

**BOARD AND ADVISORY COUNCIL
MEETING AGENDA**

*Highline Community College
Student Union Bldg. (#8), Mt. Constance Room
2400 S 240th, Des Moines
November 15, 2007*

8:00	Continental Breakfast – HECB & Advisory Council Members (Student Union Building, Mt. Skokomish) <i>No official business will be conducted</i>	
9:00	Welcome and Introductions <i>Bill Grinstein, HECB chair and Advisory Council Co-chair Charlie Earl, SBCTC executive director and Advisory Council Co-chair</i>	
	Approval of the October 25, 2007 Meeting Minutes	1
9:15	Work Session: Review and Discuss Draft Strategic Master Plan	2
12:00	Working Lunch (Student Union Building, Mt. Olympus Room) Continue master plan discussion	
1:00	Executive Director’s Report	
1:15	2008 Strategic Master Plan Preliminary Draft Staff will recapitulate the major points discussed during the work session and review the remaining process and timeline in the development of the final strategic master plan.	
2:30	Discussion: Promoting Economic Growth and Innovation A panel of economic development experts will discuss their recommendations to promote Washington’s economic growth and vitality. Public Comment	3
4:00	Adjournment	

2007 MEETING CALENDAR

Board Meeting	Location
January 25 8:00 – 12:00	The Evergreen State College Longhouse 2700 Evergreen Parkway N.W., Olympia
February 22 8:00 – 12:00	State Investment Board Board Room 2100 Evergreen Park Drive S.W., Olympia
March 22 9:00 – 4:00	State Investment Board Board Room 2100 Evergreen Park Drive S.W., Olympia
April 26 9:00 – 4:00 Advisory Council	Tacoma Community College Senate Room, Opgaard Bldg. (#11) 6501 S. 19 th , Tacoma 98466
May 24 9:00 – 4:00	Bellevue Community College Library, D126 3000 Landerholm Circle SE, Bellevue 98007
June 28 9:00 – 4:00 Advisory Council	UW Bothell North Creek Events Center 18115 Campus Way NE, Bothell 98011
July 26 9:00 – 4:00	Eastern Washington University Tawanka 215 B & C Cheney
August 14-15 Board Retreat	Talaris Conference Center Seattle
September 27 9:00 – 4:00 Advisory Council	WSU Tri-Cities CIC 120 2710 University Drive, Richland 99354
October 25 9:00 – 4:00	WSU Vancouver ADM 110 14204 NE Salmon Creek Avenue, Vancouver
November 15 9:00 – 4:00 Advisory Council	Highline Community College Mt. Constance, Student Union Bldg. 2400 S 240 th , Des Moines
December 13 9:00 – 4:00	State Investment Board Board Room 2100 Evergreen Park Drive S.W., Olympia

Public Comment: A sign-in sheet is provided for public comment on any of the items presented above.

Meeting Accommodation: Persons who require special accommodation for attendance must call the HECB at 360.753.7800 as soon as possible before the meeting.

Strategic Master Plan for Higher Education (DRAFT)

Summary of Policy Goals, Implementation Actions, Responsibilities and Time-Lines

The major policy initiatives and associated implementation actions in the Higher Education Coordinating Board's Draft 2008 Strategic Master Plan for higher education are summarized below.

Summary of Washington's 2008 Higher Education Strategic Master Plan Policies and Actions			
Policy Recommendations	Implementation Actions	Responsibilities	Time-Lines
<i>Degree Production and Enrollment</i>			
<p>By 2020, the state's higher education institutions will work together to achieve a <i>Global Excellence Goal</i> by:</p> <ul style="list-style-type: none"> • Reaching the (2006) 75th Percentile of the Global Challenge States baccalaureate degree production level by awarding 42,000 baccalaureate degrees annually (13,400 over current level). • Reaching the (2006) 50th percentile of the Global Challenge States by preparing 19,800 advanced degrees annually (8,600 over current). • Awarding 36,200 mid-level degree and certificates annually (9,400 over current). <p>[text reference: pp: 6]</p>	<p>The HECB, in collaboration with the public baccalaureate institutions, community and technical colleges, and independent colleges, will develop a detailed enrollment plan to meet the <i>Global Excellence Goal</i>.</p> <p>This plan will incorporate the policy goals concerning the increased enrollment of ethnic and racial groups and the expansion of student financial aid to support that enrollment.</p>	<ul style="list-style-type: none"> • HECB • Council of Presidents • Public and Independent Baccalaureate Institutions • Community and Technical Colleges 	<p>Submit to HECB for approval by July 2008.</p>

Summary of Washington's 2008 Higher Education Strategic Master Plan Policies and Actions

Policy Recommendations	Implementation Actions	Responsibilities	Time-Lines
<i>Degree Production and Enrollment, cont.</i>			
<p>Washington's higher education system will create innovative, efficient facilities and programs that meet the learning needs of students throughout the state.</p> <p>[text reference: pp: 8]</p>	<p>As directed in HB 3658, Section 610(6), the Higher Education Coordinating Board will lead a collaborative process to examine the physical and programmatic capacity of higher education and the role of electronic learning in meeting the goals of the master plan.</p>	<ul style="list-style-type: none"> • HECB • Council of Presidents • Public and Independent Baccalaureate Institutions • Community and Technical Colleges 	<p>Submit to HECB for approval by October 2008.</p> <p>Submit to Legislature following HECB approval.</p>

Summary of Washington's 2008 Higher Education Strategic Master Plan Policies and Actions

Policy Recommendations	Implementation Actions	Responsibilities	Time-Lines
<i>Student Preparation for Postsecondary Education</i>			
<p>Every student, in every public school, should receive the mentoring, academic advising, and skill development necessary to plan and prepare for post-secondary education and to successfully enter a program that will help them meet their personal and career goals.</p> <p>Washington schools will have well-prepared early learning providers and public school teachers and administrators who can help engage families, close the achievement gap, raise student proficiency in math and science, and provide high-quality academic advising.</p> <p>[text reference: pp: 10]</p>	<p>Working with college access program partners, the Higher Education Coordinating Board will survey and review existing efforts and evaluate which programs have the best outcomes, identify existing efforts and gaps, and propose a college and career aspiration campaign that reaches students in every school district.</p> <p>Convene statewide task force to coordinate efforts to improve teacher preparation programs that ensure new teachers are: well prepared to teach diverse students; well versed in fields they will teach, including math and science; and skilled in providing academic advising and mentoring that helps students plan for their futures.</p>	<p>HECB</p> <ul style="list-style-type: none"> • HECB • OSPI – PESB • Colleges of Education 	<p>July 2008</p> <p>October 2008; Report findings by October 2009</p>

Summary of Washington's 2008 Higher Education Strategic Master Plan Policies and Actions			
Policy Recommendations	Implementation Actions	Responsibilities	Time-Lines
<i>Student Preparation for Postsecondary Education, cont.</i>			
<p>Washington schools will have well-prepared early learning providers and public school teachers and administrators who can help engage families, close the achievement gap, raise student proficiency in math and science, and provide high-quality academic advising.</p> <p>[text reference: pp: 12]</p>	<p>Expand access to early learning provider education programs; teacher preparation programs in math, science, bilingual education, special education, and other shortage areas. Assess the need for additional locations. Incorporate findings of this need assessment in the next revision of the HECB State and Regional Needs Assessment Report.</p>	<p>HECB</p>	<p>May 2008</p>

Summary of Washington's 2008 Higher Education Strategic Master Plan Policies and Actions

Policy Recommendations	Implementation Actions	Responsibilities	Time-Lines
<i>Life-long Learning</i>			
<p>All students will have access to clear and complete information for efficient use of post-secondary education to meet their career and personal goals.</p> <p>[text reference: pp: 15]</p>	<p>HECB will work with the Education Research and Data Center at the Office of Financial Management to develop ongoing assessment of student transitions through higher education, including the effectiveness of transfer pathways. Analysis will be presented in the bi-annual HECB report to the Legislature and Governor on transfer policy.</p> <p>The Higher Education Coordinating Board will convene a task force to propose a strategy and to the Governor and the Legislature on the use of technology to support outreach efforts.</p>	<ul style="list-style-type: none"> • HECB • OFM • HECB • Public Universities and Colleges • Independent Colleges • OSPI 	<p>June 2008</p> <p>February 2008; Plan by September 2008</p>

