and leisure activities. In addition, traditional funding formulae and institutional planning place considerable emphasis on a well-stocked library whose resources students and faculty could easily access. As enrollment grew, institutions planned for corresponding additions to each type of space.[1]

In the case of the more recent community colleges, the same type of pattern has prevailed with two major exceptions: 1) the absence, or reduced amount, of some of the student support spaces, and, 2) the growth in campus facilities being driven by the daytime, on-campus enrollment. In most cases, no added space is provided for students engaged in evening courses or those taking courses off-campus. Although there is not universal agreement that this pattern is appropriate, it is consistent with the community college mission of providing service at convenient times, and at locations throughout the greater community it serves.

The Evolution of Capacity Assumptions and Emergence of E-learning

Recent developments in higher education have raised significant questions as to the advisability and necessity of continuing to increase total campus space in approximate direct proportion to enrollment growth. Around the country and in the State of Washington, new construction initiatives have not provided a full range of space types for the students these campuses serve. In Washington, the state has provided additional enrollment capacity through creation of university branch campuses, establishment of regional centers, and through consortia of colleges and universities. The facilities associated with these efforts are substantially smaller than the complete campus approach of earlier years.

In recent years, through the rapid development of telecommunications technology, the phenomenon of learning and instructional delivery through electronic media — "e-learning" — has begun to take hold in the public and private sectors. This emerging vehicle for service expansion and quality improvement involves the smallest commitment of facilities — but a larger investment in equipment — of any of the recent approaches to meeting enrollment goals.

By way of comparison, a "typical" residential institution offering programs though the masters degree level will have approximately 100 assignable square feet (asf) per FTE student for education and general purposes. Newly constructed non-residential branch campuses have approximately 80 asf per student; even lesser amounts are typical for instructional centers, which usually contain minimal support facilities. In the recently developed master plan for California

[1] It should be kept in mind that facilities growth also might be associated with other factors, such as space in which to conduct research, or special programs such as hospitals and clinics to support the health sciences, etc.

State University at Monterey Bay, application of space guidelines for on-campus students resulted in 93 asf per FTE student to accommodate an enrollment of 5,231 FTE students. At the same time, the on-campus space needed to support 4,200 non-traditional FTE, primarily distance learners, is 20 asf per FTE, almost one-fifth the amount needed to support traditional enrollment.[2]

As this state responds to enrollment demand, new approaches to accommodate that expansion will have to be part of the solution. The result of assuming that the only way to expand is though enlarging all aspects of the campus would require an enormous investment in capital costs. And it would create significant ongoing costs to operate and maintain the space.

The following table provides an approximation of the cost differentials of serving an added 10,000 FTE students at various ratios of square feet per student. The ongoing cost to operate and maintain the added facilities is estimated at approximately $5 per square foot.[3] The table makes it clear that it is incumbent on planners and decision makers to carefully examine how to respond to plans for future growth in service.

TABLE 1
EFFECTS OF ALTHERNATIVE DEVELOPMENT APPROACHES

Service Approach	ASF per FTE	GSF per FTE	Added GSF for 10,000 FTE	Construction Cost At $225 per GSF*	Annual Maint Cost At $5 per GSF
Main Campus	100	180	1,800,000	$405,000,000	$9,000,000
Branch Campus	80	123	1,230,000	$276,750,000	$6,150,000
Regional Center	50	77	770,000	$173,250,000	$3,850,000
Distance Learning	20	30	300,000	$90,000,000	$1,500,000

Distance Learning at $300 per GSF Due to Added Equipment

Policy-makers Direct Greater Scrutiny Toward the Availability and Use of Existing Capacity

Faced with significant demand for postsecondary education in a climate of restricted budgetary resources, Washington State policy-makers have asked for more detailed information about the about the capacity of the existing public institutions of higher education and how that space is being used.

- **Higher Education Facilities Inventory and Utilization Information System project.** In 1992 the HECB sought and obtained funds to design a higher education facilities inventory and utilization information reporting system. The Legislature funded this system in 1997. It

[2] CSUMB Master Plan, Public Review Draft, October 30,1997, pages A-10 and A-11.
[3] Estimate derived from The Whitestone Building Maintenance and Repair Cost Reference, 1998 for maintenance and American School and University magazine for operations costs.

will provide annual information about the utilization levels of existing higher education facilities. The first regular reports from the system are to be available in 1999.

- **Monitoring of Higher Education Access projects.** Concurrent with the capacity and utilization project, the Legislature provided funds in 1997 for the HECB to develop baseline capacity information relative to all existing instructional space and the added capacity to be achieved from all capital projects funded through the 1997-1999 biennium.

- **2020 Commission on the Future of Higher Education.** Most recently, Governor Locke's 2020 Commission on Higher Education also identified the issues of capacity and utilization as important considerations in addressing this state's future enrollment demand. The Commission strongly recommended that the public sector institutions, both four- and two-year, examine opportunities to serve more students in existing facilities.

The interest of policy-makers and higher education planners in increasing enrollment capacity is also tied to the initiatives and expectations of "e-learning." The role of technology in reducing "seat-time," and thus increasing the potential capacity to serve more students in existing space, is an important consideration in preparing the year 2000 Master Plan for Higher Education.

As the Board examines the issue of capacity and utilization it seems that two questions are at the forefront:

1. Can institutional operating practices be modified, and current student behavior recognized, to increase the level of utilization and enrollment capacity within the practical limits of institutional growth capacity?

2. How can "non-seat-time" instruction contribute to increasing the capacity of existing facilities?

The following sections of this paper review the methodological background for estimating enrollment capacity and provide estimates of existing capacity using current and alternative utilization assumptions. The paper also discusses the important distinction between calculated or "formula-driven" estimates of capacity, and the real limits of "institutional growth capacity." In addition, the paper examines alternatives to increase the utilization of space while increasing the quality of the educational experience.

CALCULATING ENROLLMENT CAPACITY: DEFINITIONS AND METHODS

Definition of Enrollment Capacity

Enrollment Capacity is the number of full-time equivalent students that an institution can accommodate in its existing facilities, those currently funded for design or construction, or those being considered for funding by the 1999 Legislature — *given* certain standards about space need and use. Although there are a number of space types that can, in one way or another, be related to student enrollment, this discussion focuses on capacity associated with three types of spaces: *classrooms, class laboratories*, and *faculty offices*. These are the core components of space that

are on the margin in a developed campus and may be virtually the only types of space in a learning center.

As discussed below, enrollment capacity is determined through the application of space allocation and utilization standards to an institution's inventory of physical spaces. These calculations generate quantitative estimates of student capacity, given the assumptions or goals that underlie the standards. Since an institution's actual utilization and space allocation practices may differ from these underlying assumptions, an institution's perceived capacity may differ considerably from the estimated capacity derived from the formula calculation.

An understanding of an institution's student enrollment capacity is very important. From a statewide perspective, information about the enrollment capacity of existing facilities gives planners and policy-makers important tools in planning for increased student enrollments. With this information, policy-makers can decide which institution(s) can most easily serve new enrollments, in order to more efficiently allocate capital expenditures. Related policies can be adopted to encourage enrollment flow to institutions with excess capacity. Finally, capacity information is essential in evaluating institutional proposals for new facilities.

At an institutional level, capacity information related to utilization levels provides university and college officials with a basis to determine how well space is being used and managed, as well as providing a framework for determining the scope of future campus buildings for both new construction and remodeling. Substantial differences in classroom capacity and laboratory capacity may indicate, for example, that the curriculum has changed significantly and that the distribution of instructional space is out of balance.

Measurement of Capacity

The development of formal standards for planning and measuring institutional capacity can be traced to the late 1940s and 1950s. With the initiation of the GI Bill, many areas of the country were experiencing and forecasting massive growth in higher education enrollment. This growth led some states to recognize that the potential capital costs of meeting increased demand required a systematic basis both to plan new space, and to ensure that existing facilities were being fully utilized.

The emergence of space and utilization standards from states such as California[4] was accompanied by efforts to develop an overall, unifying framework and methodology for the application of the standards. The work of Bareither and Schillinger, University Space Planning (1968)[5] and others, as well as the development of a national taxonomy for classifying types of university buildings and space,[6] led to generally recognized and accepted methods for determining space needs and, by inference, student enrollment capacity.

[4] See: The Strayer Committee Report, *A Report on a Survey of the Needs of California in Higher Education*. Sacramento, 1948 and, California State Department of Education, *A Restudy of the Needs of California in Higher Education*. Sacramento, 1955.

[5] Bareither, H.D. and Schillinger, J.L. *University Space Planning*. University of Illinois Press, Chicago, 1968.

[6] See: U.S. Department of Health, Education and Welfare, *Higher Education Facilities Inventory and Classification Manual*. Washington DC, 1974, and National Center for Education Statistics, *Postsecondary Education Inventory and Classification Manual*. Washington DC, 1992.

Methods for determining space needs involve the application of two types of planning standards:

- ***Space Allocation Standards*** establish the amount of space (assignable square feet) that students, faculty, and staff need in terms of particular space types. For example, a space allocation standard for classroom space may allocate 16 assignable square feet per student workstation. Thus, given this standard, and information about the total amount of classroom space on a campus, one could determine the maximum number of students that could be accommodated in classroom space at any one time. However, since classrooms, as well as several other types of space on a campus, are scheduled for multiple uses each day, information about the amount of time space is used is also needed to determine student enrollment capacity.

- ***Utilization Standards*** establish guidelines for the number of *hours* that space will be scheduled for use in a week, as well as the assumed occupancy rate or "fullness" of a space. Other formulae relate the amount of space needed by students to: 1) the amount of time the students will use the space, and, 2) the amount of time the space will be available for use (scheduled). Those calculations are then used to determine estimated capacity. This estimate can be approached from two different perspectives: how much classroom space is needed to support a defined level of enrollment, or how much enrollment can be accommodated with a given amount of space.

The development of these methods and formulae offered many institutions and states a sound basis to plan for the "Baby Boom" impact on higher education facility requirements. A national survey conducted for the State of California by MGT of America in 1988 found that 25 states used space standards or guidelines in capital budgeting for higher education. A survey update in 1996 indicated that the number of states using standards had remained essentially constant.[7]

The most common space types to which space and utilization standards are applied are classrooms, scheduled class laboratories, and faculty offices. These can be termed the "core" space types necessary for student instruction. Several states have standards only in these areas, while others have space standards for most, if not all, space types.

An issue in calculating student enrollment capacity is the extent to which supporting infrastructure or space in categories outside the "core" must increase to accommodate enrollment growth. This is because "calculated capacity" is not necessarily the same as "institutional capacity" as determined by the college or university itself. There are three principal reasons for this dichotomy:

1) ***Regulatory Constraints:*** Restrictions on growth imposed by an outside governmental entity, e.g., a city or county through zoning or master planning.

[7] Survey of Space and Utilization Standards and Guidelines in the Fifty States, report to the California Postsecondary Education Commission by MGT of America, Inc., 1989 and Space Standards for Selected States' Higher Education Systems, MGT of America, Inc., 1996.

2) ***Geophysical Constraints:*** Limitations due to the unique geography or physical characteristics of a site, e.g., hills, canyons, water restrictions, etc.

3) ***Cultural Constraints:*** Concerns related to role and mission, student life, the variety of other facilities deemed to be needed, etc. This can either be expressed as a limit to growth or as a precondition to growth.

CAPACITY ESTIMATES

Current Utilization Standards

Classrooms:

Washington is one of the states in which the higher education systems have adopted space standards or guidelines. In the early 1970s, the community college system adopted a "Capacity Analysis Model," (CAM) that incorporated space allocation and utilization assumptions. Later in the decade (1976), the baccalaureate institutions developed the Facilities Evaluation and Planning Guide (FEPG). The Inter-institutional Committee of Space Officers of the public four-year institutions updated the guidelines contained in the FEPG in 1994. As stated in the FEPG, the guidelines are

> *"...intended for use by state-level policy and capital outlay planners...to allow consistent and objective evaluation of space use and space planning. The FEPG can serve as both a management tool for allocating existing space and as a guide in determining future physical facility requirements."*

In 1996-97, the HECB conducted a study of the enrollment capacity of the state's public four-year institutions. The Board used the standards contained in the FEPG as a starting point in estimating the enrollment capacity of the main campuses of the four-year public institutions. At that time, the FEPG standard of net classroom station hours per week was 18 hours. That is, 60 percent of stations filled in classrooms that were scheduled an average of 30 hours per week. In that study, the Board concluded that the FEPG standard of net classroom station hours per week could be increased by two hours to 20 hours per week.[8]

This criterion was subsequently used in the enrollment capacity calculations in the "Monitoring of Higher Education Access Projects" study conducted by the Capital Impact Consortium under sponsorship of the HECB. In the case of the community colleges, agreement was reached that the standard for smaller colleges (under 2,000 FTE) would be 20 hours per week while the larger colleges would have a goal of 23.625 hours as described in the CAM.

The 20-hour net station use standard can be described as two-thirds of the student stations filled in classrooms scheduled 30 hours per week. Another way to think about this standard is that 60 percent of stations are occupied when classrooms are used 33.3 hours per week. A third way to

[8] The Enrollment Capacity of the Main Campuses of Washington's Public Four Year Institutions of Higher Education, Higher Education Coordinating Board, June, 1997, page 5.

construct the 20-hour standard is through any reasonable combination of scheduled room hours and occupancy that produces 20 hours of net station use.

How does this net use target compare to that required by other states? The 1996 survey, which was conducted by MGT of America, Inc. for the Washington Office of Financial Management, indicated that the average classroom utilization assumption of the states reporting data for four-year institutions was 20.8 hours per week. Forty percent of the states reported an expectation of 18 hours while the rest required 20 hours per week or more; California's expectation of 30 hours per week was the highest[9], followed by Texas at slightly over 25 hours per week. The Texas Higher Education Coordinating Board has used this standard since 1992.[10]

Scheduled Science Class Laboratories:

Class laboratories typically are scheduled fewer hours per week but have a higher proportion of stations (seats) filled. The guidelines established by the FEPG assume 20 hours per week scheduled room use with 80 percent of the stations filled. This produces a net station utilization of 16 hours per week. This criterion is somewhat lower than the average reported in the 1996 MGT survey cited above. At that time, the average net station use reported was 16.5 hours per week. Half the states reported standards of 16 hours or below, some states had higher expectations at the lower-division level than at the upper division. The other half ranged from 16.5 to as high as 20 hours per week (Texas and California). Reasons for lower scheduling capabilities for class laboratories include the following:

- The often discipline-specific nature of the space where at least one lab of a specific type is required if the course is to be taught, meaning that some labs may be used only a few hours per week.

- The common practice that scheduling of the space is usually controlled by the department or school, so that space is not considered open to use by other departments.

- A need to have some lab hours set aside for non-scheduled time, so that students may continue experiments.

- A practice of allowing students to begin experiments or procedures and have them remain in place for several days without disturbance.

The extent of net utilization of class laboratories is also an issue in calculating student enrollment capacity since a proportion of much course work is associated with laboratory instruction.

Tables 2-A through 2-C (pages 11-13) summarize the calculated student FTE capacity per current utilization standards to estimate classroom, class lab, and faculty office[11] capacity of the four-

[9] It should be noted that the 30 hours reflects the California Coordinating Board's recommendation to reduce the previous standard of 35 hours per week. See Storey, William L., A Capacity for Learning, California Postsecondary Education Commission, Sacramento CA, 1990.

[10] Space Projection Model for Higher Education Institutions in Texas, Texas Higher Education Coordinating Board, Austin, October, 1992.

[11] Faculty office capacity is expressed in student FTE per the application of current student FTE/faculty FTE ratios.

year institutions and the Community and Technical College system. These calculations are based upon existing classroom and class lab stations,[12] and those additional stations that will be available from capital projects in design or under construction, and those being considered for funding by the 1999 Legislature.[13]

As shown in Table 2-A, the current utilization standards for existing classroom stations yield a capacity estimate for classrooms (96,707 student FTE) at the four-year institutions which exceeds the fall 1998 enrollment level (85,570 student FTE). Most of the total difference between existing capacity and Fall 1998 enrollment at the four-year institutions exists at Eastern Washington University (4,461), Central Washington University (2,056) and the branch campuses at (5,662). As shown in Appendix A, the branch campus "excess" capacity exists primarily at WSU Tri-Cities, WSU Spokane (Riverpoint), and EWU Spokane.

Existing classroom capacity for the community and technical colleges is below the Fall 1998 enrollment level. Specifically, when calculated at current standards, there is classroom capacity for about 88,000 student FTE, while the Fall 1998 enrollment was about 114,000 student FTE.

Similar to classroom capacity, the four-year institutions' class lab capacity (92,389) is greater than Fall 1999 enrollment. Again, most of this "excess" exists at main campuses and branch campuses located in Eastern Washington.

When planned and proposed projects are included in this analysis, the FTE capacity for classrooms and class labs increases to 118,356 and 114,333, respectively, at the four year institutions and to 96,905 and 136,419 at the community and technical colleges.
Table 2-C describes the status of faculty office space relative to student enrollment capacity. These data use existing faculty/student ratios to arrive at an expression of faculty office space per student FTE.

[12] See Appendix A for the specific calculations and community and technical college detail.
[13] See Appendix A for project specific detail.

TABLE 2 - A
STUDENT FTE CAPACITY per CURRENT STANDARDS by TYPE OF CAPACITY
CLASSROOMS

SECTOR INSTITUTION	EXISTING CAPACITY	UNDER CNSTRCTN.	IN DESIGN PHASE	1999-2001 PROPOSED	TOTAL	FALL 1998 ENROLLMENT
PUBLIC FOUR-YEAR TOTAL						
Main	**84,642**	**2,580**	**8,562**	**761**	**96,545**	**79,167**
Branch	**12,065**	**1,480**	**7,291**	**975**	**21,811**	**6,403**
All Sites	**96,707**	**4,060**	**15,853**	**1,736**	**118,356**	**85,570**
UNIVERSITY OF WASHINGTON						
Main	34,345	1,843	1,141	761	38,090	33,122
Branch	1,852	1,480	2,323	0	5,655	1,830
WASHINGTON STATE UNIVERSITY						
Main	18,314	188	3,586	0	22,088	17,898
Branch	7,260	0	2,680	912	10,852	2,004
WESTERN WASHINGTON UNIVERSITY						
Main	9,039	0	1,694	0	10,733	11,062
Branch	0	0	0	63	63	0
THE EVERGREEN STATE COLLEGE						
Main	3,427	0	2,059	0	5,486	4,085
Branch	492	0	0	0	492	158
CENTRAL WASHINGTON UNIVERSITY						
Main	8,973	0	0	0	8,973	6,917
Branch	1,141	0	2,288	0	3,429	978
EASTERN WASHINGTON UNIVERSITY						
Main	10,544	549	82	0	11,175	6,083
Branch	1,320	0	0	0	1,320	1,433
COMMUNITY AND TECHNICAL COLLEGES						
Main	**82,079**	**5,778**	**262**	**2,399**	**90,518**	**113,730**
Branch	**5,806**	**154**	**427**	**0**	**6,387**	**na**
All Sites	**87,885**	**5,932**	**689**	**2,399**	**96,905**	**na**
TOTAL: ALL PUBLIC INSTITUTIONS						
Main	**166,721**	**8,358**	**8,824**	**3,160**	**187,063**	**192,897**
Branch	**17,871**	**1,634**	**7,718**	**975**	**28,198**	**6,403**
All Sites	**184,592**	**9,992**	**16,542**	**4,135**	**215,261**	**199,300**

TABLE 3 - B
STUDENT FTE CAPACITY per CURRENT STANDARDS by TYPE OF CAPACITY
CLASS LABS

SECTOR INSTITUTION	EXISTING CAPACITY	UNDER CNSTRCTN.	IN DESIGN PHASE	1999-2001 PROPOSED	TOTAL	FALL 1998 ENROLLMENT
PUBLIC FOUR-YEAR TOTAL						
Main	**90,146**	**699**	**4,952**	**1,789**	**97,586**	**79,167**
Branch	**2,243**	**2,470**	**11,890**	**144**	**16,747**	**6,403**
All Sites	**92,389**	**3,169**	**16,842**	**1,933**	**114,333**	**85,570**
UNIVERSITY OF WASHINGTON						
Main	35,683	202	468	1,384	37,737	33,122
Branch	490	2,470	3,514	0	6,474	1,830
WASHINGTON STATE UNIVERSITY						
Main	16,872	76	1,877	355	19,180	17,898
Branch	1,716	0	4,488	0	6,204	2,004
WESTERN WASHINGTON UNIVERSITY						
Main	9,780	0	1,395	0	11,175	11,062
Branch	0	0	0	144	144	0
THE EVERGREEN STATE COLLEGE						
Main	3,230	0	875	50	4,155	4,085
Branch	37	0	0	0	37	158
CENTRAL WASHINGTON UNIVERSITY						
Main	14,745	0	0	0	14,745	6,917
Branch	0	0	3,888	0	3,888	978
EASTERN WASHINGTON UNIVERSITY						
Main	9,836	421	337	0	10,594	6,083
Branch	0	0	0	0	0	1,433
COMMUNITY AND TECHNICAL COLLEGES						
Main	**75,263**	**22,881**	**28,373**	**6,103**	**132,620**	**113,730**
Branch	**3,799**	**na**	**na**	**na**	**3,799**	**na**
All Sites	**79,062**	**22,881**	**28,373**	**6,103**	**136,419**	**na**
TOTAL: ALL PUBLIC INSTITUTIONS						
Main	**165,409**	**23,580**	**33,325**	**7,892**	**230,206**	**192,897**
Branch	**6,042**	**2,470**	**11,890**	**144**	**20,546**	**6,403**
All Sites	**171,451**	**26,050**	**45,215**	**8,036**	**250,752**	**199,300**

TABLE 2 - C
STUDENT FTE CAPACITY per CURRENT STANDARDS by TYPE OF CAPACITY
INSTRUCTIONAL OFFICES--FOUR YEAR MAIN CAMPUSES

	EXISTING CAPACITY	UNDER CNSTRCTN.	IN DESIGN PHASE	1999-2001 PROPOSED	TOTAL	FALL 1998 ENROLLMENT
PUBLIC FOUR-YEAR TOTAL	**89,448**	**1,764**	**4,146**	**2,307**	**97,665**	**79,167**
UNIVERSITY OF WASHINGTON	34,413	1,699	887	903	37,902	33,122
WASHINGTON STATE UNIVERSITY	15,515	65	487	1,097	17,164	17,898
WESTERN WASHINGTON UNIVERSITY	11,922	0	1,188	307	13,417	11,062
THE EVERGREEN STATE COLLEGE	4,539	0	1,544	0	6,083	4,085
CENTRAL WASHINGTON UNIVERSITY	13,422	0	0	0	13,422	6,917
EASTERN WASHINGTON UNIVERSITY	9,637	0	40	0	9,677	6,083

Increased Use of Classrooms and Class Labs: Alternative Capacity Calculations

Studies have indicated that some colleges and universities have a setting and culture that lend themselves to operation both day and evening: over a 14-hour period from 8 a.m. to 10 p.m. Others normally operate on a 9-hour day, from 8 a.m. to 5 p.m. Schedule variations occur with some institutions beginning at 7 or 7:30 a.m., but the 9- or 14-hour patterns are the most common. Fridays are usually the exception in that most scheduled instruction ceases at noon or 1 p.m. Given these patterns, *it is possible to achieve 22 or 24 hours per week net station occupancy in both settings.*

For example, the net station use would be 24 hours in a four-day week under the following 14-hour day model:

- 90 percent of the rooms are scheduled between 8 a.m. and 2 p.m.
- 50 percent between 2 and 5 p.m.
- 33 percent from 5 to 10 p.m., and,
- an average of 70 percent of the seats are filled. A 67-percent seat-occupancy average would result in 23 hours per week while a 65 percent occupancy level would exceed 22 hours. Reducing scheduling efficiency and occupancy in the four days and operating only Friday morning would still allow achievement of the 22- to 24-hour level.

Turning to the day-only model any of the following patterns of use would exceed 24 hours of net use over five days:

- 95 percent of classrooms scheduled from 8 a.m. to 2 p.m.,
- 75 percent from 2 to 3 p.m., 50 percent from 3 to 4 p.m., or
- 25 percent from 4 to 5 p.m., with an average of 67 percent of the seats filled.

Reducing Friday afternoon use still would achieve a utilization level of 22 hours per week. Therefore, while there are some challenges involved in increasing utilization of classrooms, *achieving 22 or 24 net hours per week is an achievable goal.*

It might be asked, why can't these rooms be used all hours of the day and why can't all the seats be filled? In most cases, class sizes differ by course type and level, and colleges and universities attempt to have a range of classroom sizes to accommodate these variations. This means that classes must be assigned to available rooms that can hold **at least** the number of students in the class, often resulting in vacant seats. The efficiency of room scheduling has proportionately more room for improvement than other factors, since the major limiting factors are student preference, faculty preference, and control of scheduling. The first two represent issues that must be dealt with on each campus, while control of scheduling is an element that can be addressed as a matter of policy.

Studies indicate that when classrooms are scheduled on a campus-wide basis, utilization is twice as efficient, as when academic departments schedule them. Use of algorithmic computer scheduling systems can further increase scheduling efficiency. This opportunity for efficiency from centralized scheduling suggests that institutions should carefully consider this approach and

require clear substantiation of need by any department seeking authority to schedule classrooms at the department level.

Increased utilization is somewhat more difficult to achieve for class labs due to the discipline-specific nature of many labs. One way of improving overall laboratory utilization would be to identify opportunities to use more intensively general-purpose laboratories whenever possible. This could free a special purpose laboratory for more intensive use. Restructuring courses with low laboratory use is another option that involves qualitative considerations. While examination of the potential may be encouraged, this restructuring cannot be recommended solely on grounds of improved space utilization.

