

The SYSTEM DESIGN PLAN

A Statewide Plan for Moving the Blue Arrow

December 2009

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The System Design Plan

**A Statewide Plan for
Moving the Blue Arrow**

2009

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Executive Summary

As stated in the 2008 *Strategic Master Plan*, Washington needs a higher education system capable of delivering many more degrees, especially at the baccalaureate and graduate levels – up to 40 percent more annually. The *System Design Plan* offers a comprehensive framework for making decisions about how to reach this goal – by expanding system capacity, recruiting and supporting a new generation of college students, increasing efficiency, and emphasizing accountability.

Declining levels of baccalaureate and graduate degree attainment will result in real losses for Washington, and not just in talented workers for business and industry. In real terms, losses include lower median annual household income, a greater percent of the population living in poverty, a higher percent using state or federal welfare, fewer taxes paid to the state, greater reliance on state human and social services, less research and innovation to fuel Washington's economy.

Acknowledging the significant near-term budget challenges we face, the System Design Plan offers strategies to address immediate needs and to lay the groundwork for rapid improvement once the recession begins to wind down. It also aligns well with the Obama Administration's aggressive goal of restoring the U.S. as the best educated nation in the world by 2020.

By endorsing the 2008 *Strategic Master Plan*, the Legislature approved a significant new higher education benchmark for the state – increase degree attainment 40 percent annually. Originally, the plan called for this to occur by the end of its 10-year framework – in 2018. The depth and severity of the current recession have made it apparent that reaching this goal may take until 2030 or even longer.

Research on workforce needs and future economic growth has confirmed that in the next two decades we'll need to confer tens of thousands of additional degrees and certificates beyond those supplied by simple population growth or increased levels of aspiration. Even if our degree production keeps pace with population growth—a *big if*, given the current challenges facing higher education—we'll realize only a third of our degree needs by 2030.

We face a harsh reality: younger working-age adults are less well educated than their older counterparts. Members of the baby boom generation, who constitute the best-educated workforce in our country's history, are beginning to retire and will continue to do so in record numbers during the next decade.

Washington must respond to what has been recognized as an alarming generational decline in education levels among its younger citizens. In particular, the state needs to ramp up efforts to include more people from groups traditionally under-represented in higher education. We will also need to address regional inequities in access to postsecondary education. And we need to prepare more workers to be competitive in Washington's labor market.

Forecasted demand for workers at all degree levels exceeds the supply. In some high demand fields, the annual need for workers is twice that of the number of degrees we are conferring in these fields, which include science, technology, aircraft mechanics and technicians, and selected health care occupations. In specialized, high demand fields like physical therapists and registered nurses, the gap is even larger—less than half of forecasted demand.

There are positive signs the public understands the important role higher education must play as we move to overcome the current economic downturn. Despite record budget cuts and sharp tuition increases, community college enrollments have increased significantly and branch campuses and centers are growing rapidly. Our four-year institutions have also experienced increased enrollments and are struggling to accommodate growing numbers of both regular admits and transfer students.

Also on the positive side, there is a great deal of untapped potential in our workforce. An estimated 440,000 working adults age 18-44 have had "some college." With a past track record of success in college, these younger workers represent a tremendous pool of potential new talent if we can re-engage them and move them successfully through the system.

In addition, the number of high school graduates is forecast to continue to grow and become more diverse until at least the year 2025. We know which areas of the state are growing fastest and we can document where expansion in the higher education system is likely to be successful. However, we won't succeed in meeting master plan degree goals unless we do far more than rely on existing demand and population demographics.

How the System Design Plan addresses the challenges

The *System Design Plan's* recommendations are based upon extensive data analysis and seven months of work by a System Design group made up of state partner agencies.¹ Numerous meetings also were held to discuss ideas with presidents and provosts of all public universities and several independent institutions.

¹ State Board for Community and Technical Colleges (SBCTC), Council of Presidents (COP), Workforce Training and Education Coordinating Board (WTECB), and the Independent Colleges of Washington (ICW)

The plan consists of four key recommendations:

1. A set of guiding principles on which to base future growth decisions.
2. A near-term strategy to grow enrollment without major capital investment.
3. A new process for evaluating major new expansion proposals (new branch campuses, capital investment in university centers, new campuses, or major technology innovations).
4. A new *Fund for Innovation* to foster innovation, pilot programs, and partnerships focused on improving access and completion, increasing system productivity, and alternative program delivery.

Growing the system

The *System Design Plan*'s recommendations rest on several key concepts:

- First, invest in effective programs to improve the motivation and preparation of K-12 students and young, working-age adults.
- Second, make strategic use of existing capacity at the branch campuses, centers, and comprehensive institutions to broaden the geographic availability of baccalaureate education.
- Third, when new capacity is proposed, employ an “expand on demand” philosophy building it only when demand is clearly present. This process would base further growth decisions for higher education on documented evidence that significant numbers of students in region are ready to attend.
- Fourth, focus investment in expanded doctoral and high-cost graduate education at the main campuses of UW and WSU. Over time, shift the mix of undergraduate and graduate education at selected institutions so that graduate education also increases.

The *System Design Plan* also proposes connecting undergraduate and graduate education in optimal strategies so that *both* can expand rapidly across the spectrum of four-year institutions.

To do this:

1. Undergraduate programs would be diversified and expanded to more locations to provide greater opportunities for more students.
2. Expansion of high-cost graduate programs would be focused at the two Research I universities.

A new process to manage system expansion

A set of key criteria have been developed to determine when a change of institutional mission is required or substantial new capital expenditures are warranted under the ‘expand on demand’ process.

Institutions and/or communities would submit proposals – either developed at their own initiative or in response to HECB-initiated RFPs – to identify under-served regions and populations or high-need program areas requiring capital investment. The HECB would then evaluate the proposals and make a recommendation to the Legislature.

If institutional expansion plans did not require new capital investment, existing budget and program approval processes would be employed to determine when and where such expansion could take place.

Promoting innovative ideas

Achieving the 40 percent increase in annual degree production and other important goals outlined in the *Strategic Master Plan* will require efficient and strategic growth throughout the system. To support this growth and improvement, the *System Design Plan* recommends Washington establish a new *Fund for Innovation*, which would foster innovation and improvement statewide by providing support for strategies and programs with significant potential to help achieve Master Plan goals.