Summary of Washington's 2008 Higher Education Strategic Master Plan Policies and Actions

Policy Recommendations by Plan Priorities	Implementation Actions	Responsibilities	Time-Lines
<i>Affordability and Access</i>			
<p>Washington will maintain its leadership role in providing need-based financial aid by continuous expansion to meet the needs of more low income and part-time students.</p> <p>Information about applying for admission and financial aid should be clear and comprehensible to students and their families. The funding, administration and allocation of state financial aid should sustain affordability, promote simplicity, and enhance transparency.</p> <p>[text reference: pp: 19]</p>	<p>The Higher Education Coordinating Board will create a multi-lingual web-based information tool that provides a plain-talk guide about financial aid and admission requirements.</p>	<ul style="list-style-type: none"> • HECB • Public Universities and Colleges • Independent Colleges 	

Summary of Washington's 2008 Higher Education Strategic Master Plan Policies and Actions

Policy Recommendations by Plan Priorities	Implementation Actions	Responsibilities	Time-Lines
<i>Affordability and Access, cont.</i>			
[text reference: pp: 19]	<p>The Higher Education Coordinating Board will establish and operate a statewide program to provide support for students and families who need help to navigate admissions and financial aid.</p> <p>The Higher Education Coordinating Board will collaboratively evaluate existing state financial aid programs to assess their accessibility, outcomes, and efficiency. This evaluation will examine the integration of the recently created College Bound scholarship program with other student aid programs and outreach efforts.</p>	<p>HECB</p> <ul style="list-style-type: none"> • HECB • COP • SBCTC • Public Universities and Colleges • Independent Colleges 	<p>July 2009</p> <p>January 2010</p>

Summary of Washington’s 2008 Higher Education Strategic Master Plan Policies and Actions			
Policy Recommendations by Plan Priorities	Implementation Actions	Responsibilities	Time-Lines
<i>Promote Economic Growth and Innovation</i>			
<p>Washington will educate the people needed to fill high-demand occupations.</p> <p>Washington’s high demand jobs will be filled by a mix of people that includes representation of women and people of color proportionate to their presence in our population.</p> <p>Washington will become a national leader in university- and college-based research that drives innovation and economic growth.</p> <p>University-based research will be fully utilized to drive economic growth and innovation in the private sector.</p> <p>The mission of educating the state’s future workforce will be shared by all two- and four-year colleges and universities in Washington.</p> <p>[text reference: pp: 22-26]</p>	<p>Convene on-going dialogue to identify steps to more fully integrate workforce development planning efforts and build better and more complete career pathways for Washington workers.</p>	<ul style="list-style-type: none"> • HECB • WTECB • SBCTC 	

**Summary of Washington’s 2008 Higher Education Strategic Master Plan
Policies and Actions**

Policy Recommendations by Plan Priorities	Implementation Actions	Responsibilities	Time-Lines
<i>Accountability and Funding</i>			
<p>Strengthening accountability and paying for results are interrelated challenges. These challenges can be tackled simultaneously by adopting a results-based funding strategy.</p> <p>[text reference: pp: 28]</p>	<p>The Higher Education Coordinating Board will convene a task force of representatives of the Office of Financial Management, institutions, and other stakeholders to design and propose a performance funding demonstration project to the Governor and the Legislature by September of 2008.</p>	<ul style="list-style-type: none"> • HECB • OFM • COP • SBCTC • Public Institutions 	<p>July 2008</p>

Summary of Washington's 2008 Higher Education Strategic Master Plan Policies and Actions

Policy Recommendations by Plan Priorities	Implementation Actions	Responsibilities	Time-Lines
<i>Accountability and Funding, cont.</i>			
<p>While total funding levels for public higher education are discretionary, the state will adopt the following higher education fiscal policies to guide higher education budgeting:</p> <ol style="list-style-type: none"> 1. The tuition policy and per-student FTE funding level goals established in HB 3658 should be continued. 2. Increased appropriations for per-student FTE funding should be used first for sustaining and enhancing academic quality by first achieving, incrementally, competitive faculty compensation levels. 3. Other initiatives as contained in the 2008 Strategic Master Plan, including enrollment growth, should be funded as policy enhancements to the projected maintenance level of the institutions operating budgets. 4. The maintenance level of higher education's operating budget should not be reallocated to support new program enhancements. <p>Appropriations for capital projects should be based on a prioritized list of proposed projects which support quality and access and the priorities of the Strategic Master Plan</p> <p>[text reference: pp: 28]</p>	<p>The Higher Education Coordinating Board shall issue Fiscal Priorities for the 2009-11 operating and capital budgets.</p>	<p>HECB</p>	<p>January 2008</p>



DRAFT

Strategic Master Plan for Higher Education in Washington

November 13, 2007

917 Lakeridge Way SW Olympia, WA 98504-3430
360-753-7800 www.hecb.wa.gov

Preface

The Washington Higher Education Coordinating Board is directed by state law to create a strategic master plan for higher education. A new, ten-year plan is to be adopted by the Board and sent to the 2008 session of the Washington Legislature for review and approval.

In 2007, the Board conducted a months-long series of public forums and events to solicit ideas and opinions from citizens, business leaders, educators, students, parents, and other stakeholders. Since February, the Board also held panel discussions with legislators, the leaders of other education governing boards and councils, business, labor and economic development organizations, both public and independent college and university leaders, demographers, and public policy experts.

These public conversations have been a rich source of ideas, information, and most important, passion. The Board heard K-12 educators talk about the challenge of preparing teachers for excellence in science and math, and educating an increasingly diverse student population. We heard from college students about the need to address the educational needs of veterans and other non-traditional students, the problem of student debt, and their desire for more student advising and career information. We heard from independent colleges about the contributions they are making to meet our state's educational needs. We heard from business leaders who look at today's educational trends and worry about our state's economic future. And we heard from people who want college and financial aid applications to be simpler, and transfers from one college to another to be more seamless. Each of the issues raised in our public forums is addressed in this plan.

Even though we are sometimes overwhelmed by the scale and urgency of the challenge of educating more Washington residents to higher levels, we are encouraged by the passionate support for doing so in every corner of our state. In every community forum, we heard divergent opinions about many issues, but absolute unanimity on one overarching goal: the goal of extending educational opportunity to every young person and every adult in our state. We offer this plan to achieve that goal.

DRAFT Strategic Master Plan for Higher Education – November 13, 2007

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Moving Washington's blue arrow

Washington's baby boomers (people born between 1946 and 1964) are the most highly educated generation in our history. Younger adults in our state have, on average, *less* education than boomers.

In many other countries, the reverse is true: younger adults are *more* educated than their elders, and the long-term trend shows a steady increase in the overall level of education of each new generation.

This is good for them, and terrible for us. Countries where education attainment is rising have rising incomes and productivity. In these countries, parents can reasonably expect that their children will have more opportunity to make a good living, and to understand and shape the world around them. They can also expect that their children will live in societies characterized by economic, technological, scientific, cultural, civic and social progress.

We cannot share those expectations unless we *act now to reverse the trend* of falling educational attainment among our younger adults and children.

Blue arrow chart with caption: The goal of this ten-year plan is to move Washington's blue arrow up by raising educational attainment for adult workers and young people across our state.

Education is the wellspring of economic growth. It is also the foundation of democracy, and the shared experience that knits a diverse society together.

The absence of education is the polar opposite: it drains our society of hope, opportunity, civic engagement and economic growth. It creates a downward spiral of poverty, dependence, ill-health, alienation, and crime.

Graphs & charts on effects of lack of education, and improved quality of life that result from educational attainment.

That's why the challenge before us is so urgent. Our state's future is at stake. Our moral obligation to future generations requires a renewed and sustained commitment – a commitment of the time, resources, and creativity needed to transform our education system for a new economy, a new century, and a new mix of diverse and promising students.

How did we fall behind?