Increased hourly room use, as expected by Texas and California, and to a lesser extent, New York, offers the greatest potential. Over a 56-hour, four-day week, or a 45-hour five-day week, achieving 23 or 25 scheduled hours seems feasible. It does require well coordinated central scheduling and a willingness to engage in instruction at times now deemed less convenient to students and faculty. If students and faculty can be engaged in the process of expanding the effective use of instructional facilities and centralized computerized scheduling can be implemented, significant gains in utilization are possible.

Improving the Quality of the Educational Experience

The first priority of the HECB, institutions, policy makers, and the public should be that changes to space utilization enhance opportunity and quality in public higher education.

The goal of more fully utilizing existing public facilities is not synonymous with a reduction of student-faculty contact hours. Students and faculty are currently and will increasingly taking advantage of telecommunications technology to enhance the immediacy, flexibility, and quality of learning. As the facility of students and faculty with "e-learning" technology increases, less traditional "seat time" may be required. However, contact among faculty and students need not necessarily decline, though the nature of the contact may *change*, becoming more direct and more immediate.

The use of e-learning technology is already occurring at many universities and colleges across the country, and to ignore it would be neither reasonable nor responsible. Already many opportunities exist to transmit at least *a portion* of the basic information in many courses in electronic or recorded format rather than lecture format. This frees faculty to have *more face-to-face interaction* with smaller groups of students, which, again, represents a great opportunity to increase quality.

The best use of faculty time is in a setting that allows a give-and-take exchange of information. As the students and faculty explore new ways to communicate and to learn, the positive benefits to both faculty and students should produce significant quality improvements.
Finally, any new utilization standards would be phased in over a 20-year period. Current FEPG standards simply don't allow institutions to account for changes that already are taking place in the way that students and faculty are using technology to enhance and excite traditional ways of learning and teaching. At the current rate of expansion of e-learning and its growing role on and

off traditional college campuses, incremental change over 20 years describes evolution, not revolution in postsecondary teaching and learning.

Better use of existing facilities will make maximum use of existing and new facilities, allowing the state to direct future capital investments toward quality improvements, rather than more "bricks and mortar." The public has a huge investment in existing, state-of-the-art higher education facilities. Reducing seat time and using the public's investment better will reduce costs of building new classroom and laboratory buildings. The cost of new campuses and new buildings is high; there are many other sectors competing for these dollars. It simply makes sense to strive for optimum use of existing space before asking the state to use more of its limited resources to add to the state's substantial higher education capital inventory.

Institutional Growth Capacity

The formula-based approach to calculating campus capacity developed in this study applies to the common space types that exist at all academic campuses, regardless of the particular programs that are offered. A formula-based approach to estimating enrollment capacity for "core" space types (classrooms, scheduled class laboratories, and faculty offices) provides a useful basis for an assessment of facility needs into the future. There are, however, other considerations that also must be recognized. Program-specific spaces must be provided on individual campuses to meet specific program needs. These investment decisions cannot be projected on a system-wide basis, but must be individually considered in light of specific campus needs.

An additional consideration that must be taken into account are environmental/cultural constraints that can impose limits to enrollment that are entirely separate from the capacity based on the utilization and availability of core spaces. These limitations can result in an "institutional capacity" that is less than the "calculated capacity." Institutional capacity must be determined on an individual campus basis by the college or university itself. There are three principal factors that define institutional capacity:

1. **Regulatory Constraints:** Restrictions on growth imposed by an outside governmental entity, e.g., a city or county through zoning or master planning

2. **Geophysical Constraints:** Limitations due to the unique geography or physical characteristics of a site, e.g., hills, canyons, water restrictions, etc.

3. **Cultural Constraints:** Concerns related to the role and mission, student life, the variety of other facilities deemed to be needed, etc. This can either be expressed as a limit to growth or as a precondition to growth.

The institutions have been requested to identify institutional capacity as it relates to the calculated capacity amounts produced by the formulas regarding space utilization. These limitations on institutional growth will be reported in the second capacity paper to be provided the Board in May 1999.

Master Plan Policy Paper #4-A: Making Best Use of Public Resources to Enhance Opportunity in Higher Education

May 1999

ISSUE AREA

How can existing facilities be better utilized to enhance higher education opportunity for Washington citizens?

POLICY ISSUES

- How will Washington State integrate e-learning technology with the use of physical spaces to expand and improve educational opportunity?
- How can the planning for additional enrollment capacity encourage and reflect institutional operating practices that promote the full use of existing and planned spaces?
- Should planning for enrollment growth be based on modifying institutional space utilization practices to optimize use of existing and planned physical spaces?
- What actions can be taken to enhance the quality of the learning environment and improve utilization practices?

STUDY QUESTIONS

- What is the existing enrollment capacity of the public institutions of higher education under current utilization standards for classrooms, class labs, and faculty offices?
- How do adjustments in (1) the average weekly hourly use of instructional space and (2) the average weekly hours of "seat-time" in classrooms and class labs affect projected enrollment capacity?
- How can these adjustments in space utilization be implemented to improve the quality of the educational experience?
- What are the constraints associated with achieving increased utilization levels?
- What is the practical range of institutional growth capacity?

OVERVIEW

As part of its Master Plan work session conducted at on April 14, staff provided a preliminary analysis of institutional enrollment capacity. That analysis included a review of the methods used in estimating enrollment capacity. And it covered the calculations of enrollment capacity for the public four-year and two-year institutions using existing space utilization standards.

The work session included a discussion of the feasibility and effect of changing utilization practices to achieve greater enrollment capacity. Specifically, the Board review data to demonstrate the impact of increasing the average number of hours that classroom and class lab stations are used each week. Also, the board discussed the effect of reducing weekly "seat-time" through e-learning while maintaining or even increasing actual student/faculty contact hours. The Board discussed the distinction between capacity estimates based upon calculation per utilization standards, and the actual enrollment capacity of an institution given regulatory, physical, and cultural growth constraints.

The purpose of this paper is to compare the earlier reported *calculated* capacity estimates and institutional growth estimates to the public sector year 2010 enrollment goals being developed and proposed in the Master Plan. Based upon this comparison, this paper also offers recommendations concerning utilization goals, enrollment planning and management, and capital budgeting priorities.

Enrollment Capacity

Tables 1-3 summarize the student FTE enrollment capacity associated with classrooms, class labs, and faculty office space for the four-year institutions and the community and technical college system.[1] These capacity estimates are based upon both existing and planned space. When capacity is calculated on the basis of existing utilization standards, the following data are generated:

- The four-year institutions could accommodate about 118,000 student FTE in existing and planned classrooms, 121,000 student FTE in class labs; when calculated at existing student-to-faculty ratios, there are sufficient faculty offices to serve about 98,000 student FTE.

- The community and technical colleges could accommodate about 97,000 student FTE in existing and planned classrooms, and 136,000 student FTE in class labs.[2, 3]

[1] See Appendix A for four-year institution and community and technical college detail.
[2] The class lab capacity data for the community and technical colleges continues to be refined and represents an estimated system average for weekly science lab contact hours.
[3] The community and technical college capacity estimates are system totals. Appendix A contains the specific estimates for each of the colleges.

Table 4 provides the institutional estimates of growth capacity for the year 2010 and compares these levels with the total classroom capacity estimated in Table 1. As discussed at the April work session, an institution's estimate of growth capacity reflects the enrollment level that can be accommodated in view of regulatory or physical constraints, as well as institutional policies concerning the desired enrollment level for a campus and its programs. These institutional estimates assume that capital projects in the planning stage will be adequately funded for construction.

As can be seen in Table 4, the public four-year institutions are reporting a year 2010 growth capacity of about 127,000 student FTE, some 9,000 FTE above the calculated capacity associated with existing and planned classroom stations.

The State Board for Community and Technical Colleges (SBCTC) has reported projected enrollment levels for its 33 campuses in the year 2010 to be about 146,000 student FTE. This level exceeds the calculated capacity by nearly 50,000 student FTE (see Table 4 and Appendix A).

Increasing Enrollment Capacity by Changing Utilization Practices

Table 5 illustrates the effects on calculated capacity of (1) increasing the hours of weekly classroom station use to 24 hours per week, and (2) decreasing the average weekly seat-hours in classrooms by 1.5 and 2.0 hours per week through non-seat time, e-learning lecture contact hours.

For the four-year public institutions classroom enrollment capacity increases from the current standards estimate of approximately 118,000 FTE to 149,000 FTE under the following assumptions:

- moving to an average of 22 hours per week of scheduled classroom station hours; and
- assuming that the average student FTE would generate one and one-half lecture contact hours per week through e-learning.

If 24 scheduled classroom station hours per week and two hours of e-learning were assumed, classroom capacity would increase to about 171,000 student FTE.

For the community and technical colleges, classroom enrollment capacity increases from the current standards estimate of approximately 97,000 FTE to 111,000 FTE under the following scenario:

- maintaining the current SBCTC standard of an average of 23 hours per week of scheduled classroom station hours; and
- assuming that the average student FTE would generate one and one-half lecture contact hours per week through e-learning.

If 24 scheduled classroom station hours per week and two hours of e-learning were assumed, classroom capacity would increase to about 116,000 student FTE.

With respect to the four-year institutions, it is important to note that the effect of increased utilization and e-learning assumptions appears to exceed currently defined estimates of institutional growth capacity. However the premises underlying these growth constraints may change or not be relevant to new assumptions about student participation characteristics. In many ways, current notions about the permitted or desired level of campus enrollment assume both a continuation of existing trends in the daily and hourly use of facilities by on-campus students, and the convention of "seat-time" as the method of generating contact and credit hours.

Currently, it is difficult to distinguish between total campus *enrollment* from daily on-campus *attendance*. But as facilities are used more fully through the day and week, and as e-learning opportunities reduce the concentration of students on-campus at any one time, then it will be possible to differentiate total campus enrollment from daily on-campus attendance. In the future, institutions actually may generate many more FTE than the amount generated through traditional "seat-time" contact hours.

The 1999-2001 Capital Appropriations Act contains proviso language that addresses this point. This language (Section 916 – Substitute House Bill 1165) requires the four-year institutions to report to the Office of Financial Management and the HECB on plans to increase branch campus enrollment capacities through increased utilization and e-learning initiatives.

2010 Enrollment Goal Analysis

Table 6 compares fall 1998 student-FTE enrollment levels with both calculated classroom capacity and institutional growth levels to state-funded 2010 enrollment goals for public institutions. For the four-year institutions there is close correspondence between calculated capacity and the state-funded enrollment goals for 2010 (118,000 student FTE and 117,000 student FTE, respectively). Additionally, the four-year institutions have reported an institutional growth level totaling about 128,000 student FTE.

With respect to the community and technical colleges, the enrollment levels reported by the SBCTC for 2010 (146,200 student FTE) exceed the calculation of classroom capacity per current standards by about 50,000 student FTE. However, this campus enrollment projection closely parallels the year 2010 enrollment goal of 144,000 student FTE for the community and technical colleges.

These data suggest that, in order to meet the Board's policy of sustaining the current participation level for lower-division enrollment, and increasing the upper-division and graduate participation levels to the national average by 2010, integrated and consistent capital budgeting priorities will be needed between the two-year and four-year sectors. Specifically, capital spending priorities

should recognize areas of population growth and density, institutional utilization practices, and initiatives concerning enrollment distribution within the four-year sector.

In summary, it appears that the Board's 2010 enrollment goals for upper-division and graduate participation can be met if (1) all projected classroom and class lab capacity throughout the state is utilized, and (2) funding for access-related projects currently being planned is obtained. Achieving this classroom and class lab enrollment capacity will require additional office space, student support space, and infrastructure improvements at the campuses of the four-year institutions.

However, the outlook for lower-division enrollment is not as clear. Calculated capacity at the community and technical colleges is significantly below the Board's 2010 enrollment goals. While the SBCTC has reported institutional growth levels that mirror the goals, neither existing capacity, projects being planned, nor the content of the SBCTC's current 10-year capital plan indicate how the additional growth capacity reported by the SBCTC will be achieved.

Recommendations: Making Best Use of Public Resources to Enhance Opportunity in Higher Education

For both the public four- and two-year sectors, it is recommended that:

1. The Board adopt the utilization goal of 22 average weekly hours of classroom station utilization by 2010 and 24 average hours by the year 2020.

2. The Board incorporate an e-learning assumption of 1.5 weekly lecture and lab hours by 2010 and 2 hours by 2020 and monitor this utilization on an annual basis with capacity estimates adjusted accordingly.

For the public four-year institutions, it is recommended that:

3. (a) All capital projects currently being planned, designed, and constructed should be funded and completed to create classroom and class lab capacity needed to accommodate 2010 enrollment goals; and

(b) Additional office, student support space, and other infrastructure enhancements will be needed on the campuses of the four-year institutions to accommodate enrollment growth.

4. The Master Plan recommend enrollment policies to fully utilize excess available capacity at upper-division institutions in eastern Washington.

5. On-going planning efforts be funded to promote upper-division access opportunities in the Puget Sound area.

For the community and technical colleges, it is recommended that:

6. The Board request the SBCTC to re-examine its current 10-year capital plan in view of the projected enrollment and space shortages within the community and technical college system, and to advise the Board on how the SBCTC capital budgeting process and priorities will address lower-division enrollment demand in high population growth regions.

TABLE 1
STUDENT FTE CAPACITY per CURRENT STANDARDS by TYPE OF CAPACITY
CLASSROOMS

SECTOR INSTITUTION	EXISTING CAPACITY	UNDER CNSTRCTN.	IN DESIGN PHASE	1999-2001 PROPOSED	TOTAL	FALL 1998 ENROLLMENT
PUBLIC FOUR-YEAR TOTAL						
Main	**84,642**	**2,580**	**8,562**	**761**	**96,545**	**79,167**
Branch	**12,065**	**1,480**	**7,291**	**975**	**21,811**	**6,403**
All Sites	**96,707**	**4,060**	**15,853**	**1,736**	**118,356**	**85,570**
UNIVERSITY OF WASHINGTON						
Main	34,345	1,843	1,141	761	38,090	33,122
Branch	1,852	1,480	2,323	0	5,655	1,830
WASHINGTON STATE UNIVERSITY						
Main	18,314	188	3,586	0	22,088	17,898
Branch	7,260	0	2,680	912	10,852 (1)	2,004 (2)
WESTERN WASHINGTON UNIVERSITY						
Main	9,039	0	1,694	0	10,733	11,062
Branch	0	0	0	63	63	0
THE EVERGREEN STATE COLLEGE						
Main	3,427	0	2,059	0	5,486	4,085
Branch	492	0	0	0	492	158
CENTRAL WASHINGTON UNIVERSITY						
Main	8,973	0	0	0	8,973	6,917
Branch	1,141	0	2,288	0	3,429	978
EASTERN WASHINGTON UNIVERSITY						
Main	10,544	549	82	0	11,175	6,083
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COMMUNITY AND TECHNICAL COLLEGES						
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All Sites	**87,885**	**5,932**	**689**	**2,399**	**96,905**	**na**
TOTAL: ALL PUBLIC INSTITUTIONS						
Main	**166,721**	**8,358**	**8,824**	**3,160**	**187,063**	**192,897**
Branch	**17,871**	**1,634**	**7,718**	**975**	**28,198**	**6,403**
All Sites	**184,592**	**9,992**	**16,542**	**4,135**	**215,261**	**199,300**

(1) Includes approximately 685 EWU FTE at Riverpoint. (2) Includes approximately 360 EWU FTE at Riverpoint.

TABLE 2
STUDENT FTE CAPACITY per CURRENT STANDARDS by TYPE OF CAPACITY
CLASS LABS

SECTOR INSTITUTION	EXISTING CAPACITY	UNDER CNSTRCTN.	IN DESIGN PHASE	1999-2001 PROPOSED	TOTAL	FALL 1998 ENROLLMENT
PUBLIC FOUR-YEAR TOTAL						
Main	**90,146**	**699**	**4,952**	**1,789**	**97,586**	**79,167**
Branch	**2,243**	**2,470**	**18,822**	**144**	**23,679**	**6,403**
All Sites	**92,389**	**3,169**	**23,774**	**1,933**	**121,265**	**85,570**
UNIVERSITY OF WASHINGTON						
Main	35,683	202	468	1,384	37,737	33,122
Branch	490	2,470	9,352	0	12,312	1,830
WASHINGTON STATE UNIVERSITY						
Main	16,872	76	1,877	355	19,180	17,898
Branch	1,716	0	5,582	0	7,298	2,004
WESTERN WASHINGTON UNIVERSITY						
Main	9,780	0	1,395	0	11,175	11,062
Branch	0	0	0	144	144	0
THE EVERGREEN STATE COLLEGE						
Main	3,230	0	875	50	4,155	4,085
Branch	37	0	0	0	37	158
CENTRAL WASHINGTON UNIVERSITY						
Main	14,745	0	0	0	14,745	6,917
Branch	0	0	3,888	0	3,888	978
EASTERN WASHINGTON UNIVERSITY						
Main	9,836	421	337	0	10,594	6,083
Branch	0	0	0	0	0	1,433
COMMUNITY AND TECHNICAL COLLEGES						
Main	**75,263**	**22,881**	**28,373**	**6,103**	**132,620**	**113,730**
Branch	**3,799**	**na**	**na**	**na**	**3,799**	**na**
All Sites	**79,062**	**22,881**	**28,373**	**6,103**	**136,419**	**na**
TOTAL: ALL PUBLIC INSTITUTIONS						
Main	**165,409**	**23,580**	**33,325**	**7,892**	**230,206**	**192,897**
Branch	**6,042**	**2,470**	**18,822**	**144**	**27,478**	**6,403**
All Sites	**171,451**	**26,050**	**52,147**	**8,036**	**257,684**	**199,300**

TABLE 3
STUDENT FTE CAPACITY per CURRENT STANDARDS by TYPE OF CAPACITY
INSTRUCTIONAL OFFICES--FOUR YEAR MAIN CAMPUSES

	EXISTING CAPACITY	UNDER CNSTRCTN.	IN DESIGN PHASE	1999-2001 PROPOSED	TOTAL	FALL 1998 ENROLLMENT
PUBLIC FOUR-YEAR TOTAL	**89,448**	**1,764**	**4,146**	**2,307**	**97,665**	**79,167**
UNIVERSITY OF WASHINGTON	34,413	1,699	887	903	37,902	33,122
WASHINGTON STATE UNIVERSITY	15,515	65	487	1,097	17,164	17,898
WESTERN WASHINGTON UNIVERSITY	11,922	0	1,188	307	13,417	11,062
THE EVERGREEN STATE COLLEGE	4,539	0	1,544	0	6,083	4,085
CENTRAL WASHINGTON UNIVERSITY	13,422	0	0	0	13,422	6,917
EASTERN WASHINGTON UNIVERSITY	9,637	0	40	0	9,677	6,083

TABLE 4
COMPARISON OF CALCULATED CLASSROOM ENROLLMENT CAPACITY
TO INSTITUTIONAL YEAR 2010 GROWTH LEVEL

	FALL 1998 ENROLLMENT	CALCULATED CAPACITY	INSTITUTIONAL GROWTH CAPACITY
PUBLIC FOUR-YEAR TOTAL			
Main	**79,167**	**96,545**	**99,904**
Branch	**6,403**	**21,811**	**27,336**
All Sites	**85,570**	**118,356**	**127,240**
UNIVERSITY OF WASHINGTON			
Main	33,122	38,090	38,410
Branch	1,830	5,655	14,090
WASHINGTON STATE UNIVERSITY			
Main	17,898	22,088	23,000
Branch	2,004	10,852	8,700
WESTERN WASHINGTON UNIVERSITY			
Main	11,062	10,733	12,500
Branch	0	63	65
THE EVERGREEN STATE COLLEGE			
Main	4,085	5,486	5,000
Branch	158	492	500
CENTRAL WASHINGTON UNIVERSITY			
Main	6,917	8,973	9,819
Branch	978	3,429	2,661
EASTERN WASHINGTON UNIVERSITY			
Main	6,083	11,175	11,175
Branch	1,433	1,320	1,320
COMMUNITY AND TECHNICAL COLLEGES			
Main	**113,730**	**90,518**	**146,200**
Branch	**na**	**6,387**	**NA**
All Sites	**na**	**96,905**	**146,200**
TOTAL: ALL PUBLIC INSTITUTIONS			
Main	**192,897**	**187,063**	**246,104**
Branch	**6,403**	**28,198**	**27,336**
All Sites	**199,300**	**215,261**	**273,440**

TABLE 5

CLASSROOM FTE CAPACITY BY ALTERNATIVE AVERAGE WEEKLY STATION USE HOURS & ALTERNATIVE E-LEARNING ASSUMPTIONS

FOUR-YEAR INSTITUTIONS

AVG. WEEKLY STATION HRS.	E-LEARNING ASSUMPTION (Weekly Non-Seat Time Instruction) 0 Hours	1.5 Hours	2.0 Hours
18.00	106,520	121,995	128,203
18.50	109,479	125,383	131,764
19.00	112,438	128,772	135,325
19.50	115,397	132,161	138,886
20.00	**118,356**	**135,550**	**142,448**
20.50	121,315	138,938	146,009
21.00	124,274	142,327	149,570
21.50	127,233	145,716	153,131
22.00	130,192	149,105	156,692
22.50	133,151	152,493	160,254
23.00	136,109	155,882	163,815
23.50	139,068	159,271	167,376
24.00	142,027	162,660	170,937

COMMUNITY AND TECHNICAL COLLEGES

AVG. WEEKLY STATION HRS.	E-LEARNING ASSUMPTION (Weekly Non-Seat Time Instruction) 0 Hours	1.5 Hours	2.0 Hours
18.00	75,548	86,807	91,345
18.50	77,646	89,218	93,882
19.00	79,745	91,630	96,419
19.50	81,843	94,041	98,957
20.00	83,942	96,452	101,494
20.50	86,041	98,863	104,031
21.00	88,139	101,275	106,569
21.50	90,238	103,686	109,106
22.00	92,336	106,097	111,644
22.50	94,435	108,509	114,181
23.00	**96,533**	**110,920**	**116,718**
23.50	98,632	113,331	119,256
24.00	100,730	115,743	121,793

TABLE 6

COMPARISON OF CALCULATED CLASSROOM ENROLLMENT CAPACITY
TO INSTITUTIONAL YEAR 2010 GROWTH LEVEL

	FALL 1998 ENROLLMENT	CALCULATED CAPACITY	INSTITUTIONAL GROWTH CAPACITY	2010 ENROLLMENT GOALS
PUBLIC FOUR-YEAR TOTAL All Sites	85,570	118,356	127,662	117,105
COMMUNITY AND TECHNICAL COLLEGES Main	113,730	96,905	146,200	144,228
TOTAL: ALL PUBLIC INSTITUTIONS	199,300	215,261	273,862	261,333

STATION NEEDS ASSOCIATED WITH ENROLLMENT GROWTH
Alternative B
2010 Standards

		FTE Growth	Total Needed	Surplus Stations Existing	Design	Const	Net Needed	Stations Avoided	Stations Unused
CLASSROOMS									
UW	MAIN	5,288	2,483	4,763	0	1,765	0	0	4,045
	TACOMA	3,836	1,981	210	336	566	869	0	0
	BOTHELL	4,134	2,225	35	384	500	1,306	0	0
	TOTAL	**13,258**	**6,689**	**5,008**	**720**	**2,831**	**2,174**	**0**	**4,045**
WSU	MAIN	5,102	2,372	2,418	1,023	1,370	0	1,023	1,416
	VANCOUVER	2,217	987	339	815	145	0	312	0
	TRI-CITIES	1,281	581	931	300	0	0	300	351
	ICNE	682	215	240	0	0	0	0	25
	RIVERPOINT	833	322	973	170	200	0	170	851
	SPOKANE	na	na	na	na	na	na		
	TOTAL	**10,115**	**4,477**	**4,901**	**2,308**	**1,715**	**0**	**1,805**	**2,642**
WWU	MAIN	1,438	716	118	1,055	0	0	457	0
	SHANNON PT.	65	32	na	na	na	na	na	na
	TOTAL	**1,503**	**749**	**118**	**1,055**	**1,173**	**0**	**457**	**0**
TESC	MAIN	915	574	60	1,575	0	0	1,061	0
	TACOMA	342	163	220	0	0	0	0	56
	TOTAL	**1,257**	**737**	**279**	**1,575**	**0**	**0**	**1,061**	**56**
CWU	MAIN	1,924	831	1,526	0	0	0	0	695
	LYNWOOD	697	278	121	0	760	0	0	604
	SEATAC	807	333	136	870	0	0	673	0
	WENATCHEE	146	62	8	0	0	54	0	0
	YAKIMA	132	0	0	0	0	0	0	0
	TOTAL	**3,706**	**1,503**	**1,791**	**870**	**760**	**54**	**673**	**1,299**
EWU	MAIN	2,469	1,066	2,553	0	347	0	0	1,834
	SPOKANE	-70	0	145	0	0	0	0	145
	TOTAL	**2,399**	**1,066**	**2,698**	**0**	**347**	**0**	**0**	**1,979**