The new fund would be established in part with seed money provided by state appropriation, which would then be used to leverage additional federal and private foundation support for initiatives designed to increase retention, speed time to degree, increase the number of high-demand degrees being conferred, and other key objectives – programs that would increase current capacity while also encouraging innovation.

Administered by the HECB, the new fund would create a process for competitive grants open to all public and private institutions to foster innovation, collaboration and systemwide productivity. This Fund for Innovation is modeled after a very successful federal program, FIPSE. Given the current environment of declining resources for higher education, the *Fund for Innovation* would represent a relative modest investment capable of achieving significant improvement in the core academic enterprise.

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The Foundation

The reality we face today is that younger Washington adults are less well-educated than their parents and grandparents, and even than those in other developed countries. The 2008 *Strategic Master Plan for Higher Education* presents a compelling picture of double-digit *increases* in the educational attainment levels of younger citizens – up to 30 percent, in Canada, Japan, Korea, Ireland, Spain, and France, compared to a real decline in the educational levels of 25-34 year-old Washingtonians.

Countries with rising educational attainment levels report rising incomes and productivity. If we want our children to live in societies that are capable of advancing economically, technologically, culturally and socially we must reverse these alarming generational declines.

Another challenge we face is the need to educate more people from groups under-represented in higher education – students from certain racial and ethnic groups or those who are the first in their families to aspire to college. These students make up a rapidly growing part of our school-age population, and many more need to earn certificates and degrees. For example:

- Participation rates for Hispanic students are almost half that of the statewide average at community technical colleges and almost 60 percent lower at four-year institutions.
- Rates for African-American & American Indian/Alaskan Native students are also low at four-year institutions.
- Hispanic and American Indian/Alaskan Native populations are widely distributed across the state.
- By 2030, more than 37 percent of Washington's K-12 students will be people of color.

The state also needs to address regional inequities in access to postsecondary education.

- While Washington has an abundance of natural resources, the impact of mountains and waterways and the limited access to highways in some areas make it difficult for portions of the population to go to college.
- Low population density over large tracts of land also makes it difficult to provide opportunities for people to go to college.
- Conversely, rapid population growth in some areas where we have minimal higher education presence also poses challenges.

The 2008 *Strategic Master Plan* established the overarching vision of educating more people to higher levels than ever before. Underlying this broad goal are three major initiatives.

1. Get more people into college and to help them succeed once they get there.
2. Promote economic growth and innovation by focusing on skills and knowledge needed for the 21st century.
3. Develop incentives and accountability measures to achieve the results we need.

Strategies to increase college-going rates and success include

- reaching out to and engaging more students of color;
- creating higher expectations for K-12 students;
- creating a system of lifelong learning that supports transfer students, adult working and re-entry students; and
- making college affordable and easy to access.

These efforts also need to be aligned with the needs of the state's businesses and industries. Higher education plays a critical role in fostering economic growth through better-educated workers and leading-edge research and innovation. Increased student enrollment in critical high-demand fields, particularly science, technology, engineering, and math (STEM) is needed, as well as expansion of our research capacity.

To encourage colleges and universities to step up to the plate, we need to provide incentives that go beyond simply funding student enrollments. We need to fund results. Colleges and universities that are successful in graduating more students should be rewarded for their performance in helping achieve master plan goals.

In a follow-up report to the 2008 *Strategic Master Plan for Higher Education*, the HECB published an *Implementation Plan* with four basic priorities to achieve the goals of increased educational attainment. The *Implementation Plan* was written as an action plan and contained the recommendations of working groups of experts in education, business, labor, planning, and economic development. The *System Design Plan* resulted from item number four below.

1. Preserve the progress we have made by sustaining current levels of support for higher education.
2. Build a larger “pipeline” to postsecondary education that captures more students graduating from our K-12 schools and more working adults.
3. Expand on demand by targeting growth and tailoring institutional plans to respond to known demographic, regional and workforce needs.
4. Redesign the delivery system for higher education by creating a new process to determine when and where to build new campuses or centers, develop new programs, expand eLearning and other delivery modes, and change college and university missions.²

The need for a system design plan

A new growth plan for the entire system of higher education in Washington is long overdue. It has been nearly 30 years since the state undertook a comprehensive study of how its higher education system should respond to the changes taking place in our state, its people, and its economy.

Washington’s last comprehensive study – *Building a System: Foundation Elements (1989)* – laid the groundwork for construction of the branch campuses and defined the “territory” of existing institutions, as well as other system policies. Since then, the state has conducted other studies to determine regional needs in areas like Skagit, Snohomish and Island Counties and the Kitsap Peninsula. But no additional comprehensive study has been completed.

Over time, higher education systems develop in response to a myriad of internal and external prompts from policy-makers, institutions, the public, and civic/business leaders. These pressures for higher education to grow outward and provide access in new areas and using new technologies are occurring at the same time there is pressure by some institutions to change their missions and purposes.

Studies of how higher education systems grow have found that issues arise when

- educationally under-served areas experiencing rapid population growth require expanded access to graduate and professional programs; and
- senior colleges exhibit too few differences in mission and purpose.

²Washington Higher Education Coordinating Board. (2009). *Opportunities for Change: Implementing the 2008 Strategic Master Plan for Higher Education*. Olympia, Washington. P. ii.

“ *To many governors and legislators, all institutions look and sound alike and compete for the same programs and students’ (Mingle, 1988, p. 3). Lawmakers wonder whether all programs offered are needed in all institutions. At the same time, needs may be unmet that the state or campus could fulfill.*”³

To summarize, specific future workforce needs are going unmet, demand for higher education is increasing and will continue to increase, resources are declining, and there is a generational education gap to fill. An ad hoc, piecemeal approach to delivering higher education in Washington will not meet these challenges. Therefore a new comprehensive growth management plan is essential as we move further into the 21st century.

A look at the current system

Like many states, Washington has coordinated the role and mission of its postsecondary institutions to further the goals of access and affordability for its citizens. But is higher education in our state available to all Washington citizens? Is it affordable? Is there unnecessary duplication? How are demographic changes affecting demand? Should the role and scope of some institutions change in response to changing needs? The answers to these and other critical questions will significantly impact our ability to achieve central master plan goals.

Washington’s baccalaureate institutions

State statutes define the role and scope of Washington’s baccalaureate institutions.