If the need for rising levels of educational attainment is so obvious, why have we fallen behind? It's not because we've ignored our education needs; on the contrary, we have made enormous investments in education. We have world-class research and regional

universities, and a community and technical college system that is the envy of other states. We have held on – against considerable pressure – to academic standards that ensure that our high school graduates can read, write and do math. And we’ve begun to make new investments in early learning as well.

Since 1996, our public higher education system has grown by 23%. We have added nearly 10,000 new full time equivalent (FTE) students in the current biennium. **Washington’s independent and private colleges have grown by ___ in this time.**

But we still have not come far enough, fast enough. And we have not fully grasped how both the size and the nature of our educational challenge are changing. Here are the four changes we need to face up to:

First, our growing investments in education have not kept up with population growth.

Chart that combines pop. growth and ed. spending with caption:
Our legislature and governor have increased education spending steadily, but state spending on education must compete with rapid escalation in the cost of health care, and with prisons, and environmental protection.

Second, our growing population includes more people who have not fared well in our education system – the poor, people of color, and immigrants. Poverty is the single most powerful risk factor for academic failure among children, and people of color – particularly Hispanic, Native American, and African American people – have disproportionately low incomes. Differences in culture, race, and language are growing in our state, and they also play an important role in how both children and adults learn, and what they need from our education system.

Pie chart showing that 47% of high school graduates in 2013 will come from families whose incomes are below \$50,000
Chart showing growth in diversity of population

Third, we have a “pipeline” problem. Among our young people, too many start kindergarten already behind. Too many drop out of high school. Too few go on to post-secondary education, and even fewer complete the post-secondary programs they enroll in. At every stage, the “educational pipeline” leaks like a sieve.

Pipeline chart

Fourth, we have a “way of thinking” problem that inhibits our progress, and it is expressed in the very term “educational pipeline.” We think of education as something for young people – something that should be completed in our late teens or early twenties. And we think of education as having an end point – in fact, academics actually use the rather odd phrase “terminal degrees” to describe it.

This just doesn't match the reality of the 21st century, or of Washington's education challenge. Education beyond high school *and* learning throughout our careers are the new normal, but we are late adapters to this change.

Equally important, our state includes over a million adults who have a high school diploma or less. Each year, we add **xxxx** high school dropouts to that population, along with **xxx** high school graduates who go straight into the workforce, and approximately **xxx** immigrants who need to learn English as well as job skills.

Seventy five percent of today's jobs require some form of post-secondary education or job training, and ten or twenty years from now, the percentage will be even higher. And as the economy changes, skills must change, so that more and more adults will need to return to the well for more education time and time again, throughout their careers. But though we have talked about "lifetime learning" for what seems like a lifetime already, we have not re-engineered our education system to make adult learning accessible and user-friendly for those who need it most.

In the next decade, a wave of baby boomer retirements will begin to wash over our economy. We will need an equally large wave of highly educated and skilled younger workers to take their place. We're not ready for this. And we're running out of time to get ready. We need to act boldly, and we need to do so now.

Where do we begin?

This plan builds on the work of generations of visionary leaders who created today's higher education system. Those leaders founded both public and private colleges and universities across the state, built the community and technical college system, and created a financial aid system for low-income students. They were guided by the ethic of creating opportunity for the next generation. Now it is our turn to build on their legacy, and to live up to their ethical example.

This plan has more recent inspiration, as well. One source is a "System Direction" document published by the State Board for Community and Technical Colleges in September, 2006 (and available on their website). It sets out bold ideas about innovation, student success, and economic growth that have been incorporated into this plan.

Washington Learns, the blue-ribbon commission convened by Governor Gregoire has also provided both data and ideas that inform, direct, and inspire this plan. The Commission examined education from cradle through careers, and its final report calls for a single, seamless system of learning that tailors education to the needs of individual students. It emphasizes early learning, academic rigor, clear accountability, creativity, and new partnerships between families, the public sector and the private sector.

Washington Learns final report, issued in November, 2006, set out ten-year goals for a world-class education system.

1. Parents will be their children’s first and best teachers and will have the support they need to help their children “learn to learn” in their first years of life.
2. Families will have access to high-quality, affordable child care and early education programs staffed by providers and teachers who are adequately trained and compensated.
3. All children will enter kindergarten healthy and emotionally, socially and cognitively ready to succeed in school and in life.
4. All students will transition from third grade with the ability to read well and do basic math, and with the ability to actively participate in a learning environment.
5. All students will transition from eighth grade with demonstrated ability in core academic subjects, citizenship skills and an initial plan for high school and beyond.
6. All students will graduate from high school with an international perspective and the skills to live, learn and work in a diverse state and a global society.
7. All students will complete a rigorous high school course of study and demonstrate the abilities needed to enter a post-secondary education program or career path.
8. All Washingtonians will have access to affordable post-secondary education and workforce training opportunities that provide them with the knowledge and skills to thrive personally and professionally.
9. Washington will have a well-trained and educated workforce that meets the needs of our knowledge-based economy.
10. Academic research will fuel discoveries and innovations that allow Washington business to compete globally.

At first glance, one might think that higher education’s role begins with number eight on this list. But ours is a larger challenge, because higher education institutions provide parent education, and education of early learning providers, K-12 teachers, and school administrators. Higher education institutions also play a major role in providing the continuing education today’s teachers need to meet the needs of children from every culture, and to improve student achievement in math and science. Higher education is also called upon to reach out to students in middle and high school, and to help create the expectation that *all* students should plan and prepare for post-secondary education.

Even the first recommendation – that parents will be their children’s first and best teachers – is profoundly connected to our higher education system, because the more educated parents are, the more likely their children are to succeed in school and life. When even one parent learns, many successive generations benefit.

The gift of educational opportunity has the power to change the trajectory of families, of communities, and our state. It has the power to move the blue arrow up.

That is the starting point and the aim of this ten-year plan.

A vision for 2018

In 2018, Washington's higher education institutions will be fully integrated into a cradle-through-career system that educates more people to higher levels of skill and knowledge than ever before. We will reduce employers' need to attract people with advanced degrees or specialized skills from other states and countries; the best jobs in Washington will go to Washingtonians educated in our colleges and universities. University-based research will foster innovation and the growth of leading-edge industries. Washington businesses will expand and grow, fueled by skilled workers who have easy access to a system that helps them learn the skills they need to move up in the world.

Washington's engaged citizens will create a civic culture that sustains a strong sense of responsibility to the next generation. This will be expressed in concerted action to address global climate change, protect our natural heritage, foster community service, and continue to expand and improve our education system.

Washington will also be a center of creativity, cultural vitality and innovation – in the arts, business, technology, agriculture, renewable energy development and, of course, in education itself. By nurturing the dreams and the potential of every Washingtonian and embracing our growing diversity, our highly qualified educators – from early learning through graduate school – will build our state's reputation for educational excellence, and they will earn a higher level of respect and remuneration.

To achieve this vision, we will do more, and do it differently. We will provide more space and funding for more students. We will rethink and redesign educational programs to suit the needs of diverse learners and a changing economy. Education will be available where and when people need it.

Public and independent post-secondary education institutions will not simply wait at the end of the pipeline for high school graduates to come knocking on the door. They will partner with K-12 schools and communities to reach out to students in our public schools, to working adults, and to under-educated adults and new immigrants, and tailor programs to meet their needs -- programs that provide upward mobility, foster creativity and innovation, and stimulate the growth of our economy.

Washington's P-20 education system will be a more customized, responsive, and collaborative enterprise that puts the needs of individual learners first, and the result will be a prosperous economy, a healthy society, and a shrinking gap between rich and poor.

I. Expand enrollment to create prosperity and opportunity

Raising the level of educational attainment

Educating more people to higher levels will require new efforts throughout our education system and our society. Early learning, more rigorous and relevant public education, strong mentors and advocates for students, greater public awareness of the educational requirements of this new century, a renewed focus on math and science education, accessible financial aid, more user-friendly institutions, and focused outreach to students of color and low-income students are all essential.

But none of this will help if we do not invest in expansion of the capacity of our higher education system. As our population grows we will have to expand enrollments just to maintain our current level of degree attainment. To *increase* our level of degree attainment – the central goal of Washington Learns – we will have to expand even more.