STATION NEEDS ASSOCIATED WITH ENROLLMENT GROWTH
Alternative B
2010 Standards

		FTE Growth	Total Needed	Surplus Stations Existing	Design	Const	Net Needed	Stations Avoided	Stations Unused
TOTAL FOUR-YEAR		**32,238**	**15,221**	**14,796**	**6,528**	**6,826**	**2,229**	**3,996**	**10,021**
CTC'S		**30,498**	**14,638**	**0**	**0**	**0**	**14,638**	**0**	**0**
GRAND TOTAL		**62,736**	**29,858**	**14,796**	**6,528**	**6,826**	**16,866**	**3,996**	**10,021**
CLASS LABS									
UW	MAIN	5,288	642	930	0	93	0	0	381
	TACOMA	3,836	466	0	16	306	144	0	0
	BOTHELL	4,134	502	0	81	348	73	0	0
	TOTAL	**13,258**	**1,610**	**930**	**97**	**747**	**217**	**0**	**381**
WSU	MAIN	5,102	999	271	436	147	145	0	0
	VANCOUVER	2,217	434	0	49	149	237	0	0
	TRI-CITIES	1,281	104	16	113	0	0	24	0
	ICNE	682	557	0	0	0	557	0	0
	RIVERPOINT	833	163	0	11	473	0	11	310
	SPOKANE	na	na	na	na	na	na		
	TOTAL	**10,115**	**2,258**	**287**	**609**	**769**	**939**	**36**	**310**
WWU	MAIN	1,438	209	18	232	0	0	41	0
	SHANNON PT.	65	9	na	na	na	na	na	na
	TOTAL	**1,503**	**219**	**18**	**232**	**250**	**0**	**41**	**0**
TESC	MAIN	915	160	0	106	0	54	0	0
	TACOMA	342	56	0	0	0	56	0	0
	TOTAL	**1,257**	**216**	**0**	**106**	**0**	**110**	**0**	**0**
CWU	MAIN	1,924	283	1,318	0	0	0	0	1,035
	LYNWOOD	697	103	0	0	15	87	0	0
	SEATAC	807	0	0	0	0	0	0	0
	WENATCHEE	146	0	0	0	0	0	0	0
	YAKIMA	132	0	0	0	0	0	0	0

STATION NEEDS ASSOCIATED WITH ENROLLMENT GROWTH
Alternative B
2010 Standards

		FTE Growth	Total Needed	Surplus Stations			Net Needed	Stations Avoided	Stations Unused
				Existing	Design	Const			
	TOTAL	**3,706**	**386**	**1,318**	**0**	**15**	**87**	**0**	**1,035**
EWU	MAIN	2,469	257	387	0	90	0	0	220
	SPOKANE	-70	0	0	0	0	0	0	0
	TOTAL	**2,399**	**257**	**387**	**0**	**90**	**0**	**0**	**220**
TOTAL FOUR-YEAR		**32,238**	**4,944**	**2,939**	**1,044**	**1,871**	**1,353**	**76**	**1,946**
CTC'S		**30,498**	**1,730**	**0**	**0**	**0**	**1,730**	**0**	**0**
GRAND TOTAL		**62,736**	**6,674**	**2,939**	**1,044**	**1,871**	**3,082**	**76**	**1,946**
OFFICES									
UW	MAIN	5,288	638	156	0	312	170	0	0
	TACOMA	3,836	167	0	39	65	63	0	0
	BOTHELL	4,134	180	8	38	57	76	0	0
	TOTAL	**13,258**	**984**	**164**	**77**	**434**	**309**	**0**	**0**
WSU	MAIN	5,102	628	0	0	0	628	0	0
	VANCOUVER	2,217	96	15	0	0	81	0	0
	TRI-CITIES	1,281	56	18	0	0	38	0	0
	ICNE	682	30	43	0	0	0	0	14
	RIVERPOINT	833	36	56	0	0	0	0	20
	SPOKANE	na	na	na	na	na	na		
	TOTAL	**10,115**	**846**	**132**	**0**	**0**	**747**	**0**	**33**
WWU	MAIN	1,438	70	42	58	0	0	30	0
	SHANNON PT.	65	3	na	na	na	na	na	na
	TOTAL	**1,503**	**73**	**42**	**58**	**100**	**0**	**30**	**0**
TESC	MAIN	915	40	20	67	0	0	47	0
	TACOMA	342	15	4	0	0	11	0	0

STATION NEEDS ASSOCIATED WITH ENROLLMENT GROWTH
Alternative B
2010 Standards

		FTE Growth	Total Needed	Surplus Stations			Net Needed	Stations Avoided	Stations Unused
				Existing	Design	Const			
	TOTAL	**1,257**	**55**	**24**	**67**	**0**	**11**	**47**	**0**
CWU	MAIN	1,924	83	238	15	0	0	15	155
	LYNWOOD	697	30	1	0	0	29	0	0
	SEATAC	807	35	5	38	0	0	8	0
	WENATCHEE	146	6	0	0	0	6	0	0
	YAKIMA	132	6	0	0	0	6	0	0
	TOTAL	**3,706**	**160**	**244**	**53**	**0**	**42**	**23**	**155**
EWU	MAIN	2,469	183	158	0	3	23	0	0
	SPOKANE	-70	0	0	0	0	0	0	0
	TOTAL	**2,399**	**183**	**158**	**0**	**3**	**23**	**0**	**0**
TOTAL FOUR-YEAR		**32,238**	**2,302**	**764**	**255**	**537**	**1,132**	**100**	**188**
CTC'S		**30,498**	**1,473**	**0**	**0**	**0**	**1,473**	**0**	**0**
GRAND TOTAL		**62,736**	**3,776**	**764**	**255**	**537**	**2,605**	**100**	**0**

Alternative Enrollment Models by Institution

		Fall 1998 Enrollment Student FTE	Percent	2010 Goal Per Fall 98 Distribution	Institutional Growth Policy	2010 Enrollment	Net FTE Growth
UW	MAIN	33,122	37.57%	43,998	38,410	38,410	5,288
	TACOMA	964	1.09%	1,281	7,745	4,800	3,836
	BOTHELL	866	0.98%	1,150	6,345	5,000	4,134
	TOTAL	**34,952**	**39.65%**	**46,429**	**52,500**	**48,210**	**13,258**
WSU	MAIN	17,898	20.30%	23,775	23,000	23,000	5,102
	VANCOUVER	983	1.12%	1,306	3,200	3,200	2,217
	TRI-CITIES	604	0.69%	802	2,800	1,885	1,281
	ICNE	318	0.36%	422	1,000	1,000	682
	RIVERPOINT	417	0.47%	554	1,250	1,250	833
	TOTAL	**20,220**	**22.94%**	**26,860**	**31,250**	**30,335**	**10,115**
WWU	MAIN	11,062	12.55%	14,694	12,500	12,500	1,438
	SHANNON PT.	0	0.00%	0	65	65	65
	TOTAL	**11,062**	**12.55%**	**14,694**	**12,565**	**12,565**	**1,503**
TESC	MAIN	4,085	4.63%	5,426	5,000	5,000	915
	TACOMA	158	0.18%	210	500	500	342
	TOTAL	**4,243**	**4.81%**	**5,636**	**5,500**	**5,500**	**1,257**
CWU	MAIN	7,895	8.96%	10,487	9,819	9,819	1,924
	LYNWOOD	303	0.34%	402	1,000	1,000	697
	SEATAC	428	0.49%	569	1,235	1,235	807
	WENATCHEE	80	0.09%	106	226	226	146
	YAKIMA	68	0.08%	90	200	200	132
	TOTAL	**8,774**	**9.95%**	**11,655**	**12,480**	**12,480**	**3,706**
EWU	MAIN	7,516	8.53%	9,984	11,175	9,985	2,469
	SPOKANE	1,390	1.58%	1,846	1,320	1,320	-70
	TOTAL	**8,906**	**10.10%**	**11,830**	**12,495**	**11,305**	**2,399**
TOTAL FOUR-YEAR		**88,157**	**100.00%**	**117,105**	**126,790**	**120,395**	**32,238**
	Main Campuses	**81,578**	**92.54%**	**108,366**	**99,904**	**98,714**	**17,136**
	Branches/Centers	**6,579**	**7.46%**	**8,739**	**26,886**	**21,681**	**15,102**
CTC'S		**113,730**	**100.00%**	**144,228**	**144,228**	**144,228**	**30,498**
GRAND TOTAL		**201,887**	**100.00%**	**261,333**	**271,018**	**264,623**	**62,736**

FTE CAPACITY DETAIL
2010 Standards

		EXISTING	CONSTRUCTION	DESIGN	TOTAL
CLASSROOMS					
UW	MAIN	43,265	3,759	0	**47,024**
	TACOMA	1,371	1,096	651	**3,118**
	BOTHELL	931	929	714	**2,573**
	TOTAL	**45,567**	**5,784**	**1,364**	**52,716**
WSU	MAIN	23,099	2,946	2,200	**28,245**
	VANCOUVER	1,744	326	1,831	**3,901**
	TRI-CITIES	2,659	0	662	**3,321**
	ICNE	1,078	0	0	**1,078**
	RIVERPOINT	2,935	518	440	**3,893**
	SPOKANE	NA	NA	NA	NA
	TOTAL	**31,515**	**3,790**	**5,133**	**40,438**
WWU	MAIN	11,299	0	2,118	**13,417**
	SHANNON PT.	0	0	0	**0**
	TOTAL	**11,299**	**0**	**2,118**	**13,417**
TESC	MAIN	4,180	0	2,511	**6,691**
	TACOMA	618	0	0	**618**
	TOTAL	**4,798**	**0**	**2,511**	**7,309**
CWU	MAIN	11,428	0	0	**11,428**
	LYNWOOD	608	1,909	0	**2,516**
	SEATAC	758	0	2,108	**2,866**
	WENATCHEE	99	0	0	**99**
	YAKIMA	0	0	0	**0**
	TOTAL	12,893	1,909	2,108	**16,910**
EWU	MAIN	13,429	804	0	**14,233**
	SPOKANE	1,584	0	0	**1,584**
	TOTAL	**15,013**	**804**	**0**	**15,817**
TOTAL FOUR-YEAR		**121,086**	**12,286**	**13,234**	**146,606**
CTC'S		92,937	6,373	2,748	**102,059**
GRAND TOTAL		**214,023**	**18,660**	**15,982**	**248,665**

FTE CAPACITY DETAIL
2010 Standards

		EXISTING	CONSTRUCTION	DESIGN	TOTAL
CLASS LABS					
UW	MAIN	40,780	766	0	**41,546**
	TACOMA	560	2,520	535	**3,616**
	BOTHELL	0	2,866	1,532	**4,398**
	TOTAL	**41,341**	**6,153**	**2,067**	**49,561**
WSU	MAIN	19,282	751	2,227	**22,260**
	VANCOUVER	608	761	623	**1,992**
	TRI-CITIES	798	0	1,387	**2,184**
	ICNE	54	0	0	**54**
	RIVERPOINT	332	2,416	143	**2,891**
	SPOKANE	NA	NA	NA	NA
	TOTAL	**21,073**	**3,928**	**4,380**	**29,381**
WWU	MAIN	11,185	0	1,595	**12,779**
	SHANNON PT.	0	0	0	**0**
	TOTAL	**11,185**	**0**	**1,595**	**12,779**
TESC	MAIN	3,691	0	1,000	**4,691**
	TACOMA	43	0	0	**43**
	TOTAL	**3,734**	**0**	**1,000**	**4,734**
CWU	MAIN	16,851	0	0	**16,851**
	LYNWOOD	0	408	0	**408**
	SEATAC	0	0	0	**0**
	WENATCHEE	0	0	0	**0**
	YAKIMA	0	0	0	**0**
	TOTAL	**16,851**	**408**	**0**	**17,259**
EWU	MAIN	11,241	866	0	**12,107**
	SPOKANE	0	0	0	**0**
	TOTAL	**11,241**	**866**	**0**	**12,107**
TOTAL FOUR-YEAR		**105,425**	**11,355**	**9,042**	**125,822**
CTC'S		91,372	4,499	1,922	**97,794**

FTE CAPACITY DETAIL
2010 Standards

		EXISTING	CONSTRUCTION	DESIGN	TOTAL
GRAND TOTAL OFFICES		**196,797**	**15,854**	**10,964**	**223,615**
UW	MAIN	34,412	2,586	0	**36,998**
	TACOMA	920	1,495	943	**3,358**
	BOTHELL	1,058	1,311	874	**3,243**
	TOTAL	**36,390**	**5,392**	**1,817**	**43,599**
WSU	MAIN	15,509	122	430	**16,061**
	VANCOUVER	1,334	0	0	**1,334**
	TRI-CITIES	1,012	0	0	**1,012**
	ICNE	1,311	0	0	**1,311**
	RIVERPOINT	1,702	0	0	**1,702**
	SPOKANE	0	0	0	**0**
	TOTAL	**20,868**	**122**	**430**	**21,420**
WWU	MAIN	11,925	0	1,188	**13,114**
	SHANNON PT.	0	0	0	**0**
	TOTAL	**11,925**	**0**	**1,188**	**13,114**
TESC	MAIN	4,539	0	1,544	**6,083**
	TACOMA	253	0	0	**253**
	TOTAL	**4,792**	**0**	**1,544**	**6,336**
CWU	MAIN	13,421	0	348	**13,769**
	LYNWOOD	322	0	0	**322**
	SEATAC	552	0	874	**1,426**
	WENATCHEE	46	0	0	**46**
	YAKIMA	0	0	0	**0**
	TOTAL	**14,341**	**0**	**1,222**	**15,563**
EWU	MAIN	9,637	40	0	**9,678**
	SPOKANE	1,265	0	0	**1,265**
	TOTAL	**10,902**	**40**	**0**	**10,943**
TOTAL FOUR-YEAR		**99,219**	**5,555**	**6,202**	**110,975**

Biennial Capital Budget Requirements
Detail
2010 Standards

	Total Costs	2001-2003 Predesign	2001-2003 Design	2001-2003 Construction	2003-2005 Predesign	2003-2005 Design	2003-2005 Construction
Pipeline Projects							
Four Year							
In Predesign	$260,850,000		$26,085,000				$234,765,000
In Design	$222,420,000			$222,420,000			
Total	$483,270,000		$26,085,000	$222,420,000	$0	$0	$234,765,000
CTC							
In Predesign	$132,350,000		$13,235,000				$119,115,000
In Design	$67,345,000			$67,345,000			
Total	$199,695,000		$13,235,000	$67,345,000	$0	$0	$119,115,000
Total	$682,965,000		$39,320,000	$289,765,000	$0	$0	$353,880,000
New Projects							
Four Year	$439,241,224	$5,490,515			$5,490,515	$24,817,129	
CTC	$559,666,040	$6,995,825			$6,995,825	$31,621,131	
Total	$998,907,264	$12,486,341	$0	$0	$12,486,341	$56,438,260	$0
Total							
Four Year	$922,511,224	$5,490,515	$26,085,000	$222,420,000	$5,490,515	$24,817,129	$234,765,000
CTC	$759,361,040	$6,995,825	$13,235,000	$67,345,000	$6,995,825	$31,621,131	$119,115,000
Total	$1,681,872,264	$12,486,341	$39,320,000	$289,765,000	$12,486,341	$56,438,260	$353,880,000

Biennial Capital Budget Requirements
Detail
2010 Standards

	2005-2007			2007-2009	
	Predesign	Design	Construction	Design	Construction
Pipeline Projects					
Four Year					
In Predesign					
In Design					
Total	$0	$0	$0	$0	$0
CTC					
In Predesign					
In Design					
Total	$0	$0	$0	$0	$0
Total	$0	$0	$0	$0	$0
New Projects					
Four Year			$189,312,968	$24,817,129	$189,312,968
CTC			$241,216,063	$31,621,131	$241,216,063
Total			$430,529,031	$56,438,260	$430,529,031
Total					
Four Year					
CTC					
Total	$0	$0	$430,529,031	$56,438,260	$430,529,031

STATION DETAIL

		EXISTING	CONSTRUCTION	DESIGN	**TOTAL**
CLASSROOMS					
UW	MAIN	20,315	1,765	0	**22,080**
	TACOMA	708	566	336	**1,610**
	BOTHELL	501	500	384	**1,385**
	TOTAL	21,524	2,831	720	**25,075**
WSU	MAIN	10,741	1,370	1,023	**13,134**
	VANCOUVER	776	145	815	**1,736**
	TRI-CITIES	1,205	0	300	**1,505**
	ICNE	340	0	0	**340**
	RIVERPOINT	1,134	200	170	**1,504**
	SPOKANE	168	0	0	**168**
	TOTAL	14,364	1,715	2,308	**18,387**
WWU	MAIN	5,629	0	1,055	**6,684**
	SHANNON PT.	0	0	0	**0**
	TOTAL	5,629	0	1,055	**6,684**
TESC	MAIN	2,622	0	1,575	**4,197**
	TACOMA	295	0	0	**295**
	TOTAL	2,917	0	1,575	**4,492**
CWU	MAIN	4,935	0	0	**4,935**
	LYNWOOD	242	760	0	**1,002**
	SEATAC	313	0	870	**1,183**
	WENATCHEE	42	0	0	**42**
	YAKIMA	0	0	0	**0**
	TOTAL	5,532	760	870	**7,162**
EWU	MAIN	5,799	347	0	**6,146**
	SPOKANE	1,183	0	0	**1,183**
	TOTAL	6,982	347	0	**7,329**
TOTAL FOUR-YEAR		56,948	5,653	6,528	**69,129**
CTC'S		44,606	3,059	1,319	**48,984**
GRAND TOTAL		101,554	8,712	7,847	**118,113**

STATION DETAIL

		EXISTING	CONSTRUCTION	DESIGN	TOTAL
CLASS LABS					
UW	MAIN	4,951	93	0	**5,044**
	TACOMA	68	306	65	**439**
	BOTHELL	0	348	186	**534**
	TOTAL	5,019	747	251	**6,017**
WSU	MAIN	3,775	147	436	**4,358**
	VANCOUVER	119	149	122	**390**
	TRI-CITIES	65	0	113	**178**
	ICNE	44	0	0	**44**
	RIVERPOINT	65	473	28	**566**
	SPOKANE	0	0	0	**0**
	TOTAL	4,068	769	699	**5,536**
WWU	MAIN	1,627	0	232	**1,859**
	SHANNON PT.	0	0	0	**0**
	TOTAL	1,627	0	232	**1,859**
TESC	MAIN	646	0	175	**821**
	TACOMA	7	0	0	**7**
	TOTAL	653	0	175	**828**
CWU	MAIN	2,479	0	0	**2,479**
	LYNWOOD	0	60	0	**60**
	SEATAC	0	0	0	**0**
	WENATCHEE	0	0	0	**0**
	YAKIMA	0	0	0	**0**
	TOTAL	2,479	60	0	**2,539**
EWU	MAIN	1,168	90	0	**1,258**
	SPOKANE	18	0	0	**18**
	TOTAL	1,186	90	0	**1,276**
TOTAL FOUR-YEAR		15,032	1,666	1,357	**18,055**
CTC'S (Science labs only)		5,182	255	109	**5,546**
GRAND TOTAL		20,214	3,822	2,278	**26,314**

STATION DETAIL

		EXISTING	CONSTRUCTION	DESIGN	TOTAL
(Adjusted for CTC labs)					
OFFICES					
UW	MAIN	4,151	312	0	**4,463**
	TACOMA	40	65	41	**146**
	BOTHELL	46	57	38	**141**
	TOTAL	**4,237**	**434**	**79**	**4,750**
WSU	MAIN	1,910	15	53	**1,978**
	VANCOUVER	58	0	0	**58**
	TRI-CITIES	44	0	0	**44**
	ICNE	57	0	0	**57**
	RIVERPOINT	74	0	0	**74**
	SPOKANE	65	0	0	**65**
	TOTAL	**2,208**	**15**	**53**	**2,276**
WWU	MAIN	582	0	58	**640**
	SHANNON PT.	0	0	0	**0**
	TOTAL	**582**	**0**	**58**	**640**
TESC	MAIN	197	0	67	**264**
	TACOMA	11	0	0	**11**
	TOTAL	**208**	**0**	**67**	**275**
CWU	MAIN	578	0	15	**593**
	LYNWOOD	14	0	0	**14**
	SEATAC	24	0	38	**62**
	WENATCHEE	2	0	0	**2**
	YAKIMA	0	0	0	**0**
	TOTAL	**618**	**0**	**53**	**671**
EWU	MAIN	716	3	0	**719**
	SPOKANE	55	0	0	**55**
	TOTAL	**771**	**3**	**0**	**774**
TOTAL FOUR-YEAR		**8,416**	**452**	**243**	**9,111**
CTC'S		na	na	na	**na**

STATION DETAIL

EXISTING	CONSTRUCTION	DESIGN	**TOTAL**

* 472 stations listed under CTC totals per 1999 Capital Budget Act
** includes minor works of 240 classroom stations
* 192 stations listed under CTC totals per 1999 Capital Budget Act
** includes minor works of 145 lab stations
*** total class labs for the CTC system

2,156 **	921	total ctc labs sed on 11.84%

Master Plan Policy Paper #5: Accommodating Future Enrollment through Better Connections Within and Across Systems

May 1999

ISSUE AREA

The state's role in helping current and prospective students make efficient transitions across and through the K-12, community and technical college, and baccalaureate sectors.

POLICY ISSUE

How can the state help Washington citizens efficiently and effectively achieve their education goals?

STUDY QUESTIONS

- How do current articulation practices or policies (e.g., admissions, entry-level placement, remedial education, dual credit, and transfer) affect students' transitions across sectors?
- What would be the impact upon enrollment if:
  - the expectations for exiting K-12 and entering baccalaureate education were better aligned?
  - more students took advantage of dual-credit options?
  - student learning outcomes were routinely defined, assessed, and documented?
- What other policies and practices affect students' academic progress?
- Could the HECB expand outreach services to provide better information to all prospective students and enhance the likelihood they would gain access to college?

OVERVIEW AND POLICY CONTEXT

The call for greater collaboration across the K-12, community and technical college, and baccalaureate sectors has grown more insistent since the 1996 Master Plan. Policy makers are seeking ways to encourage student progress across the sectors for a number of reasons: continued growth in enrollment demand, expansion of the competency-based system of K-12 education, a

growing workplace need for advanced knowledge and skills, new possibilities for connection through technology, and limited state resources. Still, the greatest "change masters" are likely to be the students whose educational choices will drive the need to develop more coherent transitions throughout higher education. Students may stimulate change in a number of ways:

- taking courses for college credit while still in high school through programs such as Running Start or College in the High School;
- enrolling in high school or college programs that report the competencies achieved, rather than the grades earned or courses completed;
- returning from the workplace to seek continuing education, and expecting systems to be in place to document the learning they already have, even if it was not acquired in an academic setting;
- seeking to transfer from technical degree programs and earn a baccalaureate degree; and
- taking courses simultaneously from several colleges, using distance e-learning to craft the most convenient schedule of classes.

It is easy to imagine this slate of students making active, education choices. But at the other end of the continuum lie learners who may not even consider postsecondary education to be an attainable goal — people who may be quite capable, but who are constrained by family resources, cultural traditions, their parents' limited education, or simply a lack of information. Outreach services to all prospective students — those still in the K-12 system, as well as adults seeking entry — may help them better understand what questions to pose, what programs are available to help, and what goals are within reach.

This paper will focus on critical junctures in the journey of learners through the K-12 and higher education sectors. It will review policies that address the transitions across sectors, consider the impact of those policies upon student progress, and assess what changes or additions might be needed. It also will consider the need for outreach services that apprise learners of the multiple education pathways available, and how to access them.

ARTICULATION POLICIES: TRANSITIONS ACROSS THE K-12 AND POST-SECONDARY EDUCATION SECTORS

➢ *How do current articulation practices or policies (e.g., admissions, entry-level placement, remedial education, dual credit, and transfer) affect students' transitions across sectors?*

Articulation is a general term used to describe the formal and informal agreements that bridge the K-12 and postsecondary sectors, and that assist students to move more readily across them.

Articulation policies in the areas of admissions, entry-level placement, remedial education, dual credit, and transfer will be reviewed in this paper.

ADMISSIONS

The Higher Education Coordinating Board (HECB) is required by law to establish *minimum* requirements for admission to Washington's public baccalaureates (RCW 28B.80.350). The HECB adopted an admissions policy in 1987 that established minimum standards and designated a cap for the proportion of students who may be admitted under alternative standards. The policy was implemented for students entering the public baccalaureates in the fall term 1992.

Washington is one of 27 states that have adopted statewide admissions standards for first-time freshman applicants.[1] Until the early 1980s, colleges and universities had historically set their own admissions requirements with little involvement by their states.[2] However, issues such as improving student success and access, remediation rates, and timely graduation rates became the subject of policy debates that resulted in legislatures and state agencies adopting statewide admissions standards.

Current Admissions Policy

Minimum admissions standards: The HECB adopted a "probability of success" model to define minimum standards that would provide students with relative assurance that they were adequately prepared for their first year in college. These standards consist of a prescribed set of courses (core curriculum) and a formula (admissions index) that weights grade point averages and standardized test scores. The admissions index emphasizes high school grade point average over standardized test scores, and is based on the probability that entering freshmen will attain a first-year college grade point average of "C" or better. Evidence that students have taken a challenging curriculum, in combination with the admissions index, enables institutions to admit students who have a reasonable chance of succeeding in college.

Alternative admissions standards: Alternative admissions standards were created to provide a pathway for students who may not have met the minimum standards, but are considered a good match with the institution because of the unique attributes they bring. Students admitted under alternative admissions must submit a standardized test score on the SAT or ACT, complete the core course curriculum with no more than three subject years waived, and present evidence of success and motivation to succeed. No more than 15 percent of an entering freshman class may be admitted using an alternative standard. Because demand by students who meet the minimum admissions standards generally exceeds capacity at most institutions, the campuses rarely use alternative standards to admit the maximum allowable proportion of students.