- The University of Washington and Washington State University provide nearly all of the state’s doctoral programs.
- The three regional-comprehensive institutions (Western, Central, and Eastern Washington Universities) and The Evergreen State College (RCW28B.35.050).
 - ◆ provide undergraduate and master’s level programs;
 - ◆ serve particular regions;
 - ◆ focus on applied or professional areas;
 - ◆ serve transfer students; and
 - ◆ provide extended occupational and complementary studies programs integrated with the community and technical colleges in their regions.
- The branch campuses of the two research institutions provide expanded regional access to baccalaureate and master’s degree programs. These campuses award master’s degrees at the same rate as the research institutions, but do not provide doctoral or professional programs. (RCW28B.45.030, 040, 050).

³ Mingle, J.M. (1988). In Hines, Edward R. (1988). State leadership in higher education. *Higher education and state government: Renewed partnership, cooperation or competition?* ASHE-ERIC Higher Education Report #5, Washington, D.C.: Association for the Study of Higher Education.

Community and technical colleges

The state's 34 public community and technical colleges have three major educational missions (RCW 28B.50.020): 1) academic transfer; 2) professional-technical education and basic skills; and 3) literacy.

- The community and technical colleges serve a substantial number of freshmen and sophomores who continue to upper division work. Two of every five bachelor's graduates transfer from a community college in Washington.
- Seven of the state's 34 community and technical colleges now award Bachelor's of Applied Science (B.A.S.) degrees under a pilot program established by the Legislature in 2005. In 2009, 57 students earned B.A.S. degrees, and about 100 are expected to graduate in 2010.
- More than 40 university and/or teaching centers are located on community and technical college campuses. They represent a small but fast-growing sector of the system, having nearly doubled in size over the last five years.

Independent Colleges of Washington (ICW)

The Independent Colleges of Washington (ICW) is the association of the 10 private, liberal arts, nonprofit universities and colleges in the state. These institutions are generally described as four-year liberal arts institutions.

- Founded in 1953 by college presidents and Washington business leaders, the ICW is governed by a volunteer board with a staff based in Seattle.
- The ICW institutions offer primarily bachelor's and master's degree programs, including 75 percent of the state's professional degrees in the field of law.

Private Career Colleges

In addition to the ICW institutions, the independent higher education sector in Washington also includes some of the 85 private career colleges that are part of the Northwest Career Colleges Federation in Idaho, Oregon, and Washington. Their mission is to "provide opportunities for education and training in high demand industries to offer programs of study in which graduates with the right knowledge, skills and behaviors have higher employment potential; and to provide a foundation and desire in graduates to pursue lifelong learning."⁴

⁴ Northwest Career Colleges Federation. Retrieved November 10, 2009 from <http://nwcareercolleges.org/resources/about-us/>

E-Learning

A recent U.S. Department of Education study reported that “students who took all or part of their instruction online performed better, on average, than those taking the same course through face-to-face instruction. Further, those who took “blended” courses – those that combine elements of online learning and face-to-face instruction – appeared to do best of all.”⁵

Washington’s community and technical colleges have taken an integrated approach to e-learning by offering about 100 associate degree transfer courses centrally through a statewide program known as *WashingtonOnline*. Online, hybrid and web-enhanced courses now make up 16 percent of the total two-year instruction, outpacing the nation, and the SBCTC estimates that by 2019 nearly 40 percent of its total FTE will be enrolled in at least one online or hybrid course.⁶

In strictly online instruction (excluding hybrid and web-enhanced courses), 20,583 FTEs were served in the 2008-09 academic year. More than 122,795 (headcount) enrolled in eLearning classes, including 96,671 taking fully online courses. *WashingtonOnline* provides 24/7 assistance for those in web-enhanced classes through a help desk.

Among the baccalaureate institutions, online learning is being pursued most aggressively by WSU, EWU, and CWU. All institutions will use technology to augment classroom instruction and total online enrollment statewide is expected to be 25,500 FTE by 2019. The great majority of students now taking online courses also take campus-based courses. The greatest growth in e-learning on campuses is occurring via hybrid courses, which, as noted above, is a very effective way to deliver instruction for all types of learners.

Both the Master Plan and the Implementation Plan noted that planning and coordination for online instruction should be occurring in all higher education sectors and levels.

Revisiting the state’s economic needs assessment

Growth in the state’s economy will produce thousands of additional jobs for those with mid-level, bachelor’s and advanced degrees by the year 2030. To fill this demand, Washington higher education will need to graduate large numbers of students traditionally under-represented in higher education.

It is important to note that the challenges we face are not in the distant future – they are here and now. State labor projections show that by 2016 Washington will fall short of meeting forecasted demand for workers with mid-level preparation by 13 percent. Projections also show the state falling 12 percent short of meeting the need for bachelor’s degrees and an astounding 33 percent short of the need for advanced degrees.

⁵*Inside Higher Education*, (June 29, 2009), “The evidence on online education (Retrieved November 7, 2009, from <http://www.insidehighered.com/news/2009/06/29/online>), ¶2.

⁶State of Washington, Office of Financial Management. (February 2009). *Higher Education Trends and Highlights*. Also SBCTC Fall Report. (2007).

Even if Washington's degree production keeps pace with population growth – a *big if*, given the current challenges facing higher education – we'd only reach **a third** of the state's degree goals by 2030. Currently, we're not even keeping pace in producing degrees consistent with population growth – we're losing ground.

The *Strategic Master Plan* goal of increasing degree attainment by 40 percent annually was developed, in part, to address these unmet workforce needs. The plan's projections were confirmed in a 2008 study conducted by an Economic Needs Assessment work group, composed of leaders in business, the professions and industry as well a policy and demographic experts, and a subsequent 2009 update of the biennial report, *A Skilled and Educated Workforce*.

The supply of talent will be insufficient to meet our demand as the world economy recovers from the current recession and becomes more reliant on knowledge workers. Therefore, the state needs to do a much better job of educating its own citizens to provide the workforce of the future, the 2008 workgroup report concluded.

In some fields, the need for workers is twice that of students graduating in those fields: science technology, aircraft mechanics, technicians and selected health care occupations, and construction. In specialized, high demand fields like physical therapy and nursing, the gap is even larger; supply is less than half of forecast demand.

In addition, we face critical shortages of people with bachelor's and graduate degrees in high demand fields, such as engineering, computer science, medical professions (including clinical and laboratory sciences, and radiological technologies), human and protective service occupations, and research, scientific and technical occupations.