We will also have to expand differently. We will need a greater focus on increasing baccalaureate and graduate degrees, and on preparing people for high-demand fields such as science, technology, engineering, math and health care. At the same time, we will need to attract and retain students from under-served populations – people who will need more student advising, child care, and other support services. These differences will have significant cost implications.

Policy goal: Expand enrollment to meet the Washington Learns goal to “educate more people to achieve at higher levels.”

Recommendation: We propose a goal of improving our leadership position in two-year associate degrees, and increasing our baccalaureate and graduate degree attainment to the 75th percentile of the Global Challenge States. To achieve this goal, public and private higher education institutions will work together to

- *Prepare 36,200 people with mid-level degrees (including completion of apprenticeship programs, technical certificates of a year or more and associate degrees) each year – an increase of 9,400 over our current level.*
- *Reach the 75th percentile of the Global Challenge States in baccalaureate degrees by preparing 42,000 graduates – an increase of 13,400 over our current level.*
- *Reach the 50th percentile of the Global Challenge States in graduate degrees by 2020 by awarding 19,800 advanced degrees each year (8,600 over current level), and make a commitment to move to the 75th percentile over the following decade.*
- *By 2020, we would need a total higher education enrollment of 296,000, which will require adding 61,500 FTE enrollments.*

Ambitious, attainable goals

By the end of the current biennium, we will have added 23% more full time equivalent students to our public higher education system since 1996. This is remarkable and welcome progress, and it proves our capacity to rise to the challenge before us. To meet the ambitious growth goal we have set, we will need to expand by an additional 26% by 2020. To achieve this goal, we will need to grow enrollments at slightly more than 2% per year.

We will also need to manage enrollment growth differently. For example, we need to increase the number of people who earn bachelor's and advanced degrees to reduce the need for Washington employers to import educated workers from other states and countries. Our greatest needs are for degrees in science, technology, engineering, math and health care. These fields of study are more expensive than other higher education enrollments.

We will also need to recruit and retain students from different demographic groups and of different ages than in the past. The number of high school graduates will level off in the next few years, but within our high schools, a higher proportion of students will be low-income and/or students of color who have been less likely to graduate from high school or to enroll in post-secondary education. We will need aggressive, focused and consistent effort to inspire, support and encourage these students to reach higher.

There will be significant growth among adults for intermittent education throughout their careers. The system should both stimulate and respond to this growth by creating enrollment capacity, and by making the system more user-friendly and flexible for working adults.

To achieve the goal of educating more people to higher levels, we will need to do a much better job of serving low-income and minority students who have traditionally been left out of the postsecondary education system. These prospective students – both young and adult – are a growing percentage of our population.

Policy goal: The state should achieve parity in the representation of low-income students and students of color in public postsecondary education by the year 2018.

New strategies for expanding service delivery

In the past, expanding the higher education system has ineluctably meant building new buildings. To some extent, that will always be true, but distance learning technologies, the location of university programs on community college campuses, and leased facilities in remote locations have added new options for expansion. Serving place-bound students, providing programs on job sites, and creating community-based learning in church basements and community centers have also helped to change the equation of higher education with ivy-covered brick buildings.

Nonetheless, buildings are hardly obsolete, and we will need more of them. We are now in the final biennium of capital funding provided by a bonding measure championed by former Governors Booth Gardner and Dan Evans and passed by the legislature in 2003. The Gardner-Evans bonds have helped address backlog of need for expansion and maintenance, but unmet needs remain.

Work is underway now to site a new campus to serve the North Puget Sound region, and that will require new funding. In addition, there is a \$1.2 billion backlog of maintenance required to protect our investment in the buildings we already have.

The policy question we face is how to plan strategically to meet the needs of more diverse learners, in every corner of our state, in the most economical and efficient fashion.

Policy goal: Washington's higher education system will create innovative, efficient facilities and programs that meet the learning needs of students throughout the state.

Recommendation: As directed in HB 3658, Section 610(6), The Higher Education Coordinating Board will lead a collaborative process to examine the physical and programmatic capacity of higher education and the role of electronic learning in meeting the goals of the master plan. A report on the findings of this assessment will be submitted to the Board and Legislature by October 2008.

Three strategies for expanding enrollment and raising education attainment in Washington

Washington cannot raise the level of educational attainment – and move the blue arrow up – by doing what we have always done. Higher education institutions can no longer passively wait for student applications; we need to actively recruit and encourage both youth and adults to seek more education. We have to reach out to prospective students who currently think further education is beyond their reach because of cost, competing work and family obligations, or lack of academic preparation. And we have to make post-secondary education more accessible and user-friendly to everyone who can benefit from it. We propose three broad strategies to do this: creating the expectation among K-12 students that all will get education beyond high school, creating a system that is user-friendly for all adult learners, and making college more affordable and accessible.

1. Create higher expectations for all K-12 students

Post-secondary education is no longer optional. Virtually everyone needs some education or job training beyond high school, and everyone deserves the opportunity to get whatever level of education they need to meet their personal and career goals.

Today, the levels of skill in reading, writing, math and science high school graduates need to enter an apprenticeship program or a four-year college program are virtually the

same. (In fact, a higher level of reading skill may be required to read a car repair manual than some college textbooks.) This convergence of higher levels of skill requirements for a wide range of post-secondary education options is driving an intense and important policy debate about what our high school graduation requirements should be. At the same time that we are considering raising graduation requirements, however, a quarter of our students are dropping out of high school.

How can we improve the skills of high school graduates *and* reduce the dropout rate? We need to create a culture in our public schools that helps every student imagine and prepare for a successful adult life. We need high expectations for every student, from every income level and ethnic group. Every K-12 educator ought to expect all students to pursue education or job training beyond high school, and should help them plan and prepare to do so.

Every student should also have clear incentives for learning and persisting in school. The new College Bound Scholarship, which promises full financial aid to low-income seventh graders who graduate from high school and demonstrate good citizenship, is an important step in this direction. But we must be even bolder to create a universal expectation among students that every one of them can plan on getting some post-secondary education. In today's economy, a high school diploma is simply not enough.

Scaling up successful student advising and mentoring programs

Many students don't know about the opportunities available to them in our post-secondary education system, or in the world of work. Nor do they learn early enough about what preparation they will need to pursue these opportunities. In fact, in far too many public schools, students don't learn about higher education or careers at all, because there is insufficient counseling staff and no systematic academic advisory program. As a result, our state ranks 32nd nationally in the percentage of low income students who participate in post-secondary education.

Students need to know far more about what jobs and professions the world has to offer, and what the world will need from their generation. They need early and consistent learning opportunities to explore their own aptitudes and interests, and more information about all the possible ways they can leverage their best abilities into meaningful careers. They need opportunities for job shadowing, internships, and volunteer work.

Middle and upper-class students have family and community networks that provide a great deal of this learning; low-income students do not. To fill this gap for low-income students, students in foster care, and students of color, there are some programs that offer students mentoring, help with study skills, early outreach from higher education institutions, and a curriculum that teaches students and their families the skills they need to take charge of their own education and to plan and prepare for their future.

(Sidebar that describes Gear Up, AVID, and Navigation 101)

In spite of their effectiveness at improving student achievement, reducing the dropout rate, and stimulating participation in higher education, these programs have not become an intrinsic part of every student's education. They serve only a fraction of students in a fraction of our schools.

Policy goal: Every student, in every public school, should receive the mentoring, academic advising, and skill development necessary to plan and prepare for post-secondary education and to successfully enter a program that will help them meet their personal and career goals.

Recommendation: Working with college access program partners, the Higher Education Coordinating Board will survey and review existing efforts and evaluate which programs have the best outcomes, identify existing efforts and gaps, and propose a college and career aspiration campaign that reaches students in every school district.

Engaging families and communities

Expanded early learning programs and more engaging and culturally responsive public schools can do a great deal to close the achievement gap. But schools cannot succeed alone. To plan for their futures, students need to see and experience what life is like in a variety of trades and professions. They need stable, ongoing relationships with adult mentors and role models. They need opportunities to serve their communities and to participate in cultural and community events. They need to learn and practice both academic skills and democratic values.

This requires a web of family and community support. Our state has a rich array of such supports -- including faith communities, Boys and Girls Clubs, business associations, and parent organizations. But there are critical gaps. Far too many boys -- especially boys of color -- are not achieving the academic success we know they are capable of. And far too many children from low-income families lack the role models and relationships they need to raise their expectations.