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[1] Russell, A. *Statewide College Admissions, Student Preparation, and Remediation Policies and Programs.* State Higher Education Executive Officers, 1998.

[2] Rodriguez, E. *College Admission and Standards: A New Role for States.* State Higher Education Executive Officers, 1995.

***Connection of alternative admissions standards with remedial education*:** Students admitted under alternative standards are more likely *not* to be prepared for entry-level college work. In 1996 the HECB recommended that, by 2001, each public baccalaureate institution should ensure that remedial education enrollments of recent high school graduates not exceed the proportion of freshmen admitted under the HECB's alternative admissions guidelines.[3] The recommendation was intended to convey a clear message to limit under-prepared students at the baccalaureates, and to establish policy consistent with the alternative admissions policy. The Board recommended as well, however, that remedial education should *not* be eliminated at the baccalaureate institutions, and should continue to be available at the community and technical colleges. It maintained that appropriate support services, including remedial courses, should be in place to help ensure the success of students admitted under alternative standards. (Remedial education and its impact on academic progress will be addressed later in this paper.)

Transition to a Competency-based Admissions System

***Background*:** In order to assure the smooth transition of students graduating from a performance-based system of K-12 education, in 1997 the Legislature directed the HECB to develop a competency-based baccalaureate admissions system (Chapter 149, Section 610, Laws of 1997). In the process of creating this system, the Board elected to support education reform in three ways:

1. It used the K-12 standards (essential academic learning requirements) as a basis for the admissions standards instead of creating a set of standards independently.

2. It incorporated the certificate of mastery, one of the key building blocks of the reform effort, as the foundation requirement for regular admission.

3. The Board synchronized its efforts with the timetable of the Commission on Student Learning, so that higher education would be aligned with, and not driving, K-12 reform.

By working in tandem with the K-12 sector, the Board has sent a strong message to parents and students that higher education supports education reform, and will be prepared to receive students.

The class of 2008 will be the first group of high school students *required* to graduate with the certificate of mastery, although some districts at the forefront of education reform may award the certificate of mastery sooner. Schools are likely to continue to report performance in the traditional system of courses and grades while they phase in the new system of competencies and performance levels. Colleges will use this transition period to develop processes for reviewing competency-based credentials. The transition also will permit colleges to track the performance of students admitted under these revised standards.

[3] *Remedial Education Recommendations.* HECB Report to the Legislature, 1996.

Competency-based admissions standards: To establish a competency-based admissions system, the Board needs to 1.) translate the current core requirements into *content standards;* 2.) establish *performance standards* that convey to teachers the level of achievement expected; and 3.) create a new *transcript* to represent students' achievements. The Board appointed the Admissions Standards Action Committee (ASAC) to assist with these processes. This committee includes representatives of K-12 education, vocational education, all six public baccalaureate institutions, independent institutions, community colleges, parents, and students. The ASAC is charged primarily to recommend translations of the current standards from "seat-time" into competencies (expressions of what students should know and be able to do), and to identify how those translated standards will be measured and reported.

In its January 1999 report to the Legislature, the Board described its progress in creating a competency-based admissions standards system and highlighted four accomplishments.

1. Establishment of content standards in English, mathematics, and world languages.

2. Initiation of the development of performance standards.

3. Collaboration with other states to ensure that students with competency-based transcripts could move unimpeded across the Washington, Oregon, and University of California systems, and Stanford University.

4. Evaluation of student progress. The Board has developed a system for following the progress of students admitted under competency-based standards for the purpose of evaluating these standards as a tool for identifying qualified students.

Next steps for competency-based admissions standards: Translation of the core requirements beyond certificate of mastery into content standards (what students need to know) is already well underway. Minimum admissions standards in science will come before the Board for approval in fall 1999. The Commission on Student Learning Science approved essential academic learning requirements in January 1999. Admissions standards in social science and art will be refined and brought to the Board once the K-12 standards in these areas have been approved. Establishment of performance standards (how well students need to perform) has begun in the areas of English, mathematics, and world languages.

Focus on Student Learning Outcomes: Deepening and Extending Education Reform

A significant challenge for the state in the next eight years will be to stay the course of education reform, and build the capacity of the K-12 system to prepare students to meet the higher standards. The messages that higher education sends about its readiness to receive students with new credentials and preparation will be critical in conveying support for education reform. K-12 educators must persuade students and parents that meeting the new standards will open doors to

opportunities, not close them. Their task will be easier if stakeholders outside of the K-12 system, primarily business and higher education, reinforce the message that the standards represent the basic knowledge and skills students will need to lead productive lives in the 21st Century.

Why will these messages matter? As the K-12 system makes the curricular changes necessary to prepare students to attain a certificate of mastery, students will respond in different ways. Some students may pursue Running Start or the General Education Development (GED) certificate *rather than* earn a certificate of mastery or complete high school. Both of these pathways eventually could lead to entry at most of Washington's public colleges and universities[4], and they may serve some students very well. Others may find themselves ill-prepared to learn with students who have attained a higher standard of achievement, and may require remedial work. How the standards for the GED compare to those required for the certificate of mastery is unclear, but they are likely to be less rigorous. Research to follow the success of students who choose a variety of pathways will be important.

By requiring the certificate of mastery for baccalaureate admission, the Board is conveying to Washington public high school graduates[5] the importance of earning the certificate. Still, the Board may want to consider other strategies in the Master Plan to encourage students to strive for this credential. For example, the Board could recommend creation of a two-year scholarship for all students who pass the certificate of mastery. Or it could call for a guaranteed place in the public baccalaureate system for any student who successfully earns a certificate of mastery and satisfies the minimum admissions standards.

If, however, baccalaureate admission is the *only* motivator for students to earn a certificate of mastery (and there are ways, such as Running Start, even to circumvent that obstacle), the certificate of mastery risks becoming only an expression of some of the knowledge and skills needed for students on the college "track." This unintended consequence would be unfortunate, and would detract from the goal of helping students to acquire the knowledge and skills needed to work and live productively.

***Student learning outcomes in higher education*:** The standards-based movement in K-12 is part of a national reform effort that was precipitated by the 1983 National Commission on Excellence in Education report, "A Nation at Risk." That report reviewed the state of American public schooling and found it wanting. No similar crisis has provoked concerns about higher education. Nevertheless, prompted in part by assessment initiatives and new ways of thinking about

[4] Currently, all of the baccalaureate institutions except the University of Washington require a high school diploma. The UW, however, requires all students to have completed a high school core curriculum, whether they are entering as freshmen or transfer students. To enter a community and technical college, a student must be a high school graduate, at least 18 years old, and have a GED certificate, or a student must be enrolled in Running Start.

[5] Students applying from private high schools or schools from out-of-state, or students who have been home-schooled or are adults returning to college are exempt from earning a certificate of mastery.

teaching and learning[6], there has been a gradual shift in focus toward assessing the quality of higher education by its outcomes. Accreditation agencies, discipline-based national standards, assessment and accountability directives, and K-12 education reform all have guided colleges and universities to give attention to student learning outcomes by posing the question: What should students know and be able to do, and how will you know they have attained the desired knowledge and skills? These questions are generally raised at the academic program level (e.g., What do psychology majors need to know and be able to do?), but they give rise to more complex challenges about the knowledge and skills that college degrees represent.

The confluence of external forces calling attention to these issues suggests that the time is right for colleges and universities to push beyond course titles, credits, and grades, and instead to clarify the essence of college-level work. Students will in part be the drivers of this change, as growing numbers seek to enter colleges from nontraditional pathways (e.g., technical programs), with prior learning experience for which they would like to earn credit, and with competency-based credentials. In order to facilitate students' academic progress, colleges will need to be prepared to define and assess in greater depth not only what they teach, but what students learn. The Board may want to lead this effort through the Master Plan by calling for institutions to establish fundamental student learning outcomes for the statewide transfer associate degrees, and for baccalaureate degrees in a time frame that coincides with the full implementation of the performance-based K-12 system.

REMEDIAL EDUCATION

Ideally, all students entering higher education would be well prepared to engage in college-level studies. However, in every state some students enter college under-prepared. Some of these students come directly from high school; others are older adults entering or returning to college to enhance work-related skills, or immigrants for whom English is a second language.

To meet the needs of these students, all public two-year colleges and 81 percent of public four-year colleges and universities nationally offer at least one remedial course.[7] Despite this long-standing practice, and despite repeated national surveys that demonstrate no significant increase in remediation over 15 years, remedial education remains a controversial element of American higher education.[8] A large concern is cost. Experts estimate that approximately $1 billion is spent annually on remedial education. Still, this figure represents less than one percent of the $115 billion spent annually on public higher education in recent years.[9]

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[6] Barr, R. and Tagg, J. *From Teaching to Learning: A New Paradigm for Undergraduate Education.* Change, 1995.

[7] National Center for Educational Statistics, 1996

[8] National Center for Education Statistics, 1983, 1989, 1995

[9] Breneman, D. and Haarlow, W. "Establishing the Real Value of Remedial Education." Chronicle of Higher Education, April 9, 1999.

***HECB Remedial Education Study*:** Washington examined the status of remedial education when the 1996 Legislature requested the HECB to review the state's remedial education costs and practices, and to provide recommendations about appropriate state and institutional roles in its delivery (SCR 8428). The review found that all of the community and technical colleges, and five of the public baccalaureate institutions provide remedial education. But the study concluded that the cost to the state for remedial education in 1995-96 represented a very small portion of the higher education budget: six percent ($29,015,460) at the community and technical colleges, and one percent ($870,000) at the public baccalaureate institutions.

One recommendation that emerged from the 1996 study was to "strengthen the academic preparedness of first-year college and university students through a system of assessment and feedback that provides better and more timely information about high school student preparation and progress." The Board has pursued this recommendation through its support for the Graduate Follow-up Study (GFS),[10] which is tracking enrollment in math and English remedial education courses and conveying that information to the high schools those students attended.

For the class of 1997, the most recent year that data are available, the GFS study reported that almost 46 percent of the students who entered community and technical colleges and 12 percent of the students who entered public baccalaureate institutions enrolled in a remedial *math* class. By contrast, fewer students required remedial work in *English*: only 24 percent at the community and technical colleges, and 3 percent at the baccalaureates.

***Discussion*:** As education reform evolves, students who meet the performance standards in K-12 will be better prepared for college. For this reason, the demand for remedial education from students entering college *directly from high school* should gradually decline. The results of the education reform effort, however, will not become evident until students have been exposed to a full competency-based program of study – 2008 at the earliest. In the interim, initiatives that build communication between faculty who teach high school students and those who teach first-year college students should be encouraged. Projects of this nature could help clarify the expectations of what students should know and be able to do to meet the academic demands of each level.

One example of a collaborative project currently underway is a review of the Math Placement Test administered by five of the baccalaureates. Five baccalaureate faculty, and two high school teachers are revising the test to create a better fit with both college courses and high school preparation. They are working to eliminate test items that are redundant or test a skill of little importance, and to add more authentic "story problems."

[10] The Graduate Follow-up Study is a project supported by agencies representing K-12 education, the community and technical colleges, state universities, and Employment Security. Its goal is to provide information that will help schools assess and upgrade student preparation for college level work or entry into the job market. In 1997, 238 of the 244 high school districts participated in the study.

The Board has no direct authority for, or policies governing college placement tests. However, the work that has begun in connection with the competency-based admissions standards initiative provides a natural bridge to further study of the relationship between the content of current placement tests to the graduation requirements and performance standards expected of K-12 students.

DUAL CREDIT OPTIONS

Dual credit options provide students with opportunities to earn high school and college credits simultaneously. Washington offers more dual credit opportunities, with more clearly defined transfer agreements, than many states.

Although every state provides dual credit options for their high school students, most of these opportunities are confined to the two most traditional and established programs: **International Baccalaureate** and **Advanced Placement**. Students in Washington may have access, depending on where they are located, to three additional programs: **Tech-Prep, Running Start**, and **College in the High School.** From students' perspectives, these opportunities are attractive because they offer intellectually challenging, economically appealing opportunities to earn college credit and get an early start on their college education. The state benefits as well, because less state support is needed to fund the college-level work.

Alternatively, students may choose to earn college credit while still in high school by paying full tuition to take courses at a local college or university in the summer or evening. As more courses become available online, it will be even easier for some students to augment their high school curriculum by taking distance e-learning courses.

***International Baccalaureate Diploma Program*:** The International Baccalaureate Diploma Program is a comprehensive two-year curriculum that culminates in subject examinations and is offered at ten of Washington's 332 public and private high schools. Students study six academic areas with clearly defined standards and performance criteria to measure achievement. Students may engage in the full program, or may choose to take only some of the subjects offered. International Baccalaureate courses may be considered for college credit and/or placement on a subject-by-subject basis. In Washington, no public baccalaureate automatically awards college credit for International Baccalaureate courses; policies differ by institution.

***Advanced Placement Program*:** The Advanced Placement (AP) Program was developed by the College Board, and consists of courses offered in 32 subject areas. In 1998, 238 Washington high schools offered AP courses, designed to expose students to college-level material in courses taught by a high school teacher in a high school classroom. Like the International Baccalaureate, the program has common standards and performance criteria. Achievement is measured by a standardized test in each subject area; students pay $75.00 per test. To encourage students to participate in AP courses, states have tried different approaches. At one time, North Carolina

paid the test fee for any student wishing to take the AP English or mathematics examinations. This program has been discontinued.

Although AP examinations are recognized throughout the country for the purpose of generating college credit, there is not a commonly recognized score that is accepted for transfer to a college or university. In fact, acceptable scores may vary by department within an institution, and some departments may not accept for credit an AP exam passed at any level.

Given this variation in policy nationally, it is significant that in 1998 Washington public baccalaureate institutions adopted a uniform AP credit policy to facilitate student transfer among regionally accredited postsecondary institutions. The policy states:

> *Credit awarded for an AP score of 3 or better will be accepted in transfer from Washington regionally accredited institutions. These credits will transfer as elective credit, or will apply to general education or major requirements as specified by the receiving institution's AP credit policies.*

This policy is applicable, however, only to students moving from one Washington public college or university to another. Students applying directly to baccalaureate institutions from high school and seeking to earn college credit for AP work are still subject to individual institutional policy.

***Tech Prep*:** Tech Prep is a national school-to-work transition program that provides technical preparation for Washington State high school students. This dual credit program links the high school curriculum with the curriculum of a community or technical college. It includes broad course work in the liberal arts, as well as a foundation in applied mathematics, science, and communications on which specific job-related technical skills are built.

***Running Start*:** In 1990 the Legislature created the Running Start program as part of the "Learning by Choice" law designed to expand educational opportunities for public high school students. Running Start was intended initially to provide opportunities for qualified eleventh and twelfth grade students to take college-level courses at the community and technical colleges. Three baccalaureate institutions (Central Washington University, Eastern Washington University, and Washington State University) were added to the program in 1994 to improve access for students living in school districts where no community college was located.

The program is funded through K-12 basic education funds that are transferred to the college the student attends. For this reason, students pay no tuition. However, they must purchase books and supplies and provide their own transportation.

Students enrolled in Running Start earn high school and college credit simultaneously. One high school credit (usually earned by completing a full academic year of course work) is equivalent to five quarter credits or three semester credits earned at the college level. These credit equivalencies are determined by the State Board of Education.

- **Size of program.** Generally, any student who has attained junior or senior status, and can pass a standardized placement test may enroll in Running Start. About 11,600 students, representing approximately four percent of the state's high school population, took part in 1997-98, at every community and technical college. Program sizes ranged from 26 students at Lake Washington Technical College to 720 students at Whatcom Community College. Relatively few students (150) participated at the baccalaureates.

Growth of the program has begun to slow; while the program grew by 35 percent in 1995, it grew only by 18 percent in 1996, and 13 percent in 1997. If the current trend continues, the *percentage* of students enrolling in Running Start will begin to level off, growing only in proportion to population.

- **Student profile:** The profile of the 1997-98 Running Start students was similar demographically to the characteristics of students in previous years. The majority (59 percent) were female; over 14 percent were students of color. Approximately 70 percent enrolled in academic courses, averaging 8 to 10 credits per quarter. Forty-one percent of the students worked part time.

  Institutional research conducted by both the University of Washington and Western Washington University indicates that the early cohorts of Running Start students have been successful in their college work. At the University of Washington, almost 41 percent of the 88 Running Start students who entered the UW in fall 1993 graduated by spring 1997. Thirty-five percent were still attending, and 24 percent had left the university. Similarly, 54 percent of the 59 Running Start students who entered WWU in 1994 have graduated.

- **Transfer of Running Start students:** Colleges admit students with dual credit as freshmen in order to assure that they receive all the benefits of first year entering students, while still recognizing their transfer credit for purposes of placement after admission. This practice generally works to the students' advantage, as it assists with their eligibility for financial aid, freshman orientation, residence hall assignments, and National Collegiate Athletic Association status, to name just some of the services affected. Whether this practice encourages students to move expeditiously toward completion of their undergraduate degrees is still unclear, although the reports from Western Washington University and the University of Washington on the first students to graduate with Running Start credits are encouraging.

- **Discussion:** Running Start has provided students with a challenging, economical alternative pathway to pursue academic and vocational interests. It introduces them to the rigor of college-level work, and enables them to graduate from high school with college credits already in hand. The program, however, has not been without controversy, with concerns raised about administration, student support services, transfer, and the students themselves — specifically, the intellectual and social readiness of sixteen and seventeen year olds to be on college campuses.

The administrative and support services concerns are described in the December 1998 Annual Progress Report on Running Start prepared by the State Board for Community and Technical Colleges. The report acknowledges there are "several issues related to educational funding and the movement of students between the K-12 and college systems that have grown out of the program." The report lists concerns expressed by K-12 administrators that the "shift of funds to the colleges...have made it more difficult for some high schools to maintain comprehensive programs, especially in college preparatory courses"(e.g., Advanced Placement). It also cites a need for more counseling programs "where the impact of advising Running Start students has resulted in increased workloads."

The growing numbers of students graduating with Running Start credits will provide an excellent opportunity to study the Running Start program and assess its success in encouraging students to consider college, to take college courses, and ultimately, to earn college degrees. Similarly, it will be valuable to study the characteristics of students who thrive in a college environment while in high school, and the characteristics of the high school and college environments that affect students' success. This information will assist counselors and teachers to better meet students' needs. As education reform advances into the high schools, it will be important to analyze the impact of the certificate of mastery upon students' enrollment in Running Start.

College in the High School: Although the terms, "Running Start" and "College in the High School sometimes are used interchangeably, they are different programs. College in the High School (CHS) courses are offered in a high school classroom during the regularly-scheduled school day, and are taught by high school teachers. The college that provides the curriculum for the course awards credit. Students pay a fee to take the class, although it is generally lower than the tuition a college would charge. Students also purchase their own books and supplies. By contrast, Running Start courses are offered on a college campus, usually during the regularly-scheduled school day, and are taught by college faculty. Students pay no tuition, but purchase their own books and supplies.

To get a better understanding of how CHS operates, HECB staff conducted a telephone survey of 76 public and private baccalaureate institutions and community and technical colleges. The survey revealed that CHS programs vary considerably:

- by cost to the student,
- the degree to which high school teachers are oriented to the college curriculum,
- the level of involvement of college faculty,
- the rigor of the administrative policies governing student participation, and
- by size.

For example, costs to the student ranged from $0 to $215; some had orientation programs for high school teachers that lasted several days; others had no formal orientation for teachers.

Although some community colleges (e.g., Bellevue, Edmonds) and universities (e.g., University of Washington) have been delivering CHS classes for many years, CHS is still a relatively new dual credit option in Washington. The six public baccalaureate institutions and community and technical college system agreed in 1998 on a set of policies designed to identify best practices, clarify expectations, and bring greater uniformity to the program.

- **Discussion**: College in the High School provides a pathway for students who would like to earn college credit, but would prefer to disrupt their high school experience as little as possible. High school teachers enjoy teaching an advanced curriculum, even though they are sometimes faced with the practical challenge of teaching classes where some of the students are enrolled for college credit, and some are not. Given these advantages, and the reluctance by some high schools to support Running Start, CHS programs are likely to grow and provide additional choices for students.

TRANSFER

***Statewide Transfer Degree*:** The Board has responsibility for approving statewide transfer agreements that are developed by the provosts at the baccalaureate institutions, and the Deans of Instruction at the community and technical colleges. Currently, one statewide transfer agreement exists: for the Associate of Arts degree. The agreement was developed in 1985 and refined over time to facilitate transitions of students from community and technical colleges to baccalaureate institutions. Community college transfers are readily accepted for admission by baccalaureate institutions, although access could change as enrollment pressures begin to mount. Community colleges in Washington play a key role in providing a path to a bachelor's degree, with over one-third of all baccalaureate degree graduates taking a portion of their studies at a state community college.[11]

A second transfer degree, the Associate of Science, is being developed to address the needs of students intending to transfer to science-related disciplines. Experience has shown that the requirements of the Associate of Arts transfer degree do not provide students with adequate lower-division science, mathematics, or discipline-specific prerequisites needed for junior-level program entry. Institutional research has demonstrated that students transferring into science, mathematics, engineering, and computer science extend their time-to-degree because they need to take additional lower-division courses. Approval of the new transfer degree should come before the Board within the next year.

[11] *1997-98 Articulation and Transfer in the State of Washington Report.* State Board of Community and Technical Colleges, December 1997.

Transfer by majors: The Transfer by Majors program is a joint academic advising initiative recently developed by the community and technical colleges and the baccalaureate institutions. It is directed toward students enrolled in an Associate of Arts transfer degree program, and is intended to reduce a student's time-to-degree by providing specific, discipline-based advice to guide a student's academic choices. Students are encouraged to select a transfer institution and major area of study during their freshman year. They are matched with advisors who can assist them in identifying the requirements they should satisfy as part of their associate degree. The baccalaureate institutions receive the names and intended majors of students who expect to transfer to their campuses, and can initiate contact with those students. This program was piloted at five community and technical colleges in 1995-97, and expanded to all of them in 1997-98.

Upside-down degree programs: Most baccalaureate academic programs are constructed to provide a breadth of course work in the first two years, with in-depth study saved for the latter two years. The "upside-down" degree inverts the traditional sequence of courses. Students completing community college technical degrees with strong academic and technical components (e.g., nursing, forest technology, human services, etc.) may earn their general education or liberal arts credits in the *last* two years of their program. The Evergreen State College has extensive agreements with community and technical colleges to provide "upside-down" degrees. Western Washington University's Fairhaven College, Eastern Washington University, and Central Washington University have limited offerings or variations of the upside-down program.

Two-plus-two programs: All of Washington's public baccalaureate institutions offer two-plus-two programs. These articulation agreements are between academic departments and enable students to transfer directly into a major. Under this model, the course work leading to the associate in arts degree (the first two years) is offered by the community college; the course work leading to the baccalaureate degree (the last two years) is offered by the four-year college or university. In most instances, two-plus-two programs are offered on a community college campus, off-campus center, or military base to serve the access needs of place- and time-bound students. Applied and professional programs most often take advantage of the two-plus-two model.

IMPACT ON ENROLLMENT

- *What would be the impact upon enrollment if: the expectations for exiting K-12 and entering baccalaureate education were better aligned, more students took advantage of dual credit options, and student learning outcomes were routinely defined, assessed and documented?*

Based on our review of current articulation policies and practices, the short answer to this question, at least for the time frame of the next Master Plan, is "we don't know." Although it makes sense to assume that students will progress more efficiently as the sectors become better connected, too many pieces of the system are in transition or "out of sync" to make predictions about enrollment.

The arena of dual credit options illustrates one reason why predictions are difficult. Running Start enrollments may increase if students choose to avoid the certificate of mastery. Or, Running Start enrollments may decline if College in the High School programs begin to expand. AP enrollments may decline if students opt for Running Start or College in the High School. Or, AP enrollments may rise as more high schools subscribe to online AP opportunities, or the state elects to fund AP examination fees in selected courses.

What we *do* know is that K-12 reform will become fully operational in the next decade, and many of the policy decisions that will guide student choices will emerge. At the same time, colleges and universities will be working to clarify the student learning outcomes that define college-level work. The challenge for the state and HECB will be to build more and better connections to bridge all of the sectors, and create opportunity for all prospective students to gain access to higher education.

➢ *What policies and practices affect students' academic progress?*

Both the baccalaureate institutions and the community and technical colleges have implemented institutional policies to encourage students' academic progress. This section of the paper will review examples of practices currently in place.

***Graduation efficiency*:** The public institutions have long been attentive to enhancing student progress. Five years ago, in response to a legislative directive, the HECB prepared a study of time-to-degree. The study revealed that the factors influencing time-to-degree were due in part to student choice and in part to institutional policies and practices. Although some of the students' choices (e.g., dropping courses, retaking classes to improve a grade) could be influenced by institutional policies, many actions that extended time-to-degree (e.g., attending part-time, working full- or part-time, stopping out to pursue other interests) were beyond the institution's control. The study identified a variety of institutional factors that could be addressed, such as making high-demand courses needed as prerequisites more available, clarifying general education and transfer requirements, revising course "drop" policies, and improving academic advising. The institutions have subsequently implemented many of these reforms.

Out of this work emerged a new approach to academic progress. Researchers at the University of Washington proposed a measure of graduation efficiency, rather than time-to-degree, as an improved way of assessing students' progress through the institution. They argued that the elapse of time was less important in judging students' progress because some students prolonged their degrees through patterns of attendance or employment that affected only the student. Their choices did not consume state resources or displace other students. Rather, it would be more effective to determine how efficiently students progressed. In other words, how many credits did students take compared to how many they were required to complete for the degree? The graduation efficiency index is now one of the performance measures used for legislative accountability reporting, and institutions are striving to address the practices that affect it.