At the mid-level (those with at least one year of college, but less than four years), there are shortages of qualified workers in health care, early childhood education, auto mechanics, aircraft mechanics, and installation and maintenance repair fields.⁷

⁷ Washington Higher Education Coordinating Board. (2006). *State and Regional Needs Assessment Report (Revised)*. Olympia, Washington. <http://www.hecb.wa.gov/research/Issues/NeedsAssessmentbychapters.asp>

Washington Higher Education Coordinating Board, State Board of Community and Technical Colleges, and Workforce Education and Training Coordinating Board. (March 2009). *A Skilled and Educated Workforce: An assessment of the number and number of higher education and training credentials required to meet employer demand*. Olympia, Washington. <http://www.hecb.wa.gov/news/documents/Skilled-EducatedWorkforce2009.pdf>

The Challenges

We face many challenges as we attempt to reach the central master plan goal of increasing degree attainment. We continue to experience one the worst economic downturns since the Great Depression. Our population continues to grow, with the largest percentage of that growth occurring among under-represented groups. The need for highly educated and skilled workers is increasing while the education level of our younger adults is dropping below that of their parents.

Economic downturn

The funding constraints presented by the economic downturn present severe challenges to accomplishing the increases in educational attainment levels envisioned in the Strategic Master Plan. Significant budget reductions in the 2009-11 biennium (with even deeper cuts likely to be discussed in the 2010 legislative session have set back institutional capacity for growth and program diversity.

Facing a multi-billion-dollar revenue shortfall in the 2009-11 biennium, the state took drastic action to reduce its operating budget. Although all areas of government were affected, higher education was among the areas taking the deepest cuts to the level of funding required to maintain current effort. While all institutions of higher education were affected, public baccalaureate institutions lost up to a quarter of their state appropriations, funding primarily used for the instruction and direct support of students.

Current economic forecasts call for slow economic recovery and continued revenue shortfalls for the remainder of at least the 2009-11 biennium and probably the upcoming 2011-13 biennium. Despite substantial tuition increases and the best effort of institutions, instructional programs have been adversely affected by these funding reductions.

Recovering from cuts of this depth takes years at higher education institutions. Faculty and staff reductions, which must account for the brunt of such cuts, strike to the heart of institutional innovation and effectiveness. Although all areas of state government have been severely affected by the recession, higher education was forced to take cuts proportionally greater than most other budget sectors.

Grappling with declining college participation rates

Growth in Washington's economy will require thousands of additional bachelor's and graduate degrees by 2030, in addition to thousands more mid-level degrees and certificates. To fill these needs, the state cannot continue to carry out 'business as usual' in higher education, even in tough budget times. Even if Washington's degree production keeps pace with population growth – which is quite uncertain, given the current challenges facing higher education – we'd only reach a third of the state's degree goals by 2030 as show in Table 1 below.

The growth in the chart below represents a 40 percent increase over Washington’s degree production in 2009, an aggressive goal that is consistent with the Obama Administration’s goal of a 60 percent increase in baccalaureate degree production throughout the nation.

Table 1: Degree Production Projections through 2030

Level	Population Growth	Policy Growth	Total
Mid-level	5,100	5,200	10,300
Baccalaureate	2,600	7,900	11,400
Graduate	1,600	7,700	9,300
Total	9,300	20,800	31,000

At the graduate level, projections to reach Master Plan goals present even more of a challenge. The gap in what we need and what we can expect to get from population growth alone for graduate degrees is also very wide.

Through expected increases in the population and our understanding of how many people typically continue on to graduate education, we could expect an increase of an additional 1,600 graduate degrees by 2030. That leaves a gap of an additional 7,700 degrees that must be filled by targeted policies and programs to expand master’s and doctoral degree production. Just as we saw in the data for baccalaureate degree production, we’re not even keeping pace in producing graduate degrees consistent with population growth—we’re losing ground.

In addition, although Washington is growing at a rate that will establish it as the nation’s 14th most populous state by 2030 (an increase of 2.7 million people) the fastest-growing demographic in this growth are those from ethnical and racial groups and low-income families traditionally under-served by higher education.

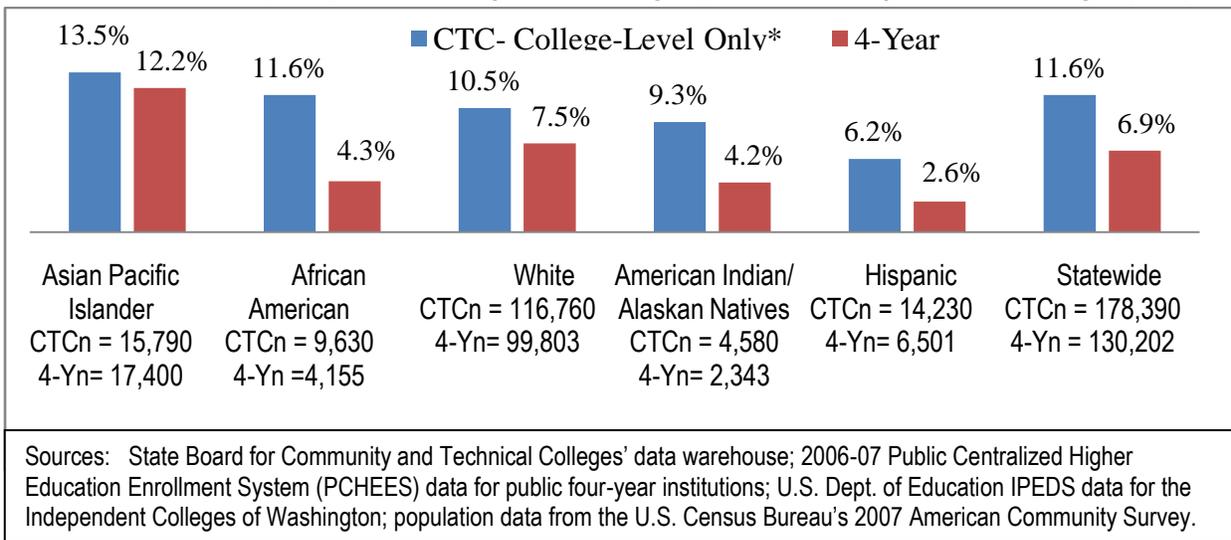
According to the 2007 American Community Survey data from the U.S. Census Bureau, Washington’s Hispanic/Latino population comprises 9.4 percent of Washington’s population and is widely distributed across the state. The American Indian/Alaskan Native population is small, at 2.6 percent, but is also widely distributed across the state. Table 2 shows the percentages of Washington’s population by race and ethnicity. (Hispanic/Latinos can be of any race and are therefore reported separately.)