Creating multiple pathways from high school to college or workforce training

Running Start, College in the High School, Advanced Placement, Tech Prep and similar programs have expanded the options available to high school students who want to accelerate their learning. The state's investment in additional Skills Centers, combined with articulated programs between Skills Centers and community and technical colleges, also provide a growing array of opportunities for high school students to achieve their education and career goals quickly and efficiently.

But growth in key programs is constrained by insufficient funding, and sometimes by lack of student knowledge about them. For instance, Running Start is used mostly by students who want a head start on earning a college degree, but it is available -- though underutilized -- for students who want an early start in workforce training programs. The recent creation of Running Start for the (construction) Trades is a small step toward better

utilization of this program for such students. Similarly, we need to increase awareness and visibility of our Tech-Prep programs, which provide high school students with dual-credit courses in an articulated pathway to postsecondary workforce education programs. Tech-Prep enrollment has grown and is now on par with Running Start enrollment statewide, and deserves similar levels of support and attention.

But we need even more innovative thinking about the last two years of high school and the first year or two years of post-secondary education or job training. Our students need much more flexibility so that those who want to accelerate can, and those who need extra help get it. And all students need more opportunities to explore the world of work, and access to the information and skills necessary to chart their own path from school to a rewarding career.

Policy goal: High school juniors and seniors will have an array of learning options that meet their needs for accelerated advancement, for extra help to meet rigorous academic standards, for career exploration and planning, and for dual credit programs that help them transition into post-secondary education and job training programs.

Preparing early learning providers, teachers and school leaders for the 21st century

To improve the quality of early learning programs in Washington – a key policy goal – we need to expand and improve the education of early learning providers. The higher education system provides parent education, and education of early learning providers ranging from certificates to masters’ degrees. Immediate and significant expansion of these programs is needed.

The higher education system also prepares Washington’s public school teachers, principals, and other school administrators, and provides professional development for those who are already working in our schools. Improving these programs could pay big dividends.

For instance, one of the impediments to bringing programs such as Navigation 101 to scale in our public schools is that many of today’s teachers are not prepared to take on the role of academic advisors or mentors. Some welcome this new role and learn the skills needed to lead Navigation or AVID classes; others do not believe this should be part of their job description.

Similarly, many – certainly not all, but many – of today’s teachers were prepared to teach students like themselves – students who are white, middle-class, without disabilities, and college-bound from birth. Many teachers have gained insight into the cultures and expectations of diverse students in order to motivate and engage them. Others have not. There is also a chronic shortage of teachers of color, and especially of teachers who are bilingual, as well as a chronic shortage of special education teachers.

Math and science teaching and learning are also areas where our state's teachers often struggle. In elementary and middle schools especially, many teachers feel unprepared to help students achieve the higher levels of skill in math and science they will need. These teachers need help.

The K-12 system urgently needs teachers who are prepared to improve learning in math and science, and to help close the achievement gap for low-income students and students of color. These needs can be addressed by recruiting strong teacher candidates and by offering those candidates effective teacher preparation programs in our Colleges of Education. They can also be addressed in professional development programs for incumbent teachers.

The HECB sponsors professional development for K-12 educators through its federally funded Improving Teacher Quality Program. This program provides competitive partnership grants for projects that provide professional development for teachers, principals, and highly qualified paraprofessionals. The program's purpose is to increase student achievement in core academic subjects by improving educator quality through professional development.

Policy goal: Washington schools will have well-prepared early learning providers and public school teachers and administrators who can help engage families, close the achievement gap, raise student proficiency in math and science, and provide high-quality academic advising.

Recommendation: Convene a statewide task force to coordinate efforts to improve teacher preparation programs, including efforts to ensure that new teachers are well prepared to teach diverse students, that they are well versed in fields that they will teach, including math and science, and that they are skilled in providing academic advising and mentoring that helps students plan for their futures. HECB staff will contact various agency and institutional partners to form a task force by October 2008, and will report findings and recommendations to the legislature by October 2009.

Recommendation: Expand access to early learning provider education programs, and to teacher preparation programs in math, science, bilingual education, special education, and other shortage areas. Assess the need for additional locations, and encourage institutions of higher education to use additional locations if appropriate. Incorporate the findings of the need assessment in the next revision of the HECB State and Regional Needs Assessment Report by May, 2008.

2. Create a system of support for lifelong learning

Study, learn, work . . . and repeat

Although many students go directly from high school to post-secondary education, the demand for continuing education that helps adults meet career and personal goals is growing. Today about half of state financial aid is used by people who are over 24, or

who already have a family. These students come to the higher education system with a wide range of educational needs. Some are people who already have a bachelor's degree but need a specific job skill; others come back for a second bachelor's degree, or a graduate degree.

Our community and technical colleges serve a wide range of adult students: new immigrants or former high school dropouts who need basic literacy skills and job training; adults who are getting the first two years toward a baccalaureate degree; and college graduates who need technical skills.

There are also many adults who go to both public and independent four-year and two-year colleges intermittently, alternating periods of work and education. They take classes during times when they can find a babysitter or synchronize work and class schedules, or enroll in school when they lose a job and need to re-skill for another. They move between two- and four-year institutions, between public and independent colleges, and come in and out of the system. At times they take only one class; at others they may attend full time; at still other times – for instance, upon the arrival of a new baby in the family – they may not pursue their education at all for a while. These students confound traditional ideas of education coming in predictable, tidy sequences and timelines. They also frustrate those who would measure higher education productivity by how quickly students earn degrees. But these students are the system's customers as surely as "traditional" eighteen year old high school graduates. And the learning that these "non-traditional" students pursue is every bit as important to their future and to the future of our state. We need to do much more to adapt the system – both our community and technical colleges and our four-year colleges and universities – to their needs.

We also need to offer these and other students more help in mapping out their own, individual pathways to meet their career and life goals without getting sidetracked or delayed along the way.

User Friendly Transfer

After graduating from high school, more students than ever before have adopted a "cafeteria" approach to their education, taking classes at multiple institutions before obtaining a degree.

Transfer among colleges and universities is a key strategy for providing access to baccalaureate-level education in Washington state. About 41 percent of the 16,800 students awarded degrees at Washington public baccalaureate institutions in the 2000-01 academic year had completed at least 40 credits at a community or technical college. Of these students, 67 percent (27 percent of those earning baccalaureate degrees) had completed an academic associate degree, and another five percent (two percent of baccalaureate degree earners) had completed both an academic and a technical associate degree prior to transfer.

Despite these successes, many students who begin their academic journey at community colleges with the intention of transferring and completing a baccalaureate degree are not

able to reach their goal. In the 2004-05 academic year, about half of the students who enrolled in 2001-02 with the intention to transfer in pursuit of a bachelor's degree actually transferred to public four-year colleges in Washington.

Students don't reach their goals for a number of reasons: changes in their personal lives, their finances, or their employment. But higher education can do more to help all students reach their goals. We can create a system that allows them to map out their own, individual pathways to meet their career and life goals without getting sidetracked or delayed along the way.

If the higher education system is to create policy that recognizes increasing mobility among students, two separate but connected initiatives are necessary. The first focuses on aligning the policies and practice we have in place to ensure that students have flexibility in designing their path to a degree. The second requires getting the right information to students at the right time.

In order to provide students with maximum flexibility in planning their route to a degree, we must:

- Design pathways that allow students to simultaneously prepare for entry into more than one baccalaureate institution;
- Design pathways that adequately prepare students for entry into competitive majors;
- Connect faculty and administrators across institutions and sectors to ensure that pathways stay current with expectations of industry, and that other obstacles can be addressed. This process of "behind-the-scenes" communication among institutions is critical to ensure that effective and efficient transfer pathways exist for students.
- Assess these pathways to ensure that they are providing students with the most efficient road to their educational goals.

New and improved pathways to degrees are only useful if students know about them. Clear communication with students and their families is critical to make transfer work well. The missing links in Washington are a comprehensive communication strategy that includes fuller use of web-based technology that provides an interactive and accurate map of transfer paths for students, and better communication between institutions – both public and independent – to assure the paths are clear and direct. Students need a better understanding of the different paths open to them, and a single interactive web site can provide this information in one place. As informed consumers, students will make better choices in coursework to transfer, and better choices of where to transfer, making the process more efficient than it currently is.