***Prior learning assessment*:** Prior learning assessment is the process of waiving academic requirements or awarding academic credit for learning acquired outside of the classroom, before matriculation at a postsecondary institution. It is an accepted practice at most Washington institutions in its traditional forms: advanced placement, course challenges, or standardized tests like the College Level Examination Program (CLEP). Both The Evergreen State College (TESC) and Eastern Washington University (EWU) have well-established prior-learning assessment policies that offer *portfolio* assessment of prior learning. Portfolio assessment permits students to document prior learning in an organized compendium of essays and examples of prior work. Faculty judge the quality of the work and award up to 45 quarter credits (representing approximately one year of academic work). Credit limitations are imposed by the accreditation agency. In 1996 the Legislature appropriated $100,000 to the HECB to seed prior-learning assessment projects at Central Washington University and The Evergreen State College. Both projects involved community and technical colleges as well.

***Guaranteed four-year graduation*:** Eastern Washington University and Washington State University have established majors that guarantee graduation in four years. Students are required to sign an agreement indicating that they will:

- Choose one of the majors that guarantee graduation in four years;
- Declare a major at the beginning of their freshman year;
- Begin college ready for college-level classes;
- Take a minimum number of credits each quarter;
- Take a required sequence of courses each quarter; and
- Maintain the minimum grade-point average requirements.

This program has *not* been very popular among students. The institutions report that students are reluctant to lock themselves into a specific major at the beginning of their college experience, and view the program to be too inflexible to meet their needs.

***Pilot projects at community colleges*:** The community and technical colleges have been attentive to enhancing student academic progress, and are currently in the process of piloting several new programs. Two examples include Green River Community College's (GRCC) alternative five-week summer sessions and Shoreline Community College's (SCC) Credit Express option. GRCC's alternative summer sessions serve students outside of the college whose academic schedules do not permit them to start during the regular summer session. SCC's Credit Express option, offered the last five weeks of winter and spring quarters, allow students to take a course in a compressed period of time that they need to move forward in their academic program.

***Discussion*:** The examples cited above demonstrate ways that institutions have been attentive to enhancing students' academic progress. As institutions assume responsibility for removing barriers to student progress, it is worth considering what state-level policies might encourage students to assume responsibility for their progress, as well.

As the enrollment pressures mount in the next ten years, the state may want to create incentives for students to move efficiently toward their degrees without adversely affecting the quality of their educational experiences. Students need time to explore academic pathways and find the ways that work best for them. Still, there is precedent for imposing some limitations.

Both federal and state financial aid policies stipulate the maximum number of credits for which students may receive aid, and the number of credits students need to earn in an academic year to demonstrate adequate progress. For example, students receiving a State Need Grant may exceed the published program length, as defined by time or credits, by no more than 25 percent. Federal regulations permit students to exceed program length by no more than 50 percent. The HECB may want to consider in the Master Plan recommending a similar, overarching policy that would affect all students, regardless of whether or not they received financial aid. This policy would cap the number of state-supported credits students could earn.

OUTREACH SERVICES

Child #1. "What are you going to do after you graduate from high school?"
Child #2. "I'm going to college."
Child #1. "Me too."

The vast majority of young children expect to go to college. But the reality is that children whose parents graduated from college are the most likely to earn a degree. That is, those who are from the highest income quartiles, are white, and have parents with college degrees will have a much greater probability of realizing their aspirations.

According to a college qualification index developed for the National Center for Education Statistics, "slightly over half of low-income high school graduates are considered qualified to go to college, compared with 86 percent of high-income students. And by this index, African-American and Hispanic students are far less qualified than white students." Moreover, the gap in participation between low-income and high-income groups is about as wide today as it was in 1970. Income influences the type of college students attend, as well. Low-income students are more likely to enter community and technical colleges rather than baccalaureate institutions, and are significantly less likely to earn baccalaureate degrees.[12]

These facts have led analysts like Lawrence Gladieux and Watson Swail of the College Board to frame the policy dilemma in this way:

> *Public policy has focused too narrowly on access. The question is, How can we better promote persistence and completion among students who are economically and academically at risk?*

[12] Gladieux, L. and Swail, W. *Financial Aid is not Enough. Improving the Odds of College Success*. College Board Review, Summer 1998

Researcher Laura Rendon points to the urgency of this task when she notes,

> *By the time students reach the twelfth grade, it is too late to...increase the numbers of students who are ready for college. In fact, it could be said that students begin to drop out of college in grade school.*[13]

When students like these leave high school and enter the work force, it becomes even more difficult for them to reenter education, as there is no central location for information that can support them in their quest to negotiate the system. This is unfortunate, because there is considerable information available. However, whether it is available in the students' own language, or in a form or at a location that is comfortable for students of different cultures to access, is less certain.

Higher education's responsibility: Public discussion of the value of an education has been vibrant in this country since Thomas Jefferson extolled the virtues of an educated citizenry in a democracy. Although the *public* economic and social benefits of an education are rooted in the beginnings of this country, policy debate in more recent times has given greater prominence to the *private* or *individual* economic and social benefits of education. For this reason, a quick overview of both types of benefits is provided in Table 1.

Table 1. Overview of Benefits Provided by Higher Education

	INDIVIDUAL (PRIVATE)	PUBLIC
ECONOMIC	• Higher salaries and benefits • Employed at higher rates and with greater consistency • Higher savings levels • Improved working conditions • Personal and professional mobility	• Increased tax revenues • Greater productivity • Increased consumption • Increased workforce flexibility • Decreased reliance on government financial support
SOCIAL	• Improved health/life expectancy • Improved quality of life for children • Better, more informed consumer decision- making • Increased personal status • More hobbies and leisure activities	• Reduced crime rates • Increased charitable giving/community service • Increased quality of civic participation • Social cohesion/appreciation of diversity • Improved ability to adapt to and use technology

[a] These benefits are described in greater detail in the report, *Reaping the Benefits*, The New Millenium Project on Higher Education Costs, Pricing and Productivity. The Institute for Higher Education Policy. Washington, D.C., April, 1998.

[13] Rendon, L. *Access in a Democracy: Narrowing the Opportunity Gap* (unpublished paper presented at the Policy Panel on Access, National Postsecondary Education Cooperative, September 9, 1997), 7.

It is clear that all citizens benefit when more people are educated. Yet it is also clear that certain groups of citizens are less likely to pursue higher education, even if particular individuals within those groups manage to excel. Without intervention, the gap between the "haves" and "have-nots" will only widen, to the disadvantage of all citizens.

There is ample opportunity to expand outreach efforts. According to a 1995 report from the National Center for Education Statistics, "only one-third of colleges and universities sponsor pre-college outreach programs for disadvantaged students, most such programs rely on federal funds, and faculty involvement is thin."[14] Yet, many of these initiatives have proved effective in helping students to make the academic choices that will prepare them for higher education, or to gain the practical assistance (e.g., financial aid, career, and college admissions information) that will make it feasible to reach their aspirations. Programs for reentry students are even fewer in number and are generally targeted to specific groups of people.

***Examples of pre-college outreach programs at Washington public baccalaureates*:** The public baccalaureate's outreach efforts to pre-college age students generally consist of informational visits to local middle and high schools, and organized campus visits. In addition to the efforts of individual campuses, many institutions participate in the state-level activities organized by the Washington Council on High School College Relations. (See following section)

- Washington State University-Tri Cities works with the Yakima Valley/Tri-Cities Mathematics, Engineering, Science Achievement (MESA) Program to invite students to campus and raise their awareness of career opportunities available to them.

- Eastern Washington University teaches a College in the High School applied psychology course in reading at 12 local schools. The students earn college credit, and are trained to be peer tutors who can assist high school students who have difficulty reading.

- The Evergreen State College (TESC) has worked out a bridge program with Northwest Indian College (NWIC). Students who do not meet Evergreen's admissions standards can register with Northwest Indian College. TESC faculty members carry joint faculty appointments with NWIC and TESC.

- Central Washington University organizes an "Expanding Your Horizons" workshop for fifth to ninth grade girls. This year the day-long workshop featured over 25 learning experiences conducted by women professionals in science. Over 100 girls attended. CWU also has a website designed to reach Hispanic youth and encourage them to consider CWU as their school of choice.

[14] Gladieux, L. and Swail, W. *Financial Aid is not Enough. Improving the Odds of College Success*. College Board Review, Summer 1998

***Examples of statewide pre-college activities*:** The Washington Council on High School College Relations (WCHSCR) is composed of administrators and counselors from public and private secondary and postsecondary institutions. The primary responsibility of WCHSCR is to "promote responsiveness to the needs of students moving from one level of education to another." The council sponsors a variety of activities to accomplish this goal, including:

- The annual High School/College Conference program for high school juniors. Admissions officers from Washington's baccalaureate institutions and regional community colleges meet with high school juniors at different locations around the state.

- The annual Community College Conference for transfer students. Admissions officers from Washington baccalaureate institutions visit each of the community colleges together during the fall to discuss transfer options with students.

- The High School/College Evening Conference. Admissions officers from Washington's baccalaureate institutions meet with high school seniors and working adults at the local community college during the evening of the Community College Conference.

- Publication of a Washington college guide titled *The Washington Higher Education Book.* This reference describes majors, requirements, costs, and other pertinent details about all of the Washington baccalaureate institutions and community colleges.

Coincidentally, the council convened the Commission on Early Outreach in 1999 to examine how to proceed with early outreach efforts and target eighth and ninth grade students, the period when the council believes institutions begin losing prospective students.

***Examples of pre-college and reentry programs supported by the HECB*:** The Board is already engaged in outreach activities through administrative support to several programs, and through the distribution of information.

- The federally-funded **National Early Intervention Scholarship and Partnership (NEISP) Program** has been in place since 1994, and is targeted toward low-income and disadvantaged students in the ninth through twelfth grades. NEISP Scholars (participants) spend eight hours a week during the school year and sixteen hours a week in the summer discovering the importance of education, building academic skills, remedying academic deficiencies, identifying career interests, exploring college opportunities and financial aid, and finding mentors in their chosen fields. For each year of successful program participation, Scholars receive a $3,000 scholarship, redeemable at almost any postsecondary institution in Washington. NEISP currently serves 270 scholars and provides an additional 3,000 at-risk students with early-outreach activities. The Board, in partnership with the Governor's Office, has applied to continue and extend NEISP program activities under a new federal initiative, Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP).

- **The Guaranteed Education Tuition (GET) program,** initiated in 1998, allows Washington families to plan for the future by purchasing college tuition units. Participants buy units at the cost of current tuition prices. One year's worth of tuition "units" purchased at current prices can be applied to one year's worth of tuition in the future—no matter what the price might be then. The GET program is engaged in community outreach efforts to encourage parents to plan for their children's education and to inform parents and students about the services GET can provide.

- The state-funded **Washington State Displaced Homemaker Program** was initiated in 1979. The Board contracts with non-profit and governmental agencies throughout Washington to provide services to displaced homemakers — individuals who have spent at least ten years as full-time homemakers, are not gainfully employed, have lost their primary source of financial support, and need assistance to secure employment. The centers provide a variety of services, including job-search assistance, counseling, instruction, and information about education and employment opportunities.

- **State Work Study community service projects** are awarded competitively each year. Several of these projects will focus on providing services to young people in school districts or community centers. For example, at Central Washington University, Work Study students are working with high school students enrolled in the alternative high school located on CWU's Ellensburg campus.

The Board also distributes information about financial aid through its web site and through several print resources. For instance, one set of brochures, published in English and Spanish is targeted toward middle-income students and parents. The brochures stress the importance of academic preparation and of planning for financial aid. Another resource, the Financial Aid Handbook and companion brochure, is distributed to community organizations at their request. The handbook describes the availability of financial aid and explains the application process.

***Discussion*:** One critical question for the 2000 Master Plan will be, "How does the state create access for greater numbers of students?" Two equally pressing and related questions are: "How can we better promote persistence and completion among students who are economically and academically at risk?" And, "How do we make information about education accessible to all prospective students, including reentry learners?"

Expansion of outreach services is one way that the state can address these issues. Although there are many state, federal, and community service programs in the K-12 schools to assist at-risk students, there are numerous opportunities for higher education to complement and enhance these ongoing efforts. The HECB in its Master Plan may want to recommend that the state develop age- and culturally-appropriate communication strategies to inform all prospective students about the benefits of postsecondary education, the academic and financial planning pathways that will lead to it, and the fundamental nuts and bolts to negotiate entry to the system.

Master Plan Policy Paper #6: Affordable Access to Postsecondary Education

May 1999

ISSUE AREA

How do issues of affordability affect access to postsecondary education?

POLICY ISSUES

1. What should be the state's goal, and its role in making postsecondary education affordable?
2. Should the state support students who choose nontraditional education pathways?

STUDY QUESTIONS

1. Why does affordable access matter?
2. Who pays for higher education, and how much does it cost?
3. What is the current HECB practice/policy regarding the state's role in ensuring higher education affordability?
4. What is the role of student financial aid and other assistance programs in making college affordable?
5. For what groups of students is affordability a barrier to access?
6. What is the future outlook?
7. What strategies should the state use to enhance the affordability of postsecondary education?

OVERVIEW AND POLICY CONTEXT

Why Does Affordable Access Matter?

Postsecondary education generates both individual and public benefits. Education beyond high school is perceived by most as a prerequisite to an economically and personally satisfying life. Individuals with a postsecondary education earn more and have greater opportunities for an improved quality of life than do those without it. Society in general also benefits from higher education. Citizens with a college education tend to contribute in greater measure, both economically and socially, to their communities than do those with less education (see Appendix A). Yet for many, the cost of this "ticket" to the opportunity for a more productive and satisfying life is more than they can afford.

Family Concerns About College Affordability

Several studies and public opinion surveys report that paying for college represents one of the most fundamental concerns of the average American family. As noted in a recent national report,[1] paying for college ranks second only to buying a home as the most expensive investment for the average family. Another national study commission reports that public concern about college prices is now on the order of anxiety about how to pay for health care or housing, and how to cover the expenses of taking care of an elderly relative.[2]

A report published by the Sallie Mae Education Institute[3] cites a nationwide opinion survey conducted by *The Washington Post (1996)* on what worried adults the most. The survey ranked college costs fourth in the hierarchy of what worries American adults. Fifty-eight percent of the respondents worried that a good college education is becoming too expensive — only slightly behind their concerns that the American education system will get worse instead of better; that crime will increase; and that AIDS will become more widespread.

Although people worry about the affordability of college, public opinion surveys continue to report that parents believe in the importance of higher education for their children. For example, a recent study commissioned by Sallie Mae and fielded by Gallup & Robinson, Inc.,[4] found that, almost across the board, parents of college-bound high school students believe a college education is worthwhile and will contribute to their child's future happiness and prosperity.

While parents believe in a college education's value, only one-third named current income as a college finance source. Fewer than two in ten indicated they had saved at least half of the costs for their child's education. The percent of less affluent parents of younger children who had saved was even lower. The lack of savings causes many parents to rely more heavily on current income to pay for their children's college costs; this is not an option for many, who turn to financial aid for assistance. Others will give up the dream entirely.

While most studies and public opinion surveys on the affordability of higher education have focused on parents of high school students, these concerns could be echoed by older students who no longer have parental support – and who may have children of their own.

What is "affordability?"

For purposes of this paper, the term "affordability" refers to whether the amount of money a student and his or her family must pay for a college education is within reach, with planning and a reasonable amount of personal commitment and sacrifice. The concept of affordability is *complex* — many partners contribute to making college affordable. And it is *relative*. For students from high-income families, affordability may not be an issue. For others, college is affordable only with substantial sacrifice and planning. For still others, paying for college with personal resources alone is not possible, even with planning and sacrifice.

"Affordability" also is *value laden*. The importance placed on higher education compared to other priorities, when funds are limited, plays a major role in determining the amount the public,

education institutions, private donors, students, and their families, are willing or able to pay for postsecondary education.

Recently, much debate has focused on rising college costs and what is perceived by some as an "affordability crisis." As background to the Board's consideration in developing the state's Master Plan for Higher Education, this paper explores the issue of affordability and considers what strategies might be employed to help make college more affordable for the state's citizens between now and the year 2020.

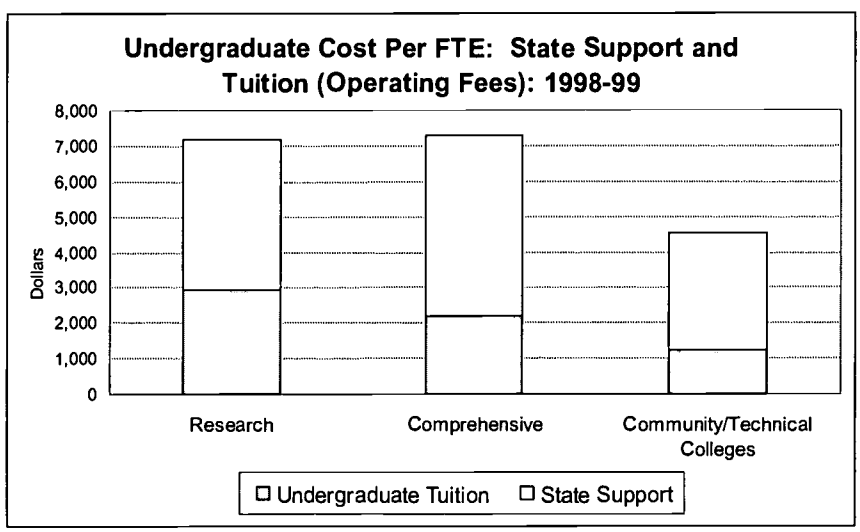
Who Pays for Higher Education?

With dispersed benefits accruing from higher education, it is reasonable to ask, who should pay? In Washington, as in other states, many partners provide funding for college, and each plays an important role in determining the affordability of postsecondary education. The state and federal governments, students and their parents, institutions, business, philanthropic organizations, and private donors all help finance the costs of college attendance.

The Role of the State. The greatest share of the cost of public postsecondary education is paid by the state, through appropriations to public institutions. By investing in the cost of education, the state helps to make college more affordable to state residents.

Figure 1 shows the proportion of the undergraduate cost per full-time-equivalent student paid by tuition and by state support in 1998-99.

Figure 1



The support of public colleges and universities comprises an *indirect* form of aid to resident students, available to all who qualify for admission, without regard to financial need. This

practice is demonstration of the long-standing public policy that widespread access to public postsecondary education is in the public interest.

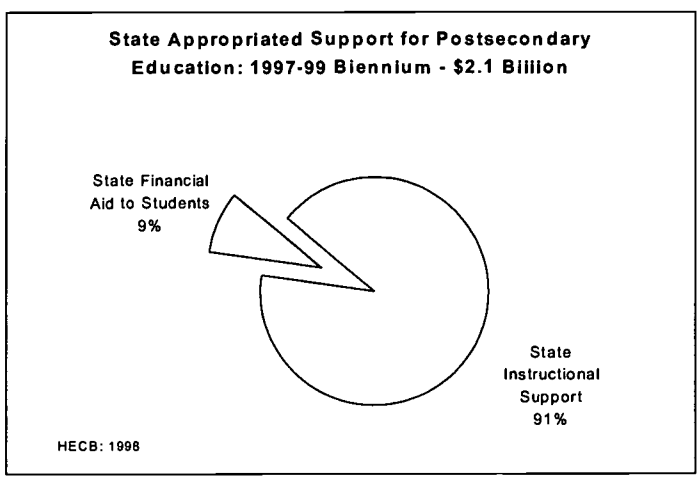
In addition to making public higher education generally affordable to residents through affordable tuition, the state also provides *direct* financial assistance to needy students attending both public and independent institutions in Washington. A small number of state-funded programs are intended to influence enrollment in specific shortage areas or to respond to specific state priorities. However almost all (96 percent) of the state-funded student financial aid administered by the Higher Education Coordinating Board is provided to individuals who could not otherwise afford to attend, even by assuming a large debt.

The state's commitment to need-based student financial aid demonstrates state policy and reflects HECB policy that the opportunities and benefits of a postsecondary education should not be denied to those who cannot afford to pay for it without assistance. (See Appendix B for a brief description of the various state-funded programs of student financial aid administered by the Higher Education Coordinating Board.)

In addition to these programs, in 1999 the Legislature, at the request of the Governor, appropriated funds for a new scholarship program. The Washington Promise Scholarship will be awarded to academically meritorious high school graduates whose family incomes fall within a specified range. Scholarships, which may be up to the equivalent of tuition at a community/ technical college, will help make postsecondary education more affordable to lower- and middle-income students who meet academic achievement standards.

As seen in Figure 2, during the 1997-99 biennium, state support for postsecondary education totals $2.1 billion. Of that amount, 91 percent is for state instructional support; and nine percent is for financial aid to students. Although financial aid to students represents a relatively small proportion of total state appropriated support for postsecondary education, it plays a critical role in providing grant assistance to Washington's lowest-income students.

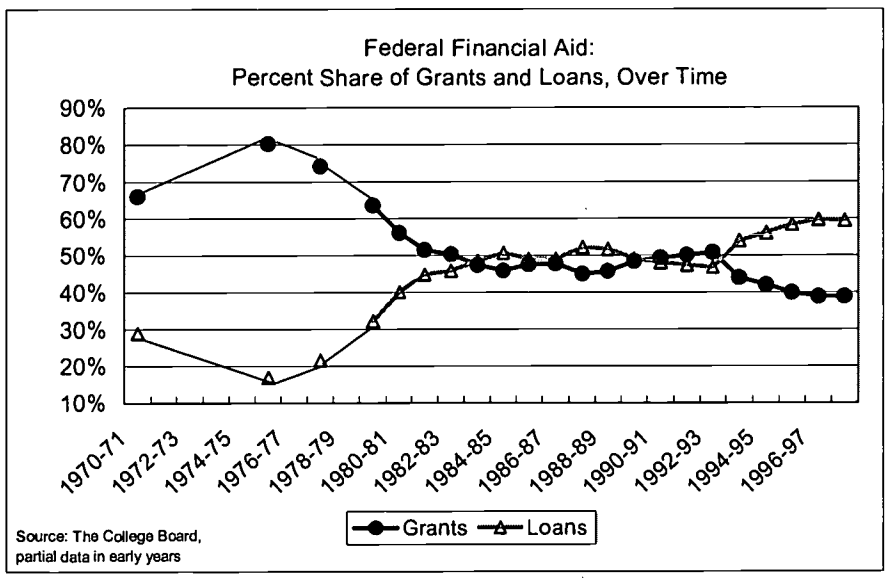
Figure 2



Note: State financial aid to students includes state appropriations to the HECB for student financial aid and funding provided to the State Board for Community and Technical Colleges for the Workforce Training Program.

Role of the Federal Government. Federal support for postsecondary education, with the exception of research grants, has historically been targeted almost exclusively as financial aid for needy students. The federal government funds three-fourths of the total student financial aid available to Washington students. As can be seen in Figure 3, below, over the last two decades, the emphasis of federal funding for grants and loans has reversed. Some of this shift was the result of a change by Congress that extended student loans to middle and upper income students. The state's investment in student financial aid — and particularly its support of the State Need Grant program — has helped mitigate the effect of the federal shift between grants and loans on the lowest-income students.

Figure 3



In 1997, the federal government enacted the Taxpayer Relief Act (TRA). This law, which became effective January 1998, provides new "financial aid" through the use of income tax credits, savings incentives, and limited deductibility for interest paid on student loans. In two ways the TRA marks a systemic change in the way the federal government assists students in financing higher education.

First, the benefits of the TRA are directed toward middle- and upper-income taxpayers, as opposed to the government's historical focus on providing student financial aid to lower-income students. Lower-income students who owe no federal taxes will not benefit, and those students whose family tax bill is less than the maximum credit will receive only partial benefits. Second, they use tax credits, or foregone revenue, rather than direct funding through the appropriations process.

Many additional students and their families will be eligible for federal assistance as a result of this new legislation that seeks to make postsecondary education more affordable to American taxpayers. It is estimated that once all the provisions of the Taxpayer Relief Act are fully

implemented, its cost will approximate the amount now provided through all other existing federal student financial aid programs combined.

The Role of Parents and Students. Parents and students contribute to the state's economy and help support higher education through the payment of taxes. As consumers of higher education, they are expected to pay as much toward their tuition and other education expenses as possible, given their financial circumstances. Only those who demonstrate the inability to pay, based on a federal need analysis formula, may receive assistance through the need-based federal and/or state financial aid programs.

The Role of Institutions. Institutions provide financial assistance to students through various means. Both public and private colleges waive tuition charges for segments of the enrolled population. In addition, private colleges dedicate a significant portion of their operating budgets for grants and scholarships to students who could not otherwise afford to attend these higher-cost institutions. Both public and independent colleges and universities also may provide financial aid generated through endowed or foundation funds.

Role of Business and Private Donors. Businesses, philanthropic organizations, and private donors also contribute to higher education. State businesses support the tax base from which appropriations are made, and many provide education assistance programs or scholarships for employees and their children. Many contribute to institutional endowment funds that are used to provide scholarships. Philanthropic organizations and private donors sponsor scholarships and also may provide direct support to institutions. Businesses themselves spend billions each year providing education and training opportunities to employees both on-site and through tuition support for instruction by higher education providers.