Table 2: Washington Population by Race/Ethnicity (2007 Estimates)

Total Population	6,468,424	100%
White	5,428,452	83.9%
Black or African American	286,223	4.4%
American Indian and Alaska Native	168,578	2.6%
Asian	517,005	8.0%
Native Hawaiian and Other Pacific Islander	45,891	0.7%
Some other race	276,716	4.3%
Hispanic or Latino		
Hispanic or Latino of Any Race	610,006	9.4%

Individuals from families who historically have not attended college at “average” rates are more likely to be the first in their families to go to college. Hispanics and Native Americans/Alaskan Natives have lower college participation rates at both two-year and four-year institutions--far below the statewide averages, as shown in Chart 1 below. For African-Americans, participation in community and technical colleges is at the state-wide average, but considerably below the average at public and private four-year institutions.

Chart 1: “College-Level” Participation Rates for 18-44 Year Olds by Race/Ethnicity, 2006-07, in 4-Year Public Universities, Independent Colleges of Washington, and Community Technical Colleges (CTC)



NOTES:

- CTC enrollments are compared to the population with less than an associate degree. The higher CTC participation rate is because the colleges serve more students and the divisor is smaller.
- Four-year enrollments are compared to the population with less than a bachelor's degree.
- Only college-level student enrollments are shown in the graph. We have excluded students in “less-than-college-level programs, such as students in ABE/GED/ESL programs. Students who already have associate degrees or higher at the start of college and dislocated workers are also excluded.
- Reflects duplicated counts for individuals reporting two-or-more races for both enrollees and the population. Enrollments include in- state and out-of-state students, but exclude international students

Potential college students tend to fall into three groups with very different needs:

1. recent high school graduates;
2. transfer students from community and technical colleges; and
3. working-age adults who have “some college” but no degree.
4. Working-age adults who have never attended college.

We need to develop awareness about the benefits of college among all these groups, and especially among those who are from first-generation, low- income families and under-represented groups. Increased participation and success among these groups is essential to achieve degree attainment goals. Additional college enrollments resulting from population growth won't be high enough to bring about the increased educational attainment the state needs.

Adult learners are also a potential source of additional students and include: working adults, re-entry students, and underprepared students.

The fact is that many students today are graduating from high school unprepared for college-level work. In 2008, 35% of high school graduates failed to meet the minimum public four-year college admissions standards in math, more than any other subject area.

Among the 2007 public high school graduates in their first year after graduation:

- 33 percent who enrolled in a college or university took at least one remedial course (English or math, or both);
- 55 percent who enrolled at two-year college took at least one remedial course, and 10 percent at four-year colleges did so; and
- more than twice as many graduates enrolled in remedial math as in remedial English.⁸

Improvements in science and math readiness are critical to preparing more students to enter the science, technology, engineering, and math (STEM) fields needed in Washington. Today's students are ill-prepared to succeed in college in these fields, however, without considerable remedial work:

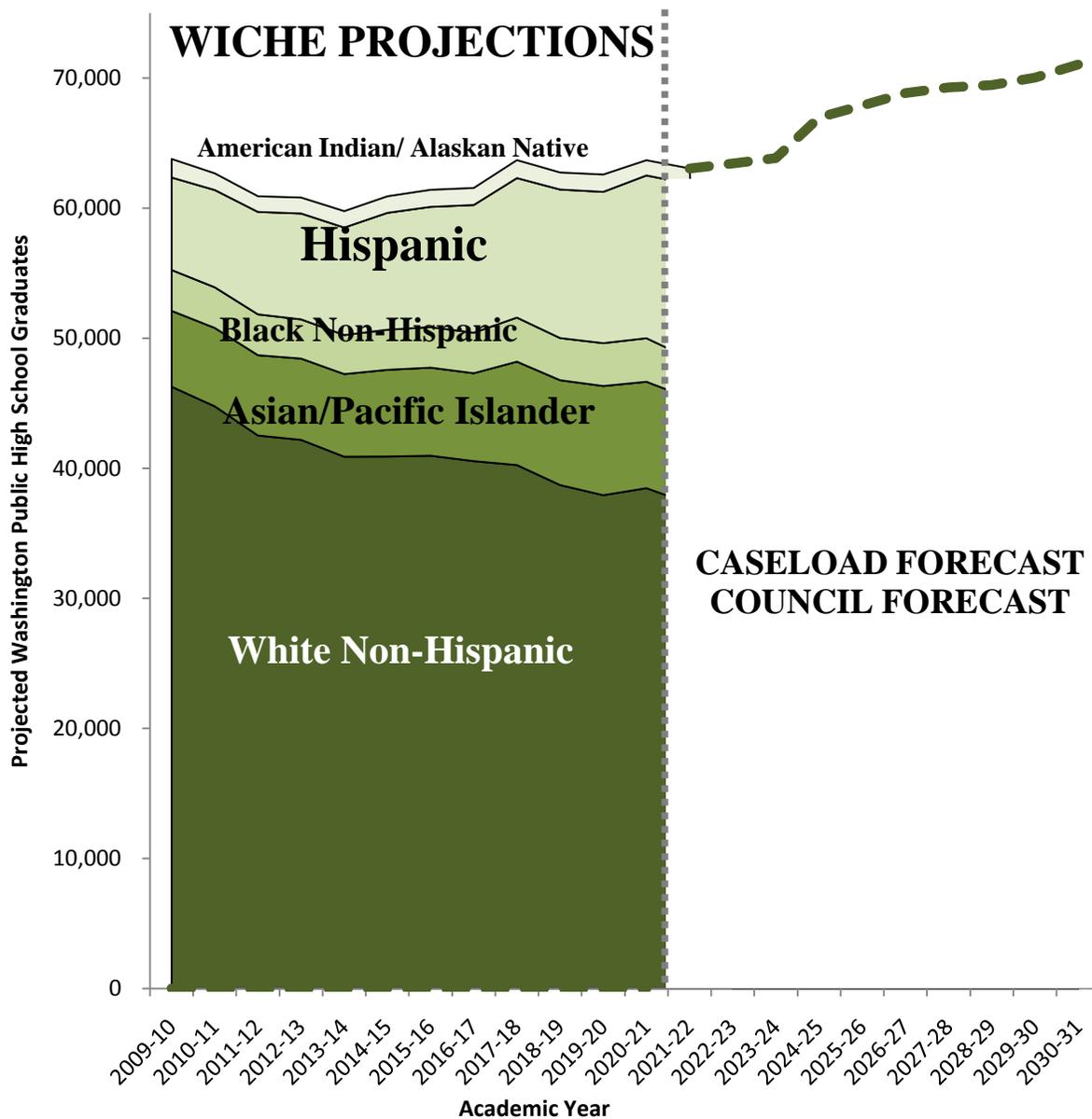
- In 2008, 12 percent of high school graduates failed to meet the minimum public four-year college admissions standards in science.
- 31 percent of high school graduates did not take a math course in their senior year of high school, and 52 percent did not take a science class.
- Only 55 percent of 2008 high school graduates met the new CORE 24 minimum graduation requirements in science. 89 percent met the math requirement.
- Among 2008 Washington high school seniors taking the SAT, 34 percent had not taken pre-calculus/calculus, and 54 percent had not taken physics.