To support students through transition such a web site could:

- Provide students with a one-stop shop that contains information for every institution in the state;
- Give students the ability to manage their own information and share it with the institutions they so choose in an electronic format;

- Show high school students that the academic choices they make can influence the time it will take them to complete certain major courses of study in college;
- Illustrate for students how transfer to different colleges will affect their time to degree with specific other requirements for graduation; and
- Connect the community and technical college registration process with the baccalaureate admissions process.

Several efforts related to the use of technology provide support and planning services to students. It is incumbent of the Higher Education Coordinating Board to coordinate these efforts in order to avoid duplication and ensure integration of different technology approaches and applications.

Policy goal: All students will have access to clear and complete information that facilitates efficient use of post-secondary education to meet their career and personal goals.

Recommendation: By June, 2008, the HECB will work with the Education Research and Data Center at the Office of Financial Management to develop ongoing assessment of student transitions through higher education, including the effectiveness of transfer pathways. Analysis will be presented in the bi-annual HECB report to the Legislature and Governor on transfer policy.

Recommendation: By February, 2008, the Higher Education Coordinating Board will convene a task force of representatives of the State Board for Community and Technical Colleges, Council of Presidents, Office of the Superintendent of Public Instruction, public and private, two- and four-year institutions and other stakeholders to develop a coordinated plan to use technology to support and retain students through their transitions among higher education institutions. The work group will propose a strategy to the Governor and the Legislature by September, 2008, for consideration as part of the 2009-11 biennial budget.

Scheduling learning differently and customizing instruction

Scheduling issues are also a major barrier for many adult learners. Some institutions have responded by creating new ways of “packaging” education. For instance, some offer intensive weekend courses that allow students to complete a semester or quarter of credit in one month. Others offer blocks of classes early in the day or late in the day, so students can still get in a full shift at work. Many also combine in-person and online learning and offer more web-based learning resources. As the proportion of working adults in our higher education system grows, it is becoming more important to tailor programs to student needs in this way. New technologies offer a wealth of opportunity for expanding the array of education delivery systems, and for creating powerful e-learning communities.

There is also a growing need for “just in time” learning. Many adult workers may rather suddenly need skill upgrade training, and they only have time for just what they need. The need may arise from a new business opportunity, a new technology or piece of equipment, a new product line or service, a new market. Just in time and customized training is often the solution to a pressing business need.

This can be a difficult market niche for colleges and universities to fill. It requires customizable, modularized curriculum. It requires new assessment tools to identify what the student already knows so they can focus precisely on learning what they do not know. This can be a major challenge for institutions that are used to thinking in terms of yearlong or multi-year degree and certificate programs and are not capable of granting students academic credit for prior learning—skills and knowledge learned informally or on the job. When institutions rely on their continuing or extended learning operations to meet these just in time training needs, there are rarely systems and policies in place that allow students to link these courses together into a program of study that leads to a degree.

Policy goal: Higher education institutions will develop the capacity to respond quickly and efficiently to the “just in time” learning needs of adult workers and Washington businesses.

Improving student advising, support services, and child care

Improving academic advising services, child care, and other support services is also becoming a more urgent need as the adult student population grows. Investing in improved student advising and support can help students stay motivated and engaged so they achieve their goals faster. It can also help them choose courses and pathways that reduce costs to both students and the system.

Child care – care that provides high quality early learning – should also be available and affordable for students and higher education staff and faculty. Its absence is an enormous barrier to student participation and staff recruitment and retention, and its provision and quality in our colleges ought to be a model for the state. Campus-based early learning programs can also serve an important training role for early learning providers, thus helping the state achieve the goal of improved early learning for all.

Policy goal: All students will have access to academic advising, support services, and high-quality child care so that they can participate fully in education and improve their own and their children’s futures.

Education is the 21st century anti-poverty program – and a powerful economic development tool

As the skill levels required for family wage jobs increase, so does the need for expanded and improved programs for under-educated adults. In today's economy, education and training are the only routes out of poverty. Improving the skills of workers at the bottom of the wage ladder is also a sure way to improve economic productivity and prosperity in the communities in which they live. Perhaps even more important, educating parents significantly improves their children's likelihood of success in school and in life, so helping under-educated adults has multi-generational benefits.

Today's low-income adult learners face formidable barriers. Most have competing demands of children and jobs. Many lack transportation. And many are recent immigrants who need to learn English as well as job skills. It is difficult for them to find and enter education programs; it is even more difficult for them to persist and complete them.

Yet within the community and technical college system, adult basic education and English as a Second Language programs have the least funding. Because these programs serve people who are not ready for college-level coursework, they are often treated as the step-children of the larger higher education system. Raising public and policymakers' awareness of their importance, their power to change lives and communities, and their need for funding and support must be a higher priority. It does not make sense for those who need education the most to get the least.

In the past few years, there have been significant innovations and successes in adult basic education and English as a Second Language, and in connecting these programs with workforce training programs that give people more earning power. In the past, students were required to progress through ESL and basic education programs *before* they could learn job skills. Now programs that combine ESL, basic skills and job skills (I-BEST) have produced much faster gains and higher earnings for students.

There are a variety of state and federal programs designed to help under-educated adults, but the federal contribution to these programs has been shrinking, and the state's most effective programs, such as I-BEST and Opportunity Grants, serve only a small number.

There is also a need for more outreach to the least educated, who are often unlikely to hear about the educational opportunities that do exist, and to receive the encouragement and support they need to take advantage of those opportunities.

Policy goal: More immigrants and under-educated adults will enroll and succeed in education and job training programs, thus raising their economic productivity, the prosperity of their communities, their family incomes, and their children's prospects for academic success.

3. Make college affordable and easy to access

Projecting financial aid needs for the future

Washington has a longstanding commitment to helping its low income citizens go to college. Our state ranks second among the Global Challenge States in providing need-based financial aid, and the Legislature has recently increased student aid funding to keep pace with rising tuition and population growth. In 2006-07, the Higher Education Coordinating Board disbursed \$201 million to serve more than 75,000 students who attend public and private colleges, community and technical colleges, and private vocational schools. The Legislature has approved an additional \$82 million for the 2007-09 biennium.

But an increase in the number of both young and adult students with low incomes, and growing shortages of graduates in high-demand occupations and in science, technology, engineering and math still leave unmet needs. And if – as we hope – a higher proportion of low-income and minority students (both recent high school graduates and older adults) are inspired to enroll in college in the years to come, the need for financial aid will be greater still.

Policy goal: Washington will maintain its leadership role in providing need-based financial aid by continuous expansion to meet the needs of more low income and part-time students.

Simplifying financial aid and admissions

Applying for admission to college can be mystifying. Students often apply only to those colleges they believe will admit them, and those they think they can afford. Often they make these decisions with too little information, and miss important opportunities.

All learners need timely, thorough, and accurate information about admissions policies in plain language. Many also need waivers of admissions fees in order to apply to multiple colleges.

There is a lack of simple, clear and accurate information that is available when and where it is needed by families and youth across the state. This is a significant barrier, especially to low-income, first generation students and families for whom higher education is foreign territory.

There is no statewide, personalized assistance to address concerns and questions on preparing and paying for college. Nor is there a system for helping prospective students with the lengthy, complex federal form that must be completed to apply for financial aid. Any high school student – or inexperienced adult, for that matter – who lacks help filling out these forms is at a serious disadvantage.

At the state level, there are multiple financial aid programs, each targeted to specific kinds of students and state needs. Ninety-five percent of financial aid funding administered by the HECB is spent in two need-based programs: the State Need Grant and State Work Study. The remaining five percent is composed of two small merit programs and two workforce-oriented conditional scholarship programs.

The state cannot alter the federal student aid process. It can, however, seek ways to make state and local financial aid and scholarships processes simpler, more user-friendly, and much better known to prospective students of every age, income group, culture, and walk of life.