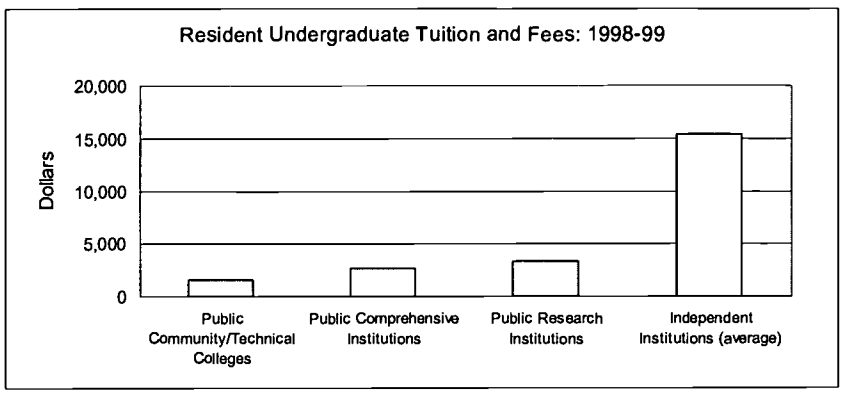
It is through the combined efforts of these disparate sources that access to affordable higher education is possible.

How Much Does College Cost?

The most obvious student cost associated with college attendance is for tuition and fees. However, students also incur other expenses that add to the cost of going to college. Other education-related costs include books and supplies and transportation. Most also must pay for room and board (or rent and other household expenses), and all incur other miscellaneous living costs.

Tuition and Fees. Tuition and fee charges differ by school type. Figure 4 shows the amount of tuition and fees charged by Washington colleges and universities to undergraduate, state residents during the 1998-99 academic year.

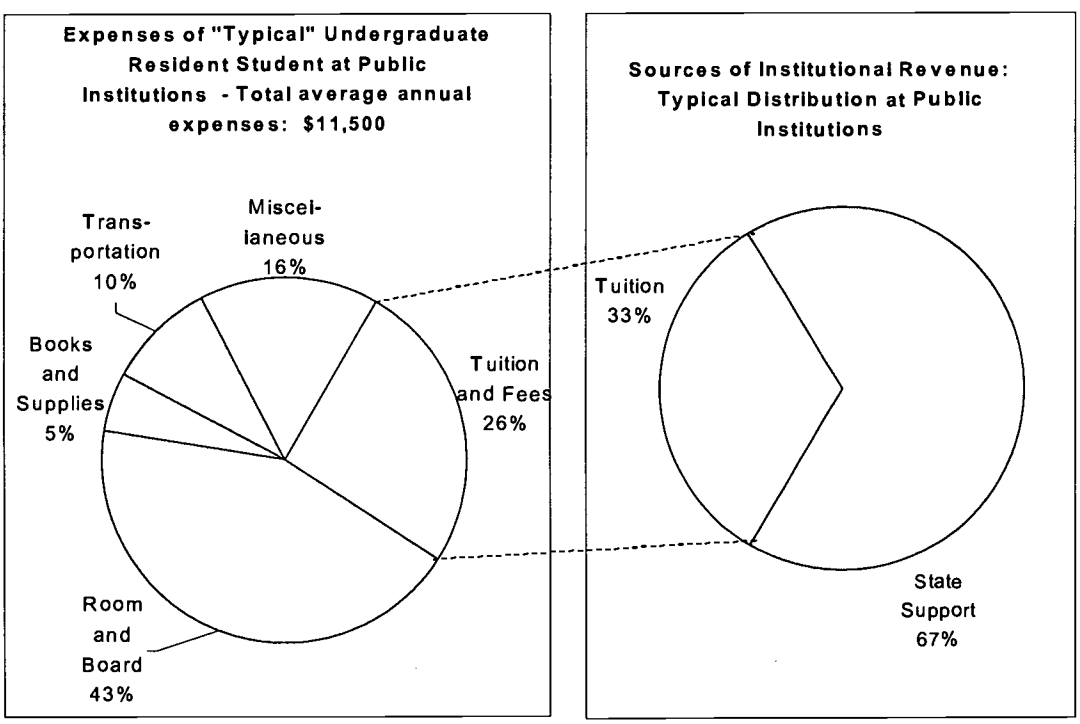
Figure 4



Graduate and professional students pay considerably higher tuition rates than do undergraduates. In Washington in 1998, the average public research institution's tuition and fees were $3,381 for undergraduate programs; $5,319 for graduate programs, and $8,709 for professional programs. At the public comprehensive universities, undergraduates paid $2,631 and graduate students paid $4,204.

As illustrated in Figure 5, below, tuition constitutes a part of the overall expenses faced by a student, and part of institutional revenue. While tuition is the most visible cost of college attendance, it is only a part of the overall expense faced by a student. Similarly, tuition represents only a part of institutional revenue. As illustrated in Figure 5, tuition represents about 26 percent of the expenses of a "typical" undergraduate, resident student at a public institution; and approximately 33 percent of the revenue at a public institution.

Figure 5

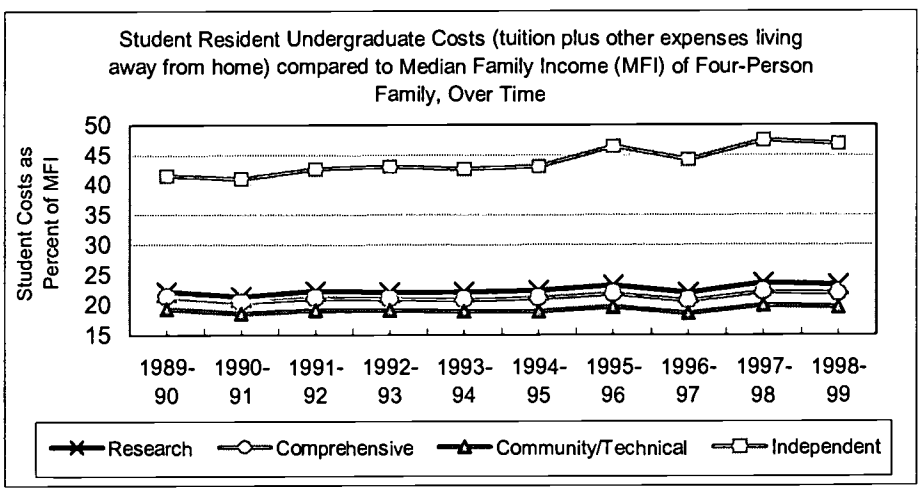


Other Costs. It is estimated that the typical resident, undergraduate student living in campus housing or in an apartment will pay $8,598 for non-tuition expenses during the 1998-99 school year.[i] Of this amount, $4,998 is for room and board, $1,134 is for transportation, $624 is for books, and the remaining $1,818 is for other miscellaneous expenses. If a student is not able to secure on-campus housing, increased rent can substantially impact the budget. Or a student who is able to and chooses to live at home may incur smaller room and board costs, but may have higher transportation costs than one who lives in a campus dormitory.

College Costs in Relationship to the State's Median Family Income. Recently, much concern has been expressed in the press about "spiraling college costs" — with particular reference to tuition increases. While the tuition charged students attending Washington's public institutions has increased over the last two decades,[ii] tuition rates at these institutions lag the average tuition of peer and national averages for like institutions.

Another way to think about affordability is to compare the increase in college costs to the change in the state's median family income. As illustrated in Figure 6, below, the percent of median family income required to meet college costs has remained almost constant over the past ten years at state-supported institutions. Costs as a percent of the state's median family income at independent colleges and universities have increased by approximately five percent during that period.

Figure 6



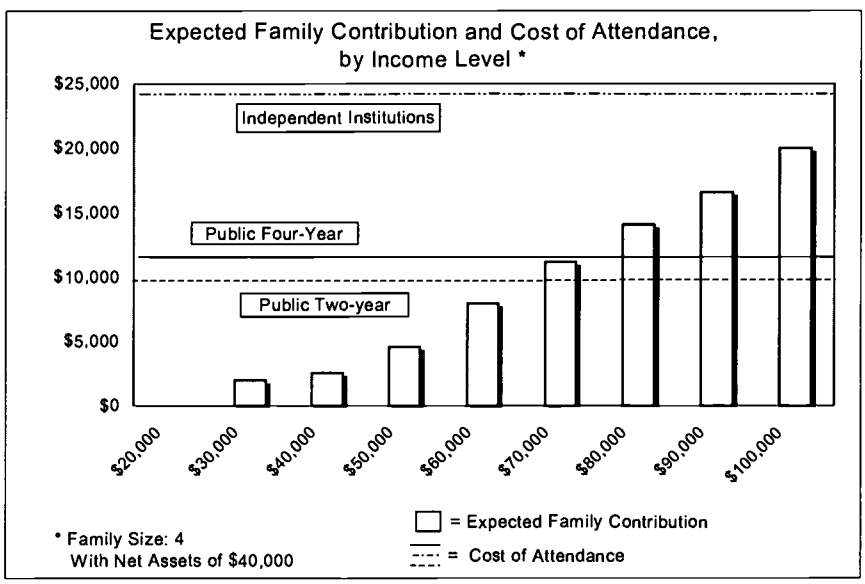
These data suggest that affordability at Washington's colleges and universities has not diminished in terms of the median income. However it is important to look at affordability in terms of how income translates into the ability to pay for college costs, particularly for families with incomes below the median.

[i] 1998-99 Washington Financial Aid Association budget.
[ii] See Appendix C for more detail.

Expected Family Contribution, Compared to College Costs. The federal government has established formulas to calculate the amount students and their families should be expected to contribute toward a student's college costs[5] based on the family's income and assets, family composition, and a variety of other factors that influence ability to pay. It is this "expected family contribution," subtracted from the cost of attendance at a particular school that determines whether a student qualifies for financial aid, and if so, how much.

Figure 7 shows how much typical families at different income levels are expected to be able to pay, compared to the nine-month, resident, undergraduate cost of attendance at public two-year, public four-year, and independent institutions in Washington. As can be seen, a family of four with net assets of $40,000 (not counting home equity or retirement funds) would have to earn $62,000-$70,000 per year to pay for college costs at a public institution from current income. Clearly, many lower-income families are unable to pay the cost of attending college without assistance.

Figure 7
1998-99 Academic Year



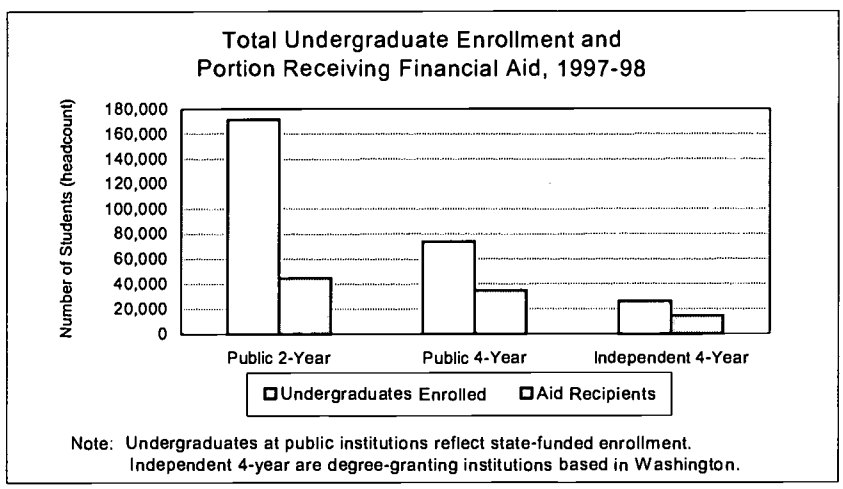
While paying for college represents a challenge for students from almost all economic strata, the issue of affordability is particularly acute for lower-income families, who have limited personal resources. The amount they have available for college expenses affects students' initial access to postsecondary education, as well as their ability to remain enrolled long enough to complete a certificate or degree.[6] For students from lower-income families, affordability is heavily influenced by the availability of student financial aid.

Role of Student Financial Aid and other Assistance Programs in Helping Make College Affordable

The broad principle inspiring the growth of most undergraduate student aid during the past 30 years has been that access to college should not be limited only to those with sufficient personal resources to cover the cost. The aim of federal and state policymakers generally has been to extend the benefits of education beyond high school to all who are qualified. This has meant awarding aid according to some measure of student and family need.[7]

The purpose of need-based financial aid is to fill the gap between the cost of attending college and the amount the student and his or her family can pay. Some students require only a small amount of assistance; for them, a loan to help with cash flow, or a part-time job is all that is necessary. Others, however, need a full complement of grants, work study, and loans. During the 1997-98 academic year, over 100,000 Washington students (approximately 40 percent of full-time, undergraduates) received some amount of need-based financial assistance to make their attendance possible. Figure 8 shows the proportion of undergraduate students in public two-year, public four-year, and independent four-year institutions who received financial aid during the 1997-98 academic year. Students attending some private career colleges (proprietary schools) also received financial aid.

Figure 8



Aid Types: Availability, Advantages, and Limitations. .Need-based student financial aid is awarded through three types of programs: grants, work study, and loans.

- ***Grants*** are non-repayable and not based on service or employment. Some – typically tuition waivers or scholarships – may be targeted to specific populations or include performance criteria. Most need-based grants are limited to undergraduate study, and nearly all are awarded to students with substantial need. Grants are particularly important to low-income students, who have little family support and who would find it daunting to earn or borrow the full amount they need to finance their education.

The state has played a critical role in providing funds for grants, most notably through the State Need Grant program. Support for this program has been of particular importance to Washington's lowest-income students, as federal support for student aid has shifted heavily away from grants and more toward loans. Grants provide a critical foundation of support for students with limited family resources and are viewed by students as the "best" financial aid. However, research indicates that grants are most effective in promoting persistence when they are combined with work study, and loans.[8]

- ***Work Study*** allows students to earn a part of their financial aid while they are attending college. Both the federal government and the state provide work study programs that encourage employers to hire needy students by reimbursing them for a portion of student wages. The state program offers the added advantage of employment that is related, wherever possible, to the student's field of study. Both programs have limited funding.

While not a "financial aid program" per se, many students help pay for their education by working at least part time while they are enrolled. Nationally, a large majority of undergraduates (79 percent) worked while enrolled during the 1995-96 academic year. Among those who considered themselves primarily students working to pay their education expenses (50 percent of all students), the average number of hours worked per week was 25. Students who considered themselves primarily employees taking classes (29 percent of all students), worked an average of 39 hours per week.[9]

Working part time while enrolled has been found to have positive benefits in addition to the amount of money that can be earned. However, the more hours students work, the more likely they are to report that their jobs either limited their class schedules or affected their academic performance. A recent study reports that about one in five freshmen who worked full-time — 35 or more hours per week — did not complete their first year, compared with one in 20 who worked one to 15 hours. [10]

While part-time work is an important resource for most students, the price of college has outpaced the ability of students to earn enough to pay-as-they-go. As observed in Table 1, a student living away from home to attend college would have to work more than full time while enrolled, or earn far more than the minimum wage to cover college costs.

Table 1

Weekly Hours of Work/Hourly Pay Rate Necessary to Earn Full Cost of Attendance 1998-99 Academic Year

	Weekly Hours of Work at Minimum Wage	OR	Hourly Pay Rate Required If Working Part Time
Public Two-year	49 Hours		$12.50
Public Four-year	56 Hours		$14.30
Private Four-year	117 Hours		$29.70

- ***Loans*** are the third type of student financial aid. Representing 60 percent of the financial aid available to Washington students, loans are an important resource. Since 1993, federal loans have been available to all students, regardless of financial need. Students at all program levels and at all types of institutions borrow. Table 2 reports national data compiled in 1995-96, showing the percent of students who borrowed and the average total principal borrowed by type of degree/certificate.[11]

Table 2

Percentage of Recipients Borrowing in One or More Years And Average Total Principal Borrowed, by Type of Degree/Certificate National Data — 1995-96

Degree/Award Received	% Students Who Borrow in One or More Years	Average Total Principal Borrowed
Certificate	53	$5,597
Associate	42	$5,059
Bachelor's	60	$13,269
Master's	63	$19,245
Doctoral	59	$18,045
Professional	73	$59,909

Source: United States General Accounting Office

The United States General Accounting Office study cited above, reports that about half (52 percent) of all undergraduate students use student loans to finance their education. The average debt for a public school graduate in 1995-96 was $11,500; for students graduating from a private college, it was $15,500. Twenty-five percent of private four-year graduates and 16 percent of public four-year graduates borrowed at least $20,000; and 60 percent of the professional students borrowed a principal of $50,000 or more.

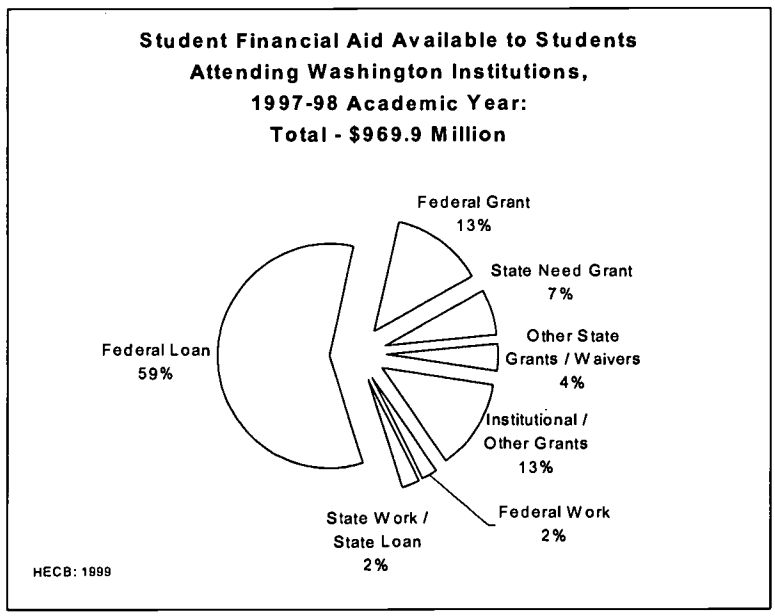
While student loans provide an immediate source of assistance, loans must be repaid, with interest. Over the life of repayment, the cost of a loan adds substantially to a borrower's actual cost of attendance.[iii] Student loan debt is a growing and very serious problem for a significant number of students and families.[12]

▸ **Distribution by Source and Type.** Of the $970 million of financial aid awarded to students attending Washington institutions in 1997-98, nearly three-fourths was provided through federal programs; including nearly 60 percent in student loans. As can be seen below, state programs comprised 13 percent of the total amount available, with institutions and private donors also providing 13 percent. Thirty-six percent of the financial aid awarded was in the form of grants, and four percent was in the form of work study. The distribution of student financial aid

[iii] See Appendix D for loan limits and monthly loan repayment schedules.

available to students attending Washington institutions during the 1997-98 academic year by source and by type of aid is shown in Figure 9, below.[iv]

Figure 9



Notes: (1) Approximately 88 percent of all funds are awarded on the basis of federal "need" criteria.
(2) Need-based tuition waivers awarded by public institutions and grants from the 3½ Percent Institutional Aid Fund are included in "Other State Grants/Waivers." "State Work"/ "State Loans" include estimated awards from the 3½ Percent Fund for work and loan.

Impact of Financial Aid on Access and Persistence. Each of the types of aid plays a vital role in providing access to postsecondary education, and in enhancing "persistence." A state-specific research study conducted for the Board in 1996[13] confirmed national research findings that both the type and amount of financial aid influence student decisions to enroll and continue (persist) in higher education. The research concluded that, while financial aid does not entirely mitigate the negative effects of poverty, an adequate amount of financial assistance, available through an appropriate mix of grants, work study, and loans is essential to equal opportunity for both access and persistence of low-income students.

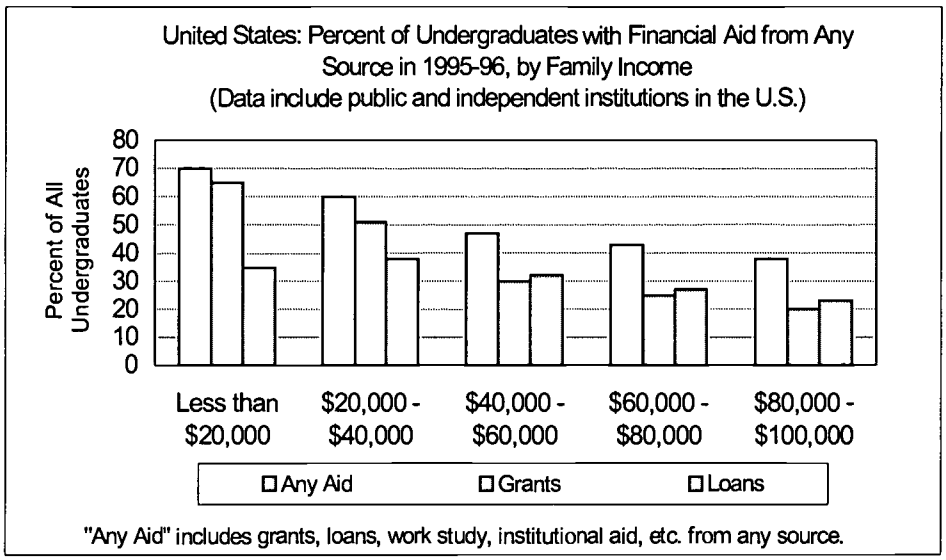
The study found that aided undergraduates were more likely to persist than those not receiving aid, a significant finding, given the fact that low-income individuals are much less likely than those with higher incomes to enroll in the first place. Another significant finding was that financial aid awards containing grants, work study, and loans had the strongest positive relationship with persistence, better even than an award comprised of all grants. However, both

[iv] In addition to the need-based tuition waivers included in "Other State Grants/Waivers," pubic institutions are authorized to provide up to an additional $104 million in tuition waivers for non-need purposes to a variety of student populations. Similarly, only institutionally funded grants for needy students at private colleges are included in "Institution/Other." These figures do not include scholarships provided to students who did not have financial need; nor do they include private loans or other consumer debt accrued to pay for educational costs.

the Washington study and many other national studies report that working too many hours or having to borrow too much negatively influence enrollment and persistence.

Income Levels and Financial Aid. The traditional financial aid programs are awarded on the basis of "need." Need is defined as the difference between what it costs to attend a particular college and the amount the student and his or her family are judged able to pay. Since need is relative to cost, a student may be eligible for different amounts of financial aid at different schools. Contrary to a common misperception, not all need-based financial aid is limited to the very poor.[v] Figure 10 shows the percent of undergraduate students, nationwide, who received financial aid in 1995-96, by family income. As can be seen, both grants and loans were awarded to students across a wide income range.

Figure 10



Source: U.S. Department of Education, National Center for Education Statistics, 1995-96 National Postsecondary Student Aid Study.

Other Aid for Students. The largest portion of public support for students is provided through state appropriations to public institutions and through federal and state student financial aid programs. The recently enacted Taxpayer Relief Act will also be a significant source of assistance to students and their families. In addition, students who meet eligibility criteria can access other types of assistance (usually targeted to specific populations). Appendix E lists several of the programs that are available, outside the traditional student financial aid programs.

[v] Institutions may choose to award local grant aid to students who do not qualify for federal or state grants to help meet their financial need. Students from all income levels may receive federal student loans. In addition, other forms of assistance are available to middle- and upper-income students who may not qualify for need-based financial aid; e.g., employer reimbursement for educational expenses; merit scholarships; the new federal educational tax credits, etc. These programs also make higher education affordable.

Identifying Affordability Barriers and Strategies to Overcome Them

Affordable access is a reality for most learners who want to go to college and are prepared academically. For some, however, meeting the costs of going to college remains a significant challenge.

Even with the availability of student financial aid, national studies report that low-income students enroll in significantly smaller numbers than do those from high-income families.[14] The National Center for Education Statistics reports that 49 percent of the students from low-income families enrolled in college directly after graduation in 1996, compared to 78 percent from high-income families, a gap of nearly 30 percentage points. Low-income students who enroll also are much less likely than their more affluent peers (six percent, compared to 40 percent) to receive a baccalaureate degree or higher within five years.

In addition to socio-economic status, many factors influence the likelihood of college attendance including the educational attainment of parents, student aspirations, and academic preparation. However, for low-income students who make it over these hurdles, affordable access for the low-income is possible only with a substantial amount of student financial aid. And, for the best outcome, aid must be provided in a combination that is adequate, and in a way that does not require that the student work an unrealistic number of hours or borrow more than a reasonable amount.

The perception of affordability is a critical factor in a prospective student's decisions regarding academic preparation and participation in higher education. Individuals and their families who perceive that the cost of higher education is beyond their reach may see the economic barrier as one which cannot be overcome and, as a result, not prepare for, or pursue, the possibility of a postsecondary education. Although individuals from all income levels may be affected by perceptions of affordability, low-income, under-represented populations are at greatest risk. Students from low-income families — particularly those whose parents did not attend college — must be assured that if they prepare academically for college, financial assistance will be available to help them pay for it.

▸ **Provide better information about the value of college and how to get into college to under-represented and first-generation learners.** Information communicating the value of higher education, academic and financial preparation, and the availability of financial aid could be actively disseminated in a systematic and coordinated manner. The information would need to be appropriate to its intended audiences: elementary/middle school students, high school students, parents, individuals from under-represented cultural/ethnic backgrounds, and adults considering higher education for themselves. Information also should be provided to high school and community-service counselors, and others who work with low-income and at-risk populations.

Better, more accessible information also should be available to middle-class families about the importance of postsecondary education, college costs, and ways in which the future education of their children can be financed. College could be affordable for many if they knew more about

college costs and how to distribute the costs over a longer period of time: through savings, use of current income, and – if necessary – home equity or other loans assumed by the parents.

▸ **Coordinate state and federal financial aid.** In addition, the HECB should continue to coordinate state financial aid programs with the larger federal programs to maximize limited state funds, and to provide equity in the distribution of financial assistance.