Projections also show that the diversity of Washington public high school graduates will increase considerably, although the overall number of graduates will increase just slightly.

⁸ Sources: SESRC 2007 Graduate Follow-Up Study, Washington State Board of Education Transcript Study (2008).

Hispanic/Latino students will increase the most, but are less likely to continue directly to college. To increase the overall number of high school graduates going directly to college, we must increase the number of Hispanic/Latinos who continue to college. As depicted in Chart 2 below, a sobering report by the Western Inter-State Commission on Higher Education (WICHE) warns that although the diversity of the student body in the pipeline will increase, many may not go on to higher education.

Chart 2: Projected Washington High School Graduates⁹



⁹Source: WICHE projections from *Knock, Knock Who's There. Findings from WICHE's Projections of High School Graduates by State and Race/Ethnicity*. Caseload Forecast Council forecasts are HECB calculations of high school graduates based on the Caseload Forecast Council's grade 12 case load forecasts.

In addition to recent high school graduates, we also need to encourage adult learners to enroll in college – for the first time or as returning students. Many are working, have family obligations and may also face the additional hurdle of inadequate language skill. In 2008, adult learners nationwide made up about 50 percent of the 18.3 million total higher education credit enrollments – and 40 percent of these were undergraduates.

The majority were female, non-minority, employed and juggling work, home, school. They were also self-financed. Adult learners across the country are getting older, too, with average ages in the late 30s and early 40s. National data predict that there will be continuous growth in adult-learner enrollments.¹⁰

Working-age adults with no more than a high school education are a critical part of the pipeline for increasing degree attainment. In Washington, 630,000 adults 24-44 have a high school education or less. This group is eight times as large as the 2007 high school senior class. One in five (136,000) are limited English speakers.¹¹

Often from lower income and socio-economic status, most need financial aid, but often start in programs that don't qualify them for aid (ESL, for example). Some need improvement in basic skills. Many need additional help to ensure they persist and complete degrees – help defining educational goals and selecting the *right* institution.

We are fortunate in the U.S. to have many options for higher education and it is important that we provide learners with optimal opportunities to succeed. Washington's educational "pipeline" includes large numbers of students who should be encouraged to consider college. If just a portion of potential students in each group continues, as shown in Table 3 below, we are well on our way toward achieving the necessary increases in educational attainment levels.

Table 3: Target Groups of Potential Students

Potential Bachelor's Degree Graduates	2006-07 completers (rounded)	% of completers who do <u>not</u> continue to the next level	Potential additional students who may continue
High school graduates*	65,300	43%	28,100
GED completers	16,600	61%	10,100
Private vocational school degrees	12,700	n/a**	**
Technical degrees	7,350	87%	6,400
Transfer associate degrees	12,500	29%	3,600
Total	114,450		48,200

*Total Graduates and estimated potential based on percentage of respondents who reported continuation to college.

**Continuation Data for Private Career School Graduates is not currently available.

Sources: Office of the Superintendent of Public Instruction 2007 Graduate Follow-up Study (SESRC); State Board for Community and Technical Colleges (SBCTC) GED testing data; SBCTC Completions Files.

¹⁰Source: Aslanian, C. *Adult Students: A Profile of Demand Among Classroom and Online Adult Students*. Aslanian Group. 2008. Accessed at <http://www.aslaniangroup.com/resources/default.asp> - May 20, 2009

¹¹ State Board for Community and Technical Colleges calculation based on 2007 U.S. Census Bureau's American Community Survey & the Washington Office of the Superintendent of Public Instruction, Public School 12 Grade Enrollments, Oct 2007. SBCTC Research Report 06-4 www.sbctc.ctc.edu/docs/data/research_reports/resh_06-4_socioeconstudy.pdf

Geographic and regional inequities in access to college

With low population density over large tracts of land and an exploding population in the Puget Sound region, Washington offers complex challenges with respect to expanding access to higher education. Mountains, waterways, and, in some areas, lack of highways make it difficult for potential students to negotiate even relatively short distances. Population growth is occurring rapidly in areas like Snohomish, Island, and Skagit counties, where the state lacks sufficient higher education capacity. These regional inequities are especially problematic for those seeking bachelor’s and advanced degrees.

Areas with the greatest population density tend to have higher levels of educational attainment, as Table 4 below shows. King County and Seattle have relatively high levels of participation and, correspondingly, high levels of bachelor’s or advanced degree attainment (more than 50% of those 25-34 have at least a bachelor’s degree).

In Pierce County and in the South Sound-to-Coast, Southwest, and Central & Southeast regions, less than a quarter of those 25-34 have bachelor’s degrees. Even more problematic, in the Central & Southeast region, nearly one in five of those aged 18-34 who are not enrolled in school have *less than* a high school diploma.¹²

One caution in viewing the participation rates in Table 4 is that these are regional—not county—data. Disparities at the county level can therefore be under-stated. These regional data are the most current data from the U.S. Census Bureau’s *American Community Survey*. Unfortunately, the same data are not available at the smaller county level.