Policy goal: Information about applying for admission and financial aid should be clear and comprehensible to students and their families. The funding, administration and allocation of state financial aid should sustain affordability, promote simplicity, and enhance transparency.

Recommendation: The Higher Education Coordinating Board will collaborate with its partners to create a web-based information tool that provides a plain-talk guide to financial aid and admission, translated into several languages, and online help to students and families as they apply for admission and financial aid. Print materials will be made available for distribution in public schools, libraries, and community services offices.

Recommendation: The Higher Education Coordinating Board, in collaboration with its partners, will develop a statewide program to provide personalized support for students and families who need help to navigate admissions and financial aid.

Recommendation: Washington's state financial aid should be re-examined by the Higher Education Coordinating Board and its partners to find opportunities for system improvements that would simplify and consolidate programs, and make aid more available to part-time students.

Recommendation: The Higher Education Coordinating Board will work with other state agencies and post-secondary institutions to evaluate all state financial aid programs to review their accessibility, outcomes, and efficiency. This will integrate the recently created College Bound scholarship program with other student aid programs and outreach efforts.

The dilemma of middle-class students and growing debt

Last year 65,000 resident undergraduate students took out student loans at an average of \$6,600. About 22,000 students borrowed more than \$8,000, and about 6,000 students borrowed more than \$15,000 in that year. It is likely that thousands of students are also borrowing through private market loans.

State and federal grants and work-study make it possible for many students to avoid over-indebtedness, but many students are enticed by the direct-to-consumer marketing and ease with which they can borrow. Outreach and financial aid awareness activities could provide greater financial literacy for prospective students.

Policy goal: Prospective students will receive accurate information and advising that prevents over-borrowing and excessive indebtedness.

Recommendation: The HECB will develop and implement a financial literacy curriculum to be included as part of college and career outreach and awareness activities.

II. Promote economic growth and innovation

In a knowledge-driven economy, higher education plays a vital role in promoting economic growth. Leading-edge scholarship and research help create new industries and products, solve pressing problems in environmental protection, climate change, food safety and animal and human health. These innovations create new industries and jobs that require a well-educated workforce.

It is clear that employers value education. Earnings increase with the level of education, and the salary differential between college and high school educated workers has nearly doubled over the last 30 years.

The productivity growth associated with post-secondary education can improve the competitiveness of our economy and provide substantial economic benefits. Economic studies indicate that increasing the average level of education in the United States by one year could provide a six to 15 percent boost in economic output.

The social benefits of higher education also have an economic impact. Studies show that college graduates enjoy improved health (partly due to jobs that are more likely to provide health benefits), lower incarceration rates, less need for public assistance (in 2006, only 13 percent of Washington's unemployment insurance beneficiaries have a Bachelor's degree or higher), and healthier and better-educated children (who enjoy the same health and social benefits as their college-educated parents), over those with a high school education.

The benefits of academic research for industry are also substantial. Academic research and development totaled \$870 million in Washington in 2003, or 0.4 percent of gross state product. Academic research works with and benefits industry in a variety of ways, including direct hires of students, graduates, and faculty; temporary exchanges of researchers; faculty consultancies; joint research involving industry and academic scientists and engineers; industry-sponsored research contracts and grants; a variety of institutional mechanisms at universities (e.g., research centers, consortia, industrial liaison programs); technology licensing; start-up companies; publications; conferences; and short courses.

But getting the full potential economic gain from higher education requires more careful planning, forecasting of workforce, entrepreneurial, and research needs, and better incentives for both institutions and students to respond to specific economic opportunities.

Filling unmet needs in high demand fields

A 2006 report found that current degree production of baccalaureate and graduate degrees meets only 67 percent of the need in engineering, 56 percent of the need in computer science, 65 percent of the need in the medical professions, 75 percent of the need in editing, writing and performing occupations, 75 percent of the need in human and

protective service occupations, and 89 percent of the need in research, scientific, and technical occupations. Subsequent and more recent analysis has shown that at the Associates degree level and below (mid-level training), we are meeting about 77 percent of current demand.

The community and technical college system has maintained support for high demand enrollments since 2000, focused primarily on health sciences. Fifty-seven percent of the system's high demand state funding has gone to health sciences programs, directly supporting an additional 546 FTE. The results are an increase of X% in Allied Health and Health Services degree awards between 2000 and 2006.

A similar effort to expand high demand enrollments is needed at the baccalaureate and graduate level that focuses on science, technology, engineering, mathematics, and health services.

Policy goal: Washington will educate the people needed to fill high-demand occupations.

Recommendation: Continue to sustain investment in expansion of high demand programs of study, using HECB analysis and its accountability framework to help guide and direct this investment to where it is needed most.

Promoting student enrollment in science, technology, engineering and math

More must also be done to inform prospective students about career opportunities in high demand fields, and to actively recruit students for these occupations. Responding to this need can serve two goals: the goal of economic growth, and the goal of reducing inequality.

For instance, too few women earn degrees in science, technology, engineering and math (STEM) fields. Most degrees in computer science and engineering are awarded to men. Women get most nursing degrees. This is not due to differences in academic preparation; young women who graduate from Washington high schools are as qualified as their male peers to study science and technology in college. People of color are also under-represented in the most lucrative high demand professions.

There are effective outreach programs for diverse middle and high school students that provide educational experiences and encouragement to enter these fields and expand the pipeline for these professions, but they serve only a fraction of the students who would benefit from them.

A comprehensive approach to development and expansion of the number of students enrolling in high demand fields must include the following:

- A public information campaign to inform students, parents, and educators about the opportunities available in high demand programs and how to prepare for them;
- Student access to career exploration opportunities in middle and high school;

- K-12 instruction aligned with college admissions requirements so that the need for remediation in college is reduced;
- Student opportunities to interact with professionals and potential role models in high demand fields and experiential, project-oriented learning, such as science fairs, career academies, summer science camps, field trips and guest speakers.
- Diverse college faculty in high demand fields of study, recognizing that female students are twice as likely as male students (who receive most of the computer science, engineering and math degrees in our state) to major in math or sciences based on the influence of a role model;

Policy goal: Washington’s high demand jobs will be filled by a mix of people that includes representation of women and people of color proportionate to their presence in our population.

Recommendation: The P-20 Council should convene a high demand working group to coordinate efforts to increase the number of students who enroll and succeed in high demand fields. The working group will report to the Council on a quarterly basis.

Contributing to the innovation economy

High tech, research-intensive industries are a critical part of our state economy. As the Governor’s *Next Washington* economic development strategy states, “In a world where economic rewards are achieved through education, innovation, and research, Washington can maintain our global lead through smart strategies and strong alliances across regions.” Among the “smart strategies” described in the report are a series of initiatives to enhance and expand research capacity at our higher education institutions and improve commercialization of research products.

We cannot grow our research-dependent industries without the expansion of our research base and continued improvements in our research commercialization capacity.

Our state’s research and technology development strategy must focus on each stage of the technology commercialization process—from bringing star researchers to our state to funding basic and applied research, to identifying commercially promising research results, to developing license agreements with outside organizations. Our strategy must address each of the following key critical areas:

Expanding research capacity

The University of Washington is the nation’s number public recipient of federal research dollars. But celebrating this fact can create a misguided complacency regarding our need to invest in basic research, creating the false impression that the federal government has taken care of this for us. The truth is that we are not doing that well compared to other states with regard to federal research funding overall, and the total level of research and development investment in our state.

Policy goal: Washington will become a national leader in university- and college-based research that drives innovation and economic growth.

Recommendation: Build on Washington’s recent investment of \$2.4 million and increase support for the recruitment of “star” researchers at a level comparable to the investment other states are making (about \$10-20 million per year).

Recommendation: Help institutions create research Centers of Excellence in critical research focus areas that promote university/industry collaboration based on the model of the Institute for Systems Biology in Seattle.

Recommendation: Enhance capital funding for high cost equipment, laboratory, and shared infrastructure development, including multi-user facilities such as the Washington Technology Center’s microfabrication laboratory.

Recommendation: Expand state funding for technology gap programs so that promising research products can be developed to determine their commercialization potential.

Recommendation: Provide more opportunities for undergraduate students to engage in and experience academic research to expand the pipeline of research talent.