▸ **Pursue state funding to meet Board SNG goals.** Current Board policy is that the State Need Grant program should serve students with incomes up to 65 percent of the state's median family income. The Board may wish to consider seeking legislative funding to provide SNG awards equal to resident, undergraduate tuition rate at the public institutions. This would make it possible for low-income recipients to enroll without having to work or borrow excessively.

▸ **Continue to support and provide information about the GET program.** Another tool that can be used to help make college affordable is the tuition prepayment plan offered by the state. One facet of this program, the Guaranteed Education Tuition (GET) plan, allows for prepayment of college tuition over a period of years before a student enters college. The opportunity to reap the advantages offered by the GET program or to save for college costs through other vehicles requires knowledge and preplanning on the part of parents or others concerned about the student's welfare.

▸ **Identify strategies to meet the unique affordability challenges of rural-area residents.** Often, residents of rural areas of the state must travel a long distance to attend college classes; others must relocate to enroll in a particular program of study. Data from the State Population Survey conducted in spring 1998 show that families in rural counties tend to be less affluent. County population increases forecasted in 1995 suggest that growth will occur in several rural counties between 1998 and 2010. Increases in county population could place a demand on local postsecondary institutions that is greater than they can meet. Some areas do not have institutions that provide the educational level or programs needed by individuals who live there. In both instances, relocation may be necessary to pursue a postsecondary education. College costs may be a greater burden for students who must relocate than for others.

▸ **Revise financial aid rules to meet the needs of learners participating in new delivery systems.** The recent and growing role of electronic technology in delivering postsecondary education highlights a significant new issue related to affordability. In their present form, federal and state financial aid programs, which were designed to fit the traditional college model, do not lend themselves to nontraditional educational delivery systems. Existing legislation and rules may need to be amended or new programs established to provide financial aid to this emerging population.

In the 1960s and 1970s, when most federal and state financial aid programs were created, higher education was based, almost exclusively, on a traditional college model. Students attended classes on a college campus; they enrolled for a nine-month academic year; and they incurred standard expenses for living on campus or at home, purchasing books and supplies at the college

bookstore, and transportation expenses for visits home or for commuting costs. Education programs were offered in quarters or semesters over a scheduled academic year; credit hours and grade-point averages measured progress.

Unless an education program or a student's enrollment patterns can be configured to fit the traditional model, it is difficult – if not impossible – for a student enrolled primarily through e-learning to receive financial aid, even if the student is low-income and would qualify for assistance in a traditional program. Similarly, it is difficult to address the differing educational expenses of students enrolled through technology even when they are eligible for financial aid.

How affordable access should be provided to students enrolled through new delivery systems is perhaps the biggest policy question facing both federal and state financial aid programs. The federal government has started to review this issue, with plans to authorize a limited number of demonstration projects to test ways in which financial aid might be provided to distance learners. Response to this emerging population will require systemic change in the determination of institutional and student eligibility, as well as comprehensive modification of most administrative processes. (See Appendix F.)

The Board should immediately begin to study the extent to which – and how – state financial aid should be provided for students who are pursuing postsecondary education via e-learning or other nontraditional delivery systems. The study should include, but not be limited to, how student and institutional eligibility should be established; how financial need should be determined; and the extent to which state financial aid for distance learners should be coordinated with federal programs.

▸ **Identify strategies to help learners progress more quickly to degree or program completion.** It is reported that the average undergraduate time-to-degree is over five years. And many students have good reasons for a longer time-to-degree: for example, they may work part-time or even full time while attending college. However, students and their families, as well as the state, could realize cost savings if students progressed more quickly to program completion. Students who take longer to complete must pay more for tuition, books, room, and board. Many incur added student loans to help cover the costs. In addition, there is also the cost of lost income that might have been earned had the student completed sooner. The extended time-to-degree also costs the state, since it supports a significant share of the cost of instruction.

Costs could be reduced if students were better prepared when they reach college, if they were better informed regarding graduation requirements, and if they completed a full academic load each term. Additional financial aid would be needed by some to increase their course load. Institutions could help by providing better student advising and counseling to ensure that students are aware of graduation requirements, by improving articulation between institutions, and by ensuring that required courses are readily available to students needing them to graduate.

Future Outlook

The number of Washington residents who are likely to require financial assistance in order to participate in higher education between now and the year 2020 depends on many factors. For example, the amount needed for state financial aid funds will depend on the number and socio-economic profile or enrolled students; where students enroll; the method of delivery; the job market and labor demands; changes in federal financial aid policy and funding levels; and a range of public policies influencing enrollment decisions.

The Board has estimated that postsecondary enrollment in Washington State will increase by over 80,000 students by the year 2010. Interest in serving residents of rural areas and the anticipated expansion of alternative educational delivery systems point to significant growth in the demand for higher education. If affordable access is to be available to the additional students who are expected to enroll, new approaches to determining eligibility and administering student financial aid may be necessary, and additional funding will be required.

Conclusions

Higher education matters. It contributes to the development of human potential, and it furthers the productivity of the state and the nation. The provision of affordable postsecondary education and training represents an investment by the state in its residents – an investment that brings returns not only to the individual participants, but also to the state as a whole.

Affordable access to postsecondary education and training should be available to academically prepared Washington residents, regardless of their ability to pay for the cost with their own resources. While affordable access is available to many, it is not available to all. It can be enhanced by continued state investment in public institutions, with continued priority given to support for undergraduate education. Other strategies include financial assistance for those who are in need; consistent and accessible information and outreach; new ways of meeting the unique needs of rural residents; and by enhancing student progress toward program or degree completion.

WHY AFFORDABILITY MATTERS – THE PERSONAL AND SOCIETAL BENEFITS OF HIGHER EDUCATION

Postsecondary education generates both individual and public benefits. To the individual, higher education is seen as the ticket to a comfortable and stable income, challenging work and, for some, passage out of joblessness and poverty. Higher education broadens one's view of the world, augments learning skills, improves workers' ability to develop and use technology, and increases productivity. And a well-educated citizenry contributes to the vitality of communities, the state, and the nation. Affordable postsecondary education and training is an investment by the state in its residents that brings returns not only to the individual participants, but also to the state as a whole.

Discussions of the benefits accruing from higher education often focus on what has become the obvious linkage between education and personal income. As Figures A-1 and A-2 indicate, education beyond high school provides a substantial benefit in terms of earning power and employment.

Figure A-1

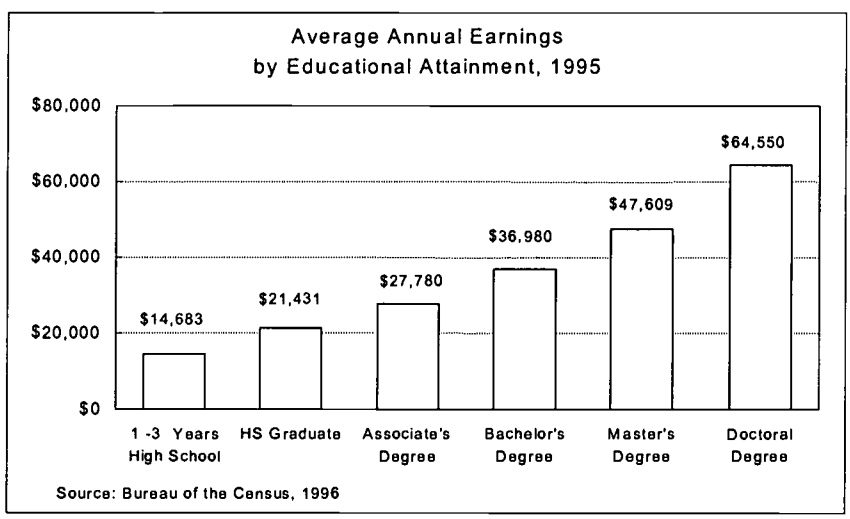


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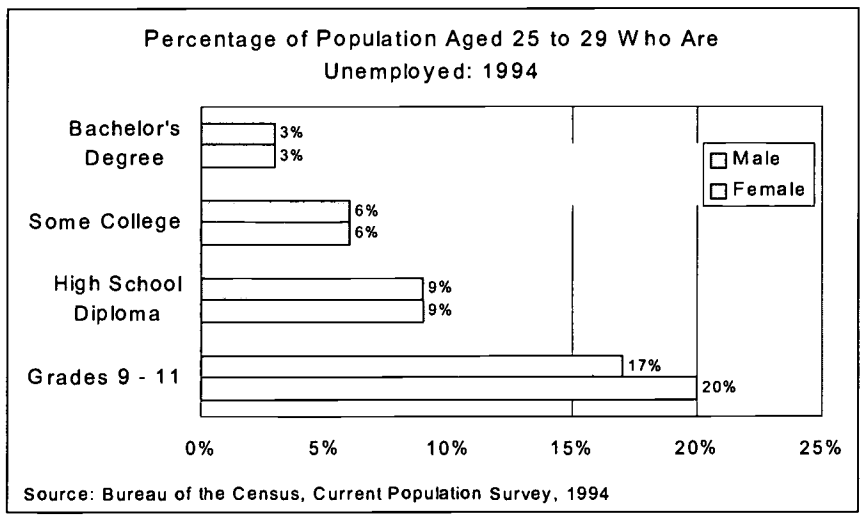
Figure A-2



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Other, perhaps less dramatic, benefits also flow from increased educational attainment. These include both personal (or private) benefits direct to the individual, as well as public (or societal) benefits that contribute more generally to the entire population. Table A-1, below, displays a matrix prepared by The Institute for Higher Education Policy,[17] illustrating the nature and relationship of a number of public and private benefits generally acknowledged to arise from increased education levels.

Table A-1

The Array of Higher Education Benefits

	Public	Private
Economic	• Increased Tax Revenues • Greater Productivity • Increased Consumption • Increased Workforce Flexibility • Decreased Reliance on Government Financial Support	• Higher Salaries and Benefits • Employment • Higher Savings Levels • Improved Working Conditions • Personal/Professional Mobility
Social	• Reduced Crime Rates • Increased Charitable Giving/Community Service • Increased Quality of Civic Life • Social Cohesion/Appreciation of Diversity • Improved Ability to Adapt to and Use Technology	• Improved Health/Life Expectancy • Improved Quality of Life for Offspring • Better Consumer Decision Making • Increased Personal Status • More Hobbies, Leisure Activities

Source: The Institute for Higher Education Policy

The data in Tables A-2, A-3, and A-4 quantitatively illustrate some of the benefits of higher education.

Table A-2

Presidential Election Voting Rates for the Population Ages 25 to 44 By Educational Attainment: Selected Years 1964-92				
Year	1 – 3 years of high school	4 years of high school	1 – 3 years of college	4 or more years of college
1964	60.5%	75.5%	82.9%	86.2%
1976	38.5%	57.8%	67.4%	78.5%
1984	29.0%	49.1%	62.1%	74.7%
1988	26.3%	47.4%	61.7%	75.0%
1992	27.0%	49.8%	66.9%	78.5%

Source: National Center for Education Statistics, The Condition of Education, 1996[18]

Table A-3

Health Characteristics of Adults By Educational Attainment, 1990				
	1 – 3 years of high school	4 years of high school	1 – 3 years of college	4 or more years of college
Exercise or play sports regularly	29.7%	37.0%	48.5%	55.8%
Told more than once that they had high blood pressure	21.5%	15.7%	12.8%	12.4%
Smoke cigarettes daily	37.4%	29.6%	23.0%	13.5%

Source: National Center for Education Statistics, The Condition of Education, 1994[19]

Table A-4

Participation in Leisure Activities in Prior 12 Months By Educational Attainment, 1993				
	Less than high school	High school graduate	Some college	College graduate
Played Sports	18%	34%	49%	55%
Exercised	39%	55%	71%	75%
Visited Art Museum	7%	16%	35%	46%
Went to Sports Event	19%	33%	45%	51%

Source: National Endowment for the Arts, 1993[20]

While some of the benefits of postsecondary education can, and have been, quantified, others are more implicit or indirect in nature, and less amenable to quantification. The mix of benefits that

accrue to any one location or state depends on many factors, not the least of which is the variety of educational opportunities that are available. The type of education and related services provided by a major research university offer a different array of benefits than those provided by a community college or a vocational school. Access to the opportunities offered by all types of higher education is critical in order to maintain a comprehensive range of benefits to individuals, their families and communities, and to the state in general. But that opportunity is available only to those who can afford to pay for it, or have the knowledge and motivation to pursue alternative funding strategies.

The likelihood of college attendance is closely correlated with family income and the educational attainment of parents. As shown in Table A-5, high school completers from high-income families are 30 percent more likely to enroll in college immediately after high school than are high school graduates from low-income families.[21] Similarly, students are much more likely to enroll in postsecondary education immediately after high school if their parents have at least a bachelor's degree.

Table A-5

Likelihood of College Attendance Immediately After High School	
Low-income Families	49%
Middle-income Families	63%
High-income Families	78%
Parent Education	
Less Than High School	45%
Bachelor's Degree or Higher	85%

Source: National Center for Education Statistics

Factors that influence whether a student will enroll in college after high school also bear directly on the projections of future enrollment in the state. Data from the 1990 census show Washington adults are 13 percent above the national average for those who have attained a bachelors degree or higher; this ranks the state at the 76th percentile overall. This level of parental education suggests that the offspring of these parents will be seeking higher education at greater-than-average rates, as well. The practice of the Washington State Legislature long has been to ensure that opportunity is widely and equitably available to Washington residents from all economic strata. To sustain that practice, financial aid programs for the less economically well off must be maintained.

WASHINGTON STATE STUDENT FINANCIAL AID PROGRAMS

State Need Grant (SNG)
The State Need Grant program was established in 1969, to assist low-income Washington residents who attend participating institutions. Funding for the program is provided from two sources: state appropriations, and matching monies from the federal government through the State Student Incentive Grant (SSIG) program. Filing a Free Application for Federal Student Aid (FAFSA) assures the student of consideration for this state grant. No separate application is necessary.

In 1998-99, about 51,500 students will receive grants totaling $72.9 million. The average base grant is $1,406. Individual grants vary. Full-time and part-time undergraduate students are eligible to apply. Students with dependents can receive a dependent care allowance.

State Work Study (SWS)
Established in 1974, this program provides financial assistance to eligible part-time and full-time students by stimulating and promoting their part-time employment. An equally important program purpose is the relationship of that employment to the student's academic pursuits or vocational goals. Funding for the program is provided through a state appropriation paired with an employer match. Filing a Free Application for Federal Student Aid (FAFSA) assures the student of consideration for the SWS program. No separate application is necessary.

In 1998-99, approximately 9,590 students will earn approximately $20,000,000 (including the employer's share). The statewide master employer contract file lists 2,800 off-campus employers. Board staff annually process nearly 29,000 timesheets generated by students attending private institutions. Public institutions process their own student timesheets.

Educational Opportunity Grant (EOG)
The purpose of this grant is to provide an incentive to eligible place-bound financially needy students who have completed an Associate of Arts degree, or its equivalent, by enabling them to complete their upper-division study at eligible institutions which have existing enrollment capacity. A full-year grant award is $2,500. For 1998-99, an estimated 900 students will be awarded grants. Applications for the 1999-2000 academic year are currently available from the Board.

Washington Scholars
This program was established to recognize and honor the accomplishments of three high school seniors from each legislative district; encourage and facilitate privately-funded scholarship awards; and, stimulate recruitment of outstanding students to Washington public and independent colleges and universities. High school principals nominate the top one percent of the graduating senior class based upon academic accomplishments, leadership, and community service.

Scholars may receive a grant for undergraduate study at Washington public or independent colleges and universities. Renewal each year is contingent upon maintaining a 3.30 G.P.A. The state grant for scholars attending independent schools is contingent upon the institution's agreement to match the award on a dollar-for-dollar basis with either money or a tuition and fee waiver. The maximum grant amount in 1998-99 is $3,396.

Health Professional Loan Repayment and Scholarship Programs
The purpose of these programs is to encourage eligible health care professionals to serve in shortage areas. It provides financial support in the form of conditional scholarships to attend school, or loan repayment if the participant renders health care service in medically underserved areas or professional shortage areas in Washington State for no less than three years and no more than five years.

Loan repayment recipients receive payment from the program for the purpose of repaying education loans secured while attending a program of health professional training that leads to licensure in Washington State. Applications for the loan repayment program are available after November 15.

Scholarship awards are made on a competitive basis to applicants who have been accepted into or who are enrolled in an accredited program leading to eligibility for licensure in Washington State, in one of the designated health care professions. Award of the scholarship is conditioned on the recipient agreeing to work in a designated shortage area in his/her chosen field for a minimum of three years. Applications are available for the scholarship program after January 15.

The annual award amount for each health care profession is based on an assessment of reasonable annual eligible expenses and loan indebtedness incurred in training and education for each health care profession. Awards may be renewed for a period not to exceed five years for eligible participants who continue to meet all renewal criteria each year of the award. Recipients who do not provide service in a health professional shortage area in Washington State are required to repay the award plus penalty and interest.

Community Service Initiatives

The Board has funded eleven innovative community service projects for 1998-99, through a combination of federal SSIG dollars and SWS dollars. The projects provide comparative information regarding community service placements and evaluation data on job satisfaction, and the influence of community service on academic and career choice.

Schools receiving community service grants representing Washington Reading Corps and Related Literacy Efforts include: Columbia Basin College, Gonzaga University, Pacific Lutheran University, Lower Columbia Community College, and Eastern Washington University. Those with projects in other areas of service are: Central Washington University, Grays Harbor College, Pierce College/Medicine Creek Tribal College, and Western Washington University (with sites at The Evergreen State College, Seattle Central Community College, and University of Washington). Requests for proposals are issued each spring.

In addition, the Board continues its support of Best SELF and Campus Compact, and offers the option of an improved employer reimbursement rate for community service placements.

National Early Intervention Scholarship and Partnership (NEISP) Program

The Washington National Early Intervention Scholarship and Partnership program is designed to motivate participating at-risk students to complete high school and subsequently enroll in a program of postsecondary education. Washington is one of only nine states to be awarded a grant, which is automatically renewable for up to four additional years. The program is a collaborative effort of community-based organizations, local schools and colleges, community members and the Higher Education Coordinating Board. It is located at five separate sites: Tacoma, Wapato, Aberdeen, Spokane, and Inchelium.

Through a program of academic counseling, mentors, and informational seminars, students are encouraged to develop academic, study, work, and interpersonal skills, and to start educational and career planning. In addition, students devote time to community service activities in group or individual efforts. Participating students receive a stipend for the time they commit to the program, including hours devoted to community service activities. In addition to the stipend, participants will receive points that can be redeemed for a scholarship for later college attendance. In 1998-99, about 325 students will receive the scholarship.

Washington Award for Vocational Excellence (WAVE)

Established to honor students for outstanding achievement in vocational-technical education. Annually three vocational students in each legislative district receive the grant. The award is for no more than two academic years and may not exceed the annual undergraduate tuition and fees at public research universities. High schools, skills centers, and community and technical colleges nominate students to be considered for the award.

Western Interstate Commission for Higher Education (WICHE) Student Exchange

There are three exchange programs available to Washington residents. The **Professional Student Exchange** provides state support to optometry and osteopathy students enrolled out of state. Twelve students will receive yearly support fees ranging from $9,100 to $13,400 in 1998-99. Applications are available from the Board and are due October 15 of the year prior to professional enrollment.

The WICHE **Regional Graduate Exchange** programs are distinctive master's and doctoral programs in which qualified residents may enroll at reduced tuition rates in out-of-state programs not offered in Washington State. The 14 participating states offer 128 programs at 38 graduate schools. Graduate students apply directly to the schools they wish to attend and request admission as "WICHE" students.

Through the **Western Undergraduate Exchange** (WUE), students may enroll in designated programs and schools in the 14 western states at 150% of resident tuition, rather than out-of-state tuition. Undergraduate students apply directly to the schools they wish to attend and request admission as "WUE" students.

Washington Award for Excellence in Education (CHRISTA MCAULIFFE AWARD)
This program recognizes teachers, principals, and school district administrators for their leadership, contributions, and commitment to education. All recipients selected after January 1, 1994 receive a recognition award of $2,500. Nomination forms are available through the Office of Superintendent of Public Instruction each January. Selections are made in March.

Community Scholarship Organization Matching Grants
Matching grants of $2000 are offered to 501(C)(3) tax exempt community scholarship organizations that raise $2000 for student scholarships. Twenty-five matching grants will be available in 1998-1999. Applications are available from the Board.

American Indian Endowed Scholarship
The purpose of this program is to create an educational opportunity for American Indians to attend and graduate from higher education institutions in the state of Washington. The endowment is made up of equal contributions from the state, and from private donors which include individuals, corporations and tribes. The interest earnings of the endowment are used each year to award scholarships to financially needy, resident American Indian students. Approximately ten to fourteen scholarships of $1,000 each are awarded each year. Applications are available from the Board in the spring and selections are made by June.

Aid to Blind Students
This small grant program provides up to $200 per term to needy blind students. Recipients are reimbursed for special equipment, services, and books and supplies required because of their visual impairment. Applications are available from the Board.

1998-99 SFA PROGRAM APPROPRIATIONS

Program	Appropriations	Awards
SNG (Including SSIG)	$72,900,000*	51,500
SWS (Including SSIG)	15,466,000*	9,590
EOG	2,420,000	900
Health Professional Loan Repayment & Scholarship	1,300,000	45
Washington Scholars	1,265,000	367
NEISP	800,000	260
WAVE	456,000	253
WICHE	220,000	32
Christa McAuliffe	197,500	79
Community Scholarship	50,000	25
American Indian Endowed Scholarship	22,000	19
Aid to Blind Students	2,000	5
Total	**95,098,500**	**63,075**

*Includes federal matching monies.

TUITION (OPERATING AND BUILDING FEES)
Percent of Cost of Instruction Over Time
1977 - 1995

	1977-78 to 1980-81	1981-82 to 1992-93	1993-94	1994-95
UW/WSU (RESEARCH)				
Resident				
Undergrad	25.0%	33.3%	36.3%	41.1%
Grad & Law	115% of u/g	23.0%	25.2%	28.4%
MD/DDS/DVM	160% of u/g	167% of grad.	167% of grad.	167% of grad.
Nonresident				
Undergrad	100.0%	100.0%	109.3%	122.9%
Grad & Law	115% of nonres u/g	60.0%	65.6%	73.6%
MD/DDS/DVM	160% of nonres u/g	167% of nonres grad.	167% of nonres grad.	167% of nonres grad.
CWU/EWU/WWU/TESC (COMPREHENSIVES)				
Resident				
Undergrad	80% of UW/WSU res u/g	25.0%	27.7%	31.5%
Grad	80% of UW/WSU res grad.	23.0%	25.3%	28.6%
Nonresident				
Undergrad	80% of UW/WSU nonres u/g	100.0%	109.4%	123.0%
Grad	80% of UW/WSU nonres grad.	75.0%	82.0%	92.0%
COMMUNITY COLLEGES				
Resident				
Undergrad	45% of UW/WSU res u/g	23.0%	25.4%	28.8%
Nonresident				
Undergrad	50% of UW/WSU nonres u/g	100.0%	109.3%	122.7%

Source: Higher Education Coordinating Board[22]

For a number of years the state of Washington tied tuition at public higher education institutions to a given percentage of the operating cost of instruction. The fact that the percentage could and did change over time is indicative of changes in the viewpoints regarding who should pay for higher education and in the economic well being of the state. The cost-indexed policy was modified by the Legislature in 1995.

Since 1996, changes in the share of cost paid by students in the form of tuition has been loosely linked to changes in the state's per capita personal income (PCPI). Other states use various other methods to establish tuition rates; many leave tuition decisions up to institutions once state support has been established. In turn, these institutions may index to economic indicators other than PCPI, other tuition rates in the market in which they operate, or a combination of various considerations.

FEDERAL STAFFORD LOAN PROGRAM
BORROWING LIMITS AND REPAYMENT SCHEDULE

Several loan programs are available to students, the largest of which is the Federal Stafford Loan program. Two types of student loans are available through this program – subsidized and unsubsidized. The subsidized Stafford Loan is need-based. The unsubsidized loan is not need-based. It is available to any student whose education costs exceed the amount of financial aid awarded. The program also includes a loan for parents of dependent students. Since the federal government guarantees the loans, funds are widely available. The following tables show the annual and aggregate maximum amounts that can be borrowed through the Stafford Loan programs.

STAFFORD LOAN LIMITS

	Independent Students	Dependent Students
	Annual Maximums	
Freshmen	$ 6,625	$ 2,625
Sophomores	$ 7,500	$ 3,500
Junior and Seniors	$10,500	$ 5,500
Graduate/Professional	$18,500	N/A
Parent Loan for Undergraduate Students	Not Eligible	Cost of education less other aid
	Aggregate Limits	
Undergraduates	$ 46,000	$23,000
Graduate/Professional*	$138,500	N/A
Parent Loan for Undergraduate Students	N/A	No Maximum

* Includes loans made at the undergraduate level

STAFFORD LOAN REPAYMENT CHART

Loan Amount	# Payments	Monthly Payment	Interest Charges	Total Payments
$ 2,625	65	$ 50.00*	$ 642.61	$ 3,267.61
$ 5,250	120	$ 64.39	$ 2,477.14	$ 7,727.14
$ 9,250	120	$113.45	$ 4,364.48	$13,614.48
$13,250	120	$162.52	$ 6,251.83	$19,501.83
$17,250	120	$211.58	$ 8,139.17	$25,389.17
$23,000	120	$282.10	$10,852.23	$33,852.23

Source: Northwest Education Loan Association

Notes:
- The program's minimum monthly payment is $50.00. To meet the required minimum payment, these monthly payments have a repayment period of less than 10 years.
- The interest rate of Stafford Loans is variable with a ceiling of 8.25%.
- This payment table is based upon the maximum allowable repayment period of 10 years, and the maximum interest rate of 8.25%.