Table 4: Baccalaureate and Community and Technical College Undergraduate Participation Rates¹³ and Enrollments by Region

Region	Baccalaureates		Community & Technical Colleges	
	Participation Rate	N	Participation Rate	N
Statewide	6.0%	108,961	11.2%	171,421
King County	8.3%	35,543	14.4%	51,231
Spokane & Northeast Region	7.1%	13,090	10.4%	16,143
Central & Southeast Region	5.7%	14,278	7.7%	16,852
South Sound to Coast Region	5.5%	6,549	11.0%	11,103
Northwest Region	5.2%	11,993	11.7%	22,794
Snohomish County	5.2%	10,246	11.2%	18,387
Pierce County	4.5%	11,057	10.9%	22,592
Southwest Region	3.8%	6,295	8.8%	12,319

Source: Population data is from the 2007 American Community Survey. Baccalaureate enrollments are from the Public Centralized Higher Education E System database. The Independent Colleges of Washington data are from the U.S. Dept. of Education, IPEDS database. Military data are from individual institutions. The community and technical college enrollment data are from the State Board for Community and Technical Colleges data warehouse.

¹² Education Research and Data Center (ERDC),

¹³ The populations used to calculate the participation rates are different for the four-year and two-year sectors. For the four-year participation rates, the population is 18 to 44 year olds with less than a bachelor’s degree. The two-year participation rates include those ages 18 to 44 with less than an associate’s degree.

Increasing knowledge and skills for tomorrow's workers

Washington's economy relies on a well-educated and technically skilled workforce – a workforce we have developed, in part, by importing specialized talent to the state. The state's reliance on importing highly educated, highly skilled workers has been well-documented since the 1990's,¹⁴ and data from the 2005 American Community Survey suggest that trend has been growing.

If we intend to expand our economy's innovation capacity and meet the need for highly educated and skilled workers, we will have to take a different approach. The most direct way to confront this challenge is to build capacity in high demand degree programs and leverage the research capability of our research institutions.

As the current recession ends and world economic activity rekindles, educated and skilled workers will be increasingly difficult to attract and retain – even to Washington's relatively advanced, knowledge-driven economy. One 2005 research study shows that we import nearly as many workers with bachelor's degrees as we produce – 92 for every 100 produced in state.¹⁵ We simply can't continue to do this.

Competition will be especially fierce for talent in research, scientific, medical and computer science fields. But the need for highly educated workers will be distributed across a broad range of occupations as well.¹⁶ As previously reported, by 2016 our state is expected to fall 13 percent short of meeting its mid-level workforce needs, 12 percent short of meeting its bachelor's degree needs, and 33 percent short of meeting its advanced degree needs.

Declining levels of baccalaureate and graduate degree attainment will result in real losses for Washington, and not just in talented workers for business and industry. In real terms, losses include lower median annual household income, a greater percent of the population living in poverty, a higher percent using state or federal welfare, fewer taxes paid to the state, greater reliance on state human and social services, less research and innovation to fuel Washington's economy.

¹⁴ Net Migration by State, Age-Group, and Degree-Level 1995-2000. National Center for Higher Education Management Systems (NCHEMS). <http://www.higheredinfo.org/>.

¹⁵ Spaulding, R.S. (2007). "Interstate migration: Washington's reliance on imported workers to meet employer's human resource needs." Washington Higher Education Coordinating Board. Olympia, Washington. P. 5.

¹⁶ Ibid, p. 3.

The Strengths We Build Upon

Despite the challenges we face in funding, access, and program emphasis, there is strong evidence Washington continues to experience increasing demand for postsecondary education opportunities.

- **Branch campuses and centers are growing rapidly** and providing additional access to residents throughout Washington. We know which areas are growing fastest, and we can document where expansion in the higher education system is likely to be successful.
- **About 440,000 working adults in Washington have had “some college”** and are a likely target group to continue their education – if we can make going to college more convenient.
- **The number of high school graduates will continue to grow** until at least the year 2025.

An efficient system

Washington’s higher education system is highly efficient. The sectors of higher education – both two and four-year – rank at or near the top in national comparisons of degree productivity relative to enrollments and funding per FTE.

Measuring Up 2008 reported that “Washington performs extremely well in the percentage (80%) of freshmen at four-year colleges and universities who return for their sophomore year” and that “A fairly high percentage (54%) of first-year students at community colleges return for their second year.”¹⁷

In comparisons among all 50 states, Washington’s public institutions rank:

- ◆ **1st in the nation in bachelor’s degrees awarded per 100 undergraduate students;**
- ◆ **2nd in graduate degrees awarded per 100 graduate students;**
- ◆ **5th in overall undergraduate degree and certificate awards per 100 public undergraduate students;**
- ◆ **3rd in the percent of freshman completing a bachelor’s degree within 150% of normal time; and**
- ◆ **12th in percentage of community and technical college students completing degree or certificate program within 150 percent of normal time.**¹⁸

¹⁷ National Center for Public Policy and Higher Education. (2008). *Measuring Up. The National Report Card of Higher Education*. Retrieved November 7, 2009 from http://measuringup2008.highereducation.org/print/state_reports/long/WA.pdf

¹⁸ Sources: Education Research and Data Center, OFM, State of Washington. Also, Patrick J. Kelly (July 2009), “The dreaded ‘P’ word. An examination of productivity in public postsecondary education,” Delta Cost Project White Paper Series. Retrieved November 10, 2009 from http://deltacostproject.org/resources/pdf/Kelly07-09_WP.pdf.

Washington's public, four-year institutions have one of the nation's highest six-year baccalaureate graduation rates, having increased that rate by almost nine points to over 70 percent during this decade. Our six public baccalaureate institutions produced more than 22,000 bachelors' degrees and 6,500 advanced degrees in 2007-08. About 3,200 of the bachelor's degrees were in high demand fields.

Washington also has a strong independent college sector that contributes significantly to both baccalaureate and master's degree production. The Independent Colleges of Washington (ICW) is an association of 10 independent non-profit degree-granting universities and four-year liberal arts-based colleges. There are other private institutions—baccalaureate institutions, proprietary and career colleges—that are not part of the ICW group. The ICW accounts for 69 percent of the bachelor's and graduate degrees awarded by private institutions in Washington. In 2008-09, the ICW produced more than 6,000 bachelor's degrees and 2,900 advanced degrees. More than 1,700 of the bachelor's degrees were in STEM fields and the health sciences. This sector is also concerned with efficiency and since 2000 has improved the four-year graduation rate by 11 percent.

Washington's public two- and four-year institutions have established performance measures to track student progress and success in higher education and have helped develop performance agreements to measure productivity. The SBCTC Student Achievement Initiative rewards institutions for improvement, as will similar efforts being planned for the four-year sector.