Technology commercialization

Both the University of Washington and Washington State University have technology transfer offices that comb the institution for research results that have commercialization potential. These offices may also support the intellectual property rights of the researcher and the institution, collect information on innovations and inventions from academic research, assist in the filing of patent applications, develop technology licensing or option to license agreements, and identify commercial research opportunities. They may also help a licensee start and develop a new business, or direct them to business development assistance. Our state needs to do more to support the success of these offices.

Policy goal: University-based research will be fully utilized to drive economic growth and innovation in the private sector.

Recommendation: Make sure that all researchers and entrepreneurs are aware of the 2005 Washington Ethics Act changes that provided research institutions with the flexibility to establish commercialization-friendly operating procedures.

Recommendation: Continue to support the implementation of the Life Sciences Discovery Fund and ensure that it is invested in ways that encourage collaboration among researchers and the development of new and promising technologies.

Recommendation: Make the information locked away in the universities’ computer databases on reported innovations and inventions available to entrepreneurs, firms, and the general public through the Internet.

Recommendation: Do a better job of documenting the successes of our research commercialization efforts, and develop materials for promoting the state’s capacity in this area with trading partners and firms considering locating here.

Recommendation: *Provide technology transfer services to the regional comprehensive institutions and private institutions on a fee-for-service basis so that these institutions are also have the capacity to develop commercially-viable research results.*

Capital Formation and Entrepreneurial Environment

Many institutions lack researchers and staff interested in taking a research product through all of the stages necessary for commercialization. Entrepreneurial skills and assistance, access to finance capital, and business development resources may also be lacking. What is needed is an institutional commercialization culture combined with partnering and networking structures that connect people with the resources and support they need.

Recommendation: *Develop and support institutional leadership that is committed to and understands technology transfer and can inspire deans and department chairs to embrace it.*

Recommendation: *Use the public/private Centers of Excellence concept to identify core research competencies in the state and attract the formation of new partnerships with businesses and entrepreneurs. Provide state funding to supplement basic and applied research investment at these research centers.*

Recommendation: *Enhance and expand small business development incubators and entrepreneurial assistance services in conjunction with university technology transfer activities. Hire serial entrepreneurs to move research products forward.*

Recommendation: *Create a statewide or regional database of research innovations and inventions, developed by research institutions that are accessible to the public.*

Recommendation: *Create a statewide network of higher education leaders and other interested stakeholders engaged in research commercialization and economic development activities to share best practices and respond to queries and initiatives by state policymakers seeking to promote technology-based economic development.*

Building a comprehensive approach to workforce development

Our workforce development and workforce education system has traditionally focused on our community and technical colleges, who do an excellent job preparing workers for the workforce. In fact, in 2005-06, 150,000 students (48 percent of all community and technical college students that year) participated in workforce education in order to train, upgrade skills, or retrain for employment. These programs are delivered in close consultation with industry advisory committees to help keep the curriculum up to date. An additional 40,000 students are engaged in adult basic education or ESL instruction to improve their workforce and essential skills.

Our state defines its workforce training system in statute to include workforce programs and services delivered by community and technical colleges (see RCW 28C.18.010). The

statutory definition does not include any programs of study or extension services provided by baccalaureate or graduate institutions. As a result, our state-level workforce strategy fails to directly address the career development, skill upgrade and retraining needs of the 31 percent of Washington's adult workforce that holds a baccalaureate degree or above.

Many people in higher education, especially four-year colleges and universities, do not see themselves as a part of the workforce development system. Changing this will require leadership commitment, and it will not happen overnight. But it will create greater congruence with institutional self-image and the expectations of the students.

Policy goal: The mission of educating the state's future workforce will be shared by all two- and four-year colleges and universities in Washington.

Recommendation: Convene a series of meetings with four-year institutions, the Workforce Training and Education Coordinating Board, State Board for Community and Technical Colleges, and other key stakeholders to identify steps that can be taken to more fully integrate our workforce development planning efforts and build better and more complete career pathways for Washington workers.

Finding new ways to finance work-related education and training

Job tenure has declined dramatically in the last twenty years, and changing jobs often makes it more difficult for workers to rely on employer support for their professional development. As with health insurance, not all employers offer tuition reimbursement to their employees, and the benefit is not portable from one employer to another. Furthermore, research indicates that lower paid workers are less likely to be offered training opportunities, or to take advantage of them when they are available.

More portable and flexible options for promoting and financing skill upgrade training and professional development are needed. The HECB and its partners are exploring Lifelong Learning Accounts (LiLAs). LiLAs are employer-matched, portable individual savings accounts used to finance education and training—like a 401(k) for skill building and career advancement. The HECB will participate in a LiLA pilot project in 2008 in collaboration with the Workforce Training and Education Coordinating Board, to investigate the feasibility of this option for statewide implementation.

Policy goal: All working people in Washington will have access to education and training that provides upward mobility.

Recommendation: Along with other state and local partners, the HECB will engage in a proof-of-concept pilot of the LiLA model for business/government/employee support of employee training and professional development.

III. Fund higher education for accountability and results

Funding that rewards educational attainment

The Higher Education Coordinating Board reports each biennium on the number of degrees awarded by higher education institutions, on graduation and retention rates, transfer rates, degree efficiency and other results. These reports provide a measure of public accountability. However, this information does not affect funding. The state does not directly use funding as an incentive to improve efficiency, effectiveness or student outcomes.

Washington funds higher education based on enrollment. The state budget assumes specific enrollment levels for each institution, and allocates funding to institutions based on those assumed enrollment numbers and the per-student funding amounts. Students are counted on the tenth day of the quarter or semester to determine actual enrollment levels.

This funding system is based on inputs rather than the results the state hopes to achieve. Funding based on performance could strengthen accountability and create a powerful incentive to improve results.

The goals of the state for higher education include a strong focus on degree completion. In addition, state policy is increasingly focusing particular interest in certain fields of study, such as science, technology, engineering, mathematics and health care.

Strengthening accountability and paying for results are interrelated challenges. These challenges can be tackled simultaneously by testing and adopting a results-based funding strategy.

Several approaches for linking performance and funding are possible:

- The community and technical college system has adopted a strategy that awards a modest amount of additional funding to colleges that improve student completion of a certain number of credits. The funding is set aside from current state appropriations.
- Another possible strategy would be to provide funding based on completed course enrollments rather than enrollments measured on the 10th day of the quarter or semester. This would represent a progress point on the path to student completion of program completion.
- A further step would be to fund completed degrees or certificates rather than enrollment.
- Performance agreements could be strengthened to serve as a mechanism that drives funding based on student outcomes.

These and other strategies should be explored more deeply through a collaborative demonstration project. Without changing base funding for institutions, and using only new targeted funds for the duration of the demonstration, the proposed project will be designed to show the potential of a performance funding model.

The possible expansion of a performance funding model, (whatever outcomes are selected as the basis for funding), can be decided based on the results achieved in a demonstration project that is implemented through two biennial budget cycles.

Policy goal: Washington's post-secondary education system will be funded in a way that promotes rising levels of efficiency and student success.

Recommendation: *By April of 2008, the Higher Education Coordinating Board will convene a task force of representatives of the Office of Financial Management, institutions, and other stakeholders to design a performance funding demonstration project. The work group will propose a strategy to the Governor and the Legislature by September of 2008, for consideration as part of the 2009-11 biennial budget. The Legislature and the Governor would be asked to authorize the program to continue through the 2011-13 biennial budget cycle.*

If the program is authorized by the Legislature and implemented, by July 2010, the Higher Education Coordinating Board will report to the Governor and the Legislature on the status of the program, and will describe methods for fully implementing a funding model based on degrees and certificates earned.

Global Challenge State Funding Benchmarks

The *structure* of funding poses a different set of issues than setting funding *levels*. New state policy was adopted in 2007 regarding per-student funding levels provided to institutions. Based on Washington Learns recommendations, Senate Bill 5806 was signed into law with the goal of increasing per-student funding levels over ten years to reach the 60th percentile of peer institutions in Global Challenge States. The state Office of Financial Management is developing a funding trajectory to show the path from current funding levels to this goal by the year 2017. By September of 2008, OFM will issue its first report identifying per-student funding levels required to meet the goal.