SOURCES OF AID FOR STUDENTS

The largest portions of aid available to students include the following general categories (discussed in other parts of this paper):

- State funding to institutions – which supports some of the cost of education – and therefore is provided to all students who enroll. Tuition, the "price" of education charged to students, is dependent, to a large extent, on what portion of cost is not covered by state investment.
- State funding of major financial aid programs for individual students. In Washington, the largest state supported financial aid programs are the State Need Grant and State Work Study programs.
- Federal financial aid to individuals through grants, loans, work study, and tax credits.

Students who meet certain criteria can access other types of assistance. The following list, though not exhaustive, incorporates the major sources of assistance available to students attending Washington institutions.

NEED-BASED AND NON-NEED-BASED FINANCIAL AID PROGRAMS AVAILABLE TO WASHINGTON STATE STUDENTS, BY FUNDING SOURCE

NEED-BASED

Federally-Funded
Federal Pell Grant
Federal Supp.Ed'l Oppty Grant (SEOG)
Federal Work Study
Federal Perkins Loan
Federal Stafford Loan (subsidized)
Leveraging Educational Assistance Partnership

State Supported
State Need Grant
State Work Study
3.5 Percent Loan Program
(WICHE) Student Exchange
American Indian Endowed Scholarship
Educational Opportunity Grant
Aid to Blind Students
Three and Four Percent Tuition and Fee Waivers
Timber and Fishery Workers
Worker Retraining

Private/Institutionally Funded
Other Tuition and Fee Waivers
Institutional Scholarships and Employment
Private Scholarships

NON-NEED-BASED

Federally Funded
Federal Stafford Loan (non-subsidized)
Parent Loan for Undergraduates
Federal Hope Tax Credits
Federal Lifetime Learning Tax Credits
Educational IRAs
Tax Deductions for Education Loan Interest
AmeriCorps
Veterans Educational Benefits
Guard/Reserve Educational Benefits
Bureau of Indian Affairs Programs

State-Supported
Washington Scholars
Washington Award for Vocational Excellence
Christa McAuliffe Award
Specially Directed State Tuition and Fee Waivers
Health Prof. Loan Repayment and Scholarship
Reciprocity Agreements

Private/Institutionally-Funded
Institutional Scholarships and Employment
Paul Fowler Scholarship
Private Scholarships
Employer Internships
Employee Education Programs

FINANCIAL AID FOR STUDENTS ENROLLED THROUGH ALTERNATE DELIVERY SYSTEMS

In the 1960s and 1970s, when most federal and state financial aid programs were created, higher education was based, almost exclusively, on a traditional college model. Students attended classes on a college campus; they enrolled for a nine-month academic year; and they incurred standard expenses for living on campus or at home, purchasing books and supplies at the college bookstore, and transportation expenses for visits home or for commuting costs. Financial aid programs were established based on that traditional model.

Over time, efforts by Congress to ensure integrity, and to stem fraud and abuse in the federal financial aid programs have resulted in increasingly prescriptive student and institutional eligibility criteria and administrative requirements. In their present form, many of the laws and regulations governing federal student financial aid do not lend themselves to the emerging nontraditional educational delivery systems. (See table, below, for examples.)

Examples of Current Financial Aid Provisions That Impact Distance Learners

Institutional Eligibility

Current Provision: An institution is not eligible to participate in federal financial aid programs if: More than 50% of its courses are correspondence or telecommunications courses; or if 50% or more its regular enrolled students are enrolled in correspondence and/or telecommunications courses.	Issue: The availability of new technologies blurs the distinctions among correspondence, telecommunications, and residential courses. It also calls into question the validity of this rule in the changing environment.
Current Provision: Institutions must secure U.S. Department of Education approval of each new instructional site before financial aid may be awarded to students at that location.	Issue: The current backlog represents a major hurdle for institutions seeking to expand distance-based learning and is, perhaps, irrelevant.
Current Provision: The cost and credit load for coursework taken outside of the credential-granting institution are ineligible for financial aid funds, unless the "home" school enters into a consortium agreement with the "host" institution. By making the agreement, the home institution confirms that the credits taken at the other institution will be accepted as though they were earned at the home school.	Issues: • The requirement for formal consortium agreements limits the financial aid options of distance-learning students to take courses from institutions that are not in consortia with the home institution (since neither the costs nor the credits are counted in the absence of a consortium agreement). • The current limits in place for the percent of instruction that can be contracted represent obstacles to distance learners.

Student Budgets

Current Provision: Federal rules do not allow financial aid to cover living costs for students enrolled in correspondence courses.

Issue: Current rules distinguish between "correspondence" and "telecommunications" with regard to what costs can be covered with financial aid.

Current Provision: The budget allowance used to determine eligibility for financial aid assumes that the student will incur living costs in order to attend college. The allowance is based on a traditional nine-month academic year, or in quarter or semester increments if the student does not enroll for the full school year. The allowance is based on costs for the area in which the institution is located.

Issues:

- Should financial aid cover living costs for distance learners? If so, should the allowance vary by locale?
- How should a living allowance be established for students who complete their coursework on an accelerated schedule?
- How should student financial aid budgets take into account the different equipment and related expenses of students enrolled in telecommunications courses (e.g., computer, telephone line, printer, etc.)?

Measurement of Satisfactory Progress

Current Provision: To receive financial aid, students are required to enroll in and satisfactorily complete a minimum number of credits each term, and to maintain a specified grade point average. Time requirements are highly regulated by the U.S. Department of Education.

Issue: The traditional measurement of satisfactory progress will require a different approach for distance learners:

- Distance learners may start and end programs at different times;
- Seat time is not an essential measure of progress in distance learning;
- Work may progress at an accelerated or slower pace;
- Knowledge may be measured by competency, rather than by grades;
- Grading may vary from school to school, making the measurement of satisfactory progress difficult for students taking classes from more than one school at a time.

Calendar Issues

Current Provision: Many financial aid requirements are tied to timeframes and seat time.

Issues:

- For enrolled students to qualify for financial aid, programs must meet minimum length requirements (measured in credit or clock hours and weeks of instruction);
- Institutional academic years must be at least 30 weeks (with "week" defined in federal regulations, based on seat time);

- The last date of attendance is used to determine whether a student is owed a refund (and how much); and the date on which student loan repayment must begin;
- Disbursement of aid is highly regulated, and is also tied to the first day of classes;
- Standardized timeframes and the use of seat time do not work well for many distance education programs;
- Competency based distance learning programs may not use credit hours;
- The standard 30-week "academic year" does not work for students who are progressing at a different pace.

Support Services

Current Provision: To participate in financial aid programs, institutions must provide a comprehensive set of student support services.

Issue: New ways of delivering student support services will be needed.

Most (nearly three-fourths) of the financial aid available to Washington students is provided by the federal government. Student eligibility and many of the administrative requirements for state-funded financial aid programs are designed to complement and be coordinated with federal programs, in order to maximize resources and ensure equity in the distribution of funds among eligible students. Similarly, state programs require that institutions be approved to participate in federal financial aid programs as a prerequisite to state eligibility. Therefore, standards established for federal financial aid programs are of direct relevance to the state's programs, as well.

How – and the extent to which – federal financial aid programs should be modified to respond to the emergence of new higher education alternatives made possible by technology, was a topic of discussion during the federal government's recent Reauthorization of the Higher Education Act. Congress recognized that significant change would be necessary to allow students and institutions to take advantage of the opportunities provided through distance education. However, they were concerned that restructuring aid to fit new ways of delivering higher education presents risks, as well as opportunities. They determined that further study should be undertaken before changing student aid provisions. To provide for such study, they adopted a Distance Education Demonstration program.

This demonstration program authorizes the selection of a small number of institutions/consortia (15 next year, and up to 35 additional institutions during the third year), each of which will be permitted to waive a limited number of specific rules in order to award financial aid to a specific population enrolled in distance learning programs. Based on the outcomes of these demonstration projects, Congress will consider possible changes to institutional and student financial aid eligibility criteria when the Higher Education Act is next reauthorized in five years.

Since state aid programs are designed to complement and be coordinated with the larger federal programs, the state should proceed cautiously in making changes that may later conflict with federal modifications. However, the Board, in consultation with institutions and other interested parties, should begin to consider whether different aid programs might be needed or whether the policies and procedures for existing programs should be modified to enable students to engage in educational programs offered through technology.

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[17] The Institute for Higher Education Policy, March 1998, *Reaping the Benefits.*
[18] The Institute for Higher Education Policy, March 1998, *Reaping the Benefits.*
[19] The Institute for Higher Education Policy, March 1998, *Reaping the Benefits.*
[20] The Institute for Higher Education Policy, March 1998, *Reaping the Benefits.*
[21] National Center for Education Statistics, U.S. Department of Education, 1998, *Conditions of Education.*
[22] Washington State Higher Education Coordinating Board, October 1998, *An Overview of Tuition in Washington: 1998 Update.*

FOR IMMEDIATE RELEASE – SEPT. 16, 1999

State study shows growing need for college education in new jobs

OLYMPIA -- Washington's robust economy is rapidly creating jobs that will require more baccalaureate and advanced degree graduates in the near future, according to a new study by the state Higher Education Coordinating Board.

The preliminary results of the study, released Thursday in Olympia, estimates that 30 percent of the new jobs that will be created in the coming decade will require a bachelor's or advanced degree, pushing the proportion of all jobs that require this level of education to roughly one-quarter of the state's workforce.

HECB Executive Director Marc Gaspard said the study reinforces the board's enrollment goals for Washington state. The board expects an additional 70,000 students will seek a college education between now and 2010. Some 52,500 of those students are expected to show up on the campuses of the state's six public baccalaureate colleges and universities and the 33 public community and technical colleges.

The employment-education study included employer focus groups with executives from 124 businesses across the state, and new information from the U.S. Bureau of Labor Statistics, the Washington State Employment Security Department, and the state Workforce Training and Education Coordinating Board.

Gaspard said the study also includes the following findings:

- The fastest growing occupations are those that require a baccalaureate degree, which are expected to grow at a rate of 3.1 percent per year between now and 2009. Gaspard said the HECB's enrollment goal calls for the state to increase the number of graduates who earn bachelor's degrees by about 3.2 percent per year.
- Much of the employment growth will occur in the information technology sector of the state's economy.
- Many job openings also will occur in traditional occupations: Roughly 4,000 new K-12 teachers and administrators will be needed each year.
- Sixty percent of employers who participated in the focus group discussions said they found it hard to find baccalaureate-educated workers. Many said in order to get the highly skilled workers they need, they must recruit outside Washington or even move operations out of state.

-- more --

- The most prized qualities employers associate with baccalaureate-level education are problem solving skills, the capacity to continue to learn, and excellent communication skills.

"This study tells us that to continue to fuel this economy and ensure our citizens can take part in its bounty, we must find ways to create more opportunity for a college education, " said Gaspard. "That means renewing the state's commitment to higher education, and actively engaging the support of all others who pay for, provide, or benefit from college opportunity: students and families, educators, business, and the Legislature and Governor."

He said the study reinforces the critical role community and technical colleges will play in providing the first two years of a four-year academic degree, and in providing technical training.

In the series of four focus groups, employers said college-educated workers possess advantages at every point of entry into employment. Jobs with longer career ladders are open to them, and college-educated workers are more likely to be promoted to such positions than are other workers.

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Editors and reporters: Additional information about the ongoing activities of the HECB is available at the agency's Internet web site: http://www.hecb.wa.gov

2000 MASTER PLAN EMPLOYER SURVEY
Employment and Higher Education in Washington

September 1999

The Purpose of HECB Employer Research. In the past, policymakers have received conflicting and confusing information about what education level Washington's economy will require of workers in the near future. The HECB undertook this research to clarify the near-term picture of the economy and the demands it will place upon higher education.

What We Did. The HECB contracted with Elway Research to conduct four focus groups with Washington employers. And we analyzed data provided by Washington State Employment Security Department, OFM, and the Bureau of labor Statistics, among others.

What We Found Out.

- **Of the new jobs that will be created in our state, 30.2 percent are expected to require a baccalaureate or advanced degree.** The fastest growing occupations — 3.1 percent annually — are those that require a baccalaureate degree.
- **Much of this growth will occur in the information technology (IT) sector** of our state's economy. Government forecasts indicate that 5,000 baccalaureate workers will be needed each year; employer surveys indicate that the IT sector could grow at 16,000 year if it could find the workers it needs.
- **Traditional occupations, such as "general managers and top executives"** (2,500 openings per year) **and K-12 teachers** (4,000 openings per year) **also will show strong employment growth** due to the creation of new jobs or the replacement of existing workers.
- **Employers prize the capabilities of baccalaureate-educated workers,** most especially for their ability to learn throughout their lifetime, their problem-solving skills, and their literacy. Thus employers report that they are more likely to hire and promote baccalaureate workers than they are others.

What Are Our Conclusions?

- **Washington employers need more workers with baccalaureate-level education or higher.** Half of all employers we met with reported difficulty in finding baccalaureate workers. State and industry studies confirm these difficulties.
- **Washington faces an opportunity gap**. Hampered by their inability to find the baccalaureate workers that they need, some Washington employers will grow more slowly than they might if they had the workers they needed. Without greater opportunity for a college education, many of Washington's citizens will have only limited opportunities to share in the extraordinary bounty generated by our state's economy.

What is the Solution?

- The solution to the twin problems of opportunity lies in meeting enrollment goals presented in the HECB 2000 Master Plan: to serve an additional 52,500 students at public colleges and universities by 2010.

EMPLOYMENT AND HIGHER EDUCATION IN WASHINGTON STATE

In recent years state policymakers have sometimes been told that Washington's economy chiefly needs workers with vocational and technical training--*rather than workers with baccalaureate or advanced degrees*. New evidence gleaned from data compiled by the Washington State Employment Security Department shows otherwise: Washington's economy is an increasingly "brain-based" economy in which *more employers will be seeking more highly educated workers than ever before.* Focus groups conducted with Washington employers suggest that our colleges and universities produce capable graduates—*but too few to meet their needs.*

Washington's Changing Economy and the Need for Baccalaureate-Educated Workers

In 1996, **21.9%** of the nation's workforce held jobs for which a baccalaureate or advanced degree was necessary,[i] while in Washington State a larger share of workers, **23.1%**, held these jobs.[ii] Moreover, the fastest growth in our state's economy will occur in those occupations requiring baccalaureate or advanced degrees: of the *new jobs* created in our state fully **30.2%** are expected to require these degrees, pushing their proportion of the state's workforce to roughly one-quarter, or **24.4%**.[iii] The category of occupations with the fastest growth—**3.1%** annually—are baccalaureate degree jobs, reports the state's *Labor Market Information Review*.

In what occupations will this employment growth occur? Much of this growth will occur in the information technology sector of our state's economy. Government forecasts of employment indicate that approximately **5,000** new computer engineers, systems analysts, and other baccalaureate-trained workers are needed each year.[iv] A recent survey of software industry employers, however, suggests that *employment could grow at a rate of **16,000** per year if it were able to find the baccalaureate IT workers that it needs.*[v]

During the next few years much of the need for baccalaureate graduates will be rooted in high rates of replacement in large and long-established vocations roughly **4,000** new K-12 teachers will be needed by the state's schools. In other occupations, among general managers and top executives, strong growth and substantial replacement will combine to result in more than **2,500** openings per year.

The Vantage Point of Employers: Quality and Quantity

How do employers seek the link between baccalaureate education and work? In a series of four HECB-sponsored focus groups conducted by Elway Associates, employers made it clear that they prize the capabilities of workers with baccalaureate or advanced degrees. Clearly part of the reason is that a college education provides these workers with coveted technical skills, such as the capacity to write complex computer programs or to calculate the effects of seismic activity on bridges and highways. Employers told us that they were chiefly interested in hiring workers who can continue to learn throughout their lifetime; who can find solutions to problems where no fixed procedures exist; and who are skillful readers, writers, and speakers. And, 3 out of 4 employers reported that men and women who have obtained their baccalaureate degrees are more likely to possess these aptitudes than those who have not. All other things being equal, they are more likely to hire men and women who have their baccalaureate degree over job candidates who do not.[vi]

College-educated workers possess an advantage at the point of entry into employment, employers report, and this advantage grows throughout their working lives. Jobs with longer career ladders are open to them, and college-educated workers are more likely to be promoted to these positions than are other workers.[vii]

Seen from the perspective of employers, Washington may be producing capable baccalaureate and advanced degree workers, *but it isn't producing enough of them--nor is it able to import enough to meet its needs.*[viii] Sixty percent of the 124 employers who participated in our focus groups report that they find

it difficult to obtain the college-educated workers that they seek. State surveys reveal that these shortages are especially acute among firms seeking "professional and technical" workers, such as chemical engineers, data base analysts, manufacturing consultants, and systems analysts[ix]; in 1998 the software industry reported 14,700 vacancies alone.

Conclusions

To ensure the continued growth of Washington's economy, to meet the demands of an increasingly knowledge-based economy, and to provide more Washingtonians with an opportunity to share in the bounty of our expanding economy, we must be able to provide growing numbers of baccalaureate and advanced-degree graduates.

How can we do this? Meeting the enrollment goals in the HECB 2000 Master Plan is one solution. If we achieve this goal, our public institutions will be able to expand the number of students they graduate at about the same rate (3.2% per year) that the occupations requiring a bachelor's degree are anticipated to grow, about 3.1% per year.

Endnotes

[i] Bureau of Labor Statistics, "*Employment and total job openings, 1996-2006, and median weekly earnings by education and training category*," http:www.bls.gov/news.release/ecopro.table5.htm.

[ii] Washington State Employment Security Division, "*1996-2006 Employment and Openings By New Educational Levels*, Washington State." Unpublished.

[iii] Idem.

[iv] Washington State Employment Security Division, *"Occupations with the most average annual job openings, 1996-2006,"* http://www.wa.gov/eds/lmea/pubs/adi98/labfor/3c/3cwash.htm.

[v] Washington State Software Alliance, "*Washington State Software Industry Challenges*," 1998.

[vi] HECB Focus Groups, July 27, August 3, August 5, and August 10, 1999. The focus groups are summarized in the report "*Employer Forums*," August 1999.

[vii] *Employer Forums*, August 1999.

[viii] Washington's economy imports many baccalaureate and advanced degree workers from outside the state: the overall population of people who move to Washington has a far higher proportion of individuals with baccalaureate and advanced degrees (32%) than does the resident state population. In 1990 Washington added about 14,000 college graduates to its population through net in-migration, many of whom joined Washington's workforce.

[ix] Washington State Employment Security Department, *Labor and Skill Shortages in Washington*, September 1997, pp. 2-3.

Quick Facts About...
Higher Education in Washington State

January 2000

Public higher education will receive $2.54 billion, or 12.3 percent of the 1999-2001 State General Fund budget -- down from 13.5 percent in 1989-1991.

CONTINUING ON TO PUBLIC HIGHER EDUCATION

An estimated 60 percent of high school graduates immediately continue on to higher education. About one-half of all high school graduates choose a public college or university in Washington State.

ENROLLMENT

More than 203,000 full-time equivalent students attended public colleges and universities, with 81,991 enrolled at the four-year institutions and 121,302 enrolled at the two-year institutions. An estimated 42,000 full-time equivalent students attended independent institutions in Washington (1998-1999).

NUMBER OF DEGREES GRANTED

Washington four-year institutions awarded more than 23,000 baccalaureate degrees, with public institutions granting 18,006 and independent institutions granting more than 5,500 (1997-1998). State community and technical colleges awarded 17,611 associate degrees and 6,163 certificates (1998-1999).

TUITION

Resident undergraduate tuition and fees average $3,524 per year at state research universities, $2,733 at comprehensive institutions,[1] and $1,584 at community colleges. Resident graduate tuition averages $5,478 and $4,378 at state research and comprehensive institutions, respectively (1999-2000). State support covers about 60 to 75 percent of the total cost of undergraduate instruction and about 60 to 70 percent of the total cost of graduate instruction at the public institutions[2] (1999-2000).

[1] Washington public research universities include the University of Washington and Washington State University. State comprehensive institutions include Central Washington University, Eastern Washington University, The Evergreen State College and Western Washington University.

[2] State support for undergraduate instruction is about 60% of the cost at research universities, about 70% at the comprehensive universities, and about 75% at the community and technical colleges. State support for graduate instruction is about 70% at the research universities and 60% at the comprehensive institutions.

FINANCIAL AID

Nearly one-third of all Washington students receives some form of financial aid. The Higher Education Coordinating Board administers student financial aid, including the following major financial aid programs:

State Need Grants

In 1999-2000, about 53,500 Washington undergraduate students will use $80.2 million in State Need Grants to pursue a degree, hone their skills or retrain for new careers. For dependent students, the average parental income is estimated to be less than $16,000. For self-supporting students, the average income is expected to be less than $7,000. The average State Need grant is about $1,500.

State Work Study

About 9,500 low- and middle-income students will participate in the State Work Study program during the 1999-2000 academic year, earning money for college while gaining experience in areas related to their degrees or potential career interests. For dependent students, the average parental income is estimated to be less than $32,000. For self-supporting students, the average income is about $7,000. State Work Study students will earn an estimated $20 million, with $15.4 million in state funds and the rest from the employers' share of wages.

Washington Promise Scholarship

The new Washington Promise Scholarship provides college scholarships to high school seniors who graduate at the top of their classes and come from low- or middle-income families. In 1999, more than 2,200 students were eligible to receive scholarships of $1,225 for use at any accredited Washington college, university or other postsecondary institution.

PROFILES OF ALL STUDENTS ATTENDING STATE PUBLIC INSTITUTIONS

Community and Technical Colleges (1998)

The average age is 27.7
57% are women
25% are students of color

Public Four-year Institutions (1998)

The average age is 24
53% are women
18% are students of color

The Washington Higher Education System[3]

Four-year Public

Central Washington University
Eastern Washington University
The Evergreen State College
University of Washington
Washington State University
Western Washington University

Four-year Public Branch Campuses

University of Washington Bothell
University of Washington Tacoma
Washington State University Spokane
Washington State University Tri-Cities
Washington State University Vancouver

Four-year Public Off-campus Centers

Central Washington University
Lynnwood, SeaTac, Steilacoom, Wenatchee, Yakima
The Evergreen State College
Tacoma
Western Washington University
Bremerton, Everett, and Seattle

Community and Technical Colleges

Bates Technical College
Bellevue Community College
Bellingham Technical College
Big Bend Community College
Cascadia Community College
(Scheduled to open in fall 2000)
Centralia College
Clark College
Clover Park Technical College
Columbia Basin College
Edmonds Community College
Everett Community College
Grays Harbor College
Green River Community College
Highline Community College
Lake Washington Technical College
Lower Columbia College
North Seattle Community College
Olympic College
Peninsula College
Pierce College
Renton Technical College
Seattle Central Community College
Shoreline Community College
Skagit Valley College
South Puget Sound Community College
South Seattle Community College
Spokane Community College
Spokane Falls Community College
Tacoma Community College
Walla Walla Community College
Wenatchee Valley College
Whatcom Community College
Yakima Valley Community College

[3] This system also includes cooperative extension centers, learning centers, on-line learning resources, and other collaborative opportunities made possible by the K-20 Educational Telecommunications Network.

Four-year Independent

Bastyr University
City University
Cornish College of the Arts
Gonzaga University
Heritage College
Northwest College
Northwest College of Art
Pacific Lutheran University
Puget Sound Christian College
Saint Martin's College
Seattle Pacific University
Seattle University
Trinity Lutheran College
University of Puget Sound
Walla Walla College
Whitman College
Whitworth College

Two-year Federal

Northwest Indian College

Authorized Institutions

American Schools of Professional Psychology
Antioch University
Behavioral Physiology Institute
Brandaris University
Center of Innovation in Education
Chapman University
Columbia College
DigiPen Institute of Technology
Embry-Riddle Aeronautical University
Fred Hutchison Cancer Research Center
George Fox University
Golden Gate Baptist Theological Seminary
Golden Gate University
Grand Canyon University
Henry Cogswell College
ITT Technical Institute-Bothell
Johns Hopkins University
Keller Graduate School of Management
Lesley College
Lewis and Clark College
Linfield College

Authorized Institutions (continued)

Moody Bible Institute
Northwest Aviation College
Northwest Institute of Acupuncture & Oriental Medicine
Nova Southeastern University
Old Dominion University
Oregon State University
Pacific Oaks College
Park College
Portland State University
Seattle Institute of Oriental Medicine
Southern Illinois University
University of Phoenix
University of Portland
Vincennes University
Walden University
Washington School of Professional Psychology
Webster University
Western Business College
Western Oregon University
Western Seminary

Licensed Independent Vocational Schools

256 Schools

Community and Technical College Off-campus Centers

Virtually all of the community colleges and four of the technical colleges operate off-campus centers. These 58 centers provide both comprehensive and selected offerings in one or more of the community and technical college mission areas (i.e., transfer, workforce training, basic skills, and community service).

Joint Centers (Multi-institution)

Intercollegiate Center for Nursing Education (ICNE)
Spokane Intercollegiate Research and Technical Institute (SIRTI)
North Snohomish, Island, and Skagit Counties Consortium (NSIS)

More detailed information about higher education in Washington State is included in Higher Education Statistics, available by calling the Higher Education Coordinating Board at (360) 753-7800 or by e-mail at info@hecb.wa.gov.

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