WashingtonOnline

Throughout every sector of Washington's higher education system – public and private, two- and four-year – eLearning continues to grow at all levels, expanding access for place-bound, hard-to-reach, and working adults.

Improvements in e-learning affect not only direct instruction to students, but also related student services, such as online advising and registration services that are so necessary to student success. *WashingtonOnline*, a statewide eLearning program developed by the community and technical college system, delivers more than 100 associate degree transfer courses through a centralized program that provides 24/7 advising and instructional assistance.

Early College Programs

Washington institutions also benefit from the contributions of strong high school-to-college programs. Robust dual credit programs, such as Running Start, College in the High School, Advanced Placement, and International Baccalaureate programs expand early access to college. These programs enrich high school and lower the time-to-degree for a number of students. In Running Start alone, nearly 18,000 students are earning high school and college credit simultaneously.

Research and Innovation

Graduate education and academic research is an essential component of Washington’s economic development strategy. College and university research and development expenditures, including commercialization, approached \$1 billion in FY 2007 and generated an additional \$2.1 billion in total sales and \$200 million in state and local sales and B&O tax revenue.

The public research universities account for more than 98 percent of academic R&D expenditures – 77 percent at the University of Washington (UW) and 21 percent at Washington State University (WSU). UW and WSU have generated 227 licenses in the last year transferring technology to the private sector. Public regional comprehensive universities and private institutions also expended over \$14 million in R&D in FY07, but do not have resources to support technology transfer.¹⁹

University research also creates jobs. In FY2007, university research and development supported 16,000 jobs in the state’s economy as shown in Table 5. For every 10 university employees engaged in research, an additional 16 jobs were created elsewhere in the Washington economy.

Table 5: The Economic Contributions of University Research and Development

Economic Impact	\$1 Billion in Annual Academic Research Expenditure
Total Employment (Direct and Indirect, 2009)	16,000 jobs
Direct Employment	6,000 jobs
Jobs Multiplier (Total Employment/Direct Employment)	2.62
Change in Total Earnings	\$846 Million
Earnings Multiplier (Earnings from Total Employment /Earnings from Direct Employment)	1.93
Change in Washington Total Sales	\$2.1 Billion

Source: National Science Foundation (2008). *Academic R & D Expenditures*. Washington, D.C.

¹⁹ National Science Foundation. (2008). *Academic R & D Expenditures*. Washington, D.C.

Characteristics of the delivery system today

Overall, Washington's system of higher education has a small but comprehensive four-year public university sector, a well-established and extensive community and technical college system, an independent college and university sector that provides a quarter of the baccalaureate and half of the master's degrees in the state, and a small but growing private, career sector that is part of the Northwest Career Colleges Federation. Other private institutions – baccalaureate, proprietary and career colleges – with varied missions exist outside of the systems above.

Institutions, Branches, Centers, and Sites

Unlike many states, Washington's research institutions shoulder a larger share of the baccalaureate degree production load. The distribution of undergraduate enrollments among the two- and four-year institutions gives the state's overall system the figure of an 'hour glass' rather than a pyramid. On the top the research institutions bulge outward; in the middle (at the narrowest point) are the comprehensive institutions, and at the bottom, the community and technical colleges again bulge outward. Washington's independent institutions in Washington also serve substantial undergraduate and master's level enrollments.

Through its six main public four-year campuses, Washington provides a wide array of choice in type of institution, ranging from the flagship research institution, the University of Washington, to The Evergreen State College, one of the few U.S. *public* liberal arts four-year colleges with a special focus on interdisciplinary programs.

Washington's two major research universities – the state's flagship university and its land-grant university – award 35 percent of all undergraduate degrees. That percentage increases to 48 percent of all undergraduate degrees awarded among the six *public* institutions. Also among public institutions only, regional-comprehensive universities award nearly 60 percent of all teaching credentials at the undergraduate level and a quarter of all master's degrees. Table 6 below provides the FTE enrollments of Washington's public universities.

Five university branch campuses and 40 centers co-located on community and technical college campuses provide additional access to baccalaureate and advanced degree programs. The UW has branch campuses in Tacoma and Bothell; WSU has branches in Vancouver, the Tri-Cities area and Spokane. More than 40 teaching centers also provide Washington residents with access to higher education. All four-year public institutions—including branches and centers—produce master's degrees. Branch campuses award master's degrees at about the same rate as the research institutions, but do not provide doctoral or professional programs.

Public college and university degree production is growing most rapidly at centers, branch campuses, and other off-campus locations. Centers and teaching sites also have grown rapidly and awarded over 1,300 bachelor's degrees in 2005-06, up from less than 800 in 2001. The University Centers are a small but fast-growing sector of higher education, just short of doubling in enrollment over the last five years.

Eighteen of Washington’s 39 counties have neither a public four-year institution nor a community or technical college. Of these 18 counties, however, nine have a community technical college center which provides access to four-year degree programs. The nine counties with no higher education facilities of any kind – institutions, branches, centers, or sites – include Adams, Columbia, Lincoln, Okanogan, and Pend Oreille in eastern Washington; Klickitat and Skamania in the central part of the state; and Wahkiakum in western Washington.

The Independent Colleges of Washington (ICW) provide additional access to high-quality baccalaureate, master’s, and professional programs throughout the state, offering more than 175 programs at more than 25 sites, including military bases, community college campuses, and business parks. ICW centers and sites provide additional access in seven counties that do not have main ICW campuses, with four located in less populated central Washington. Five of these institutions are located in the heavily populated Puget Sound region, providing higher education opportunities to many Washingtonians

Table 6: Relative Size of Public Institutions, based on State-funded Full-time Equivalent (FTE) Student Enrollment

Institution	Projected Annual Average 2008-09 FTEs	2008-09 Budgeted FTEs	Percentage of Total 2008-09 Budgeted FTEs
Public Four-Year Institutions			
University of Washington			
Seattle	35,341	34,067	14.5%
Bothell	1,920	2,045	0.9%
Tacoma	2,474	2,414	1.0%
Washington State University			
Pullman/Spokane	20,198	19,272	8.2%
Tri-Cities	957	865	0.4%
Vancouver	2,161	2,113	0.9%
Central Washington University	9,027	9,322	4.0%
Eastern Washington University	9,317	9,184	3.9%
The Evergreen State College	4,484	4,213	1.8%
Western Washington University	12,401	12,175	5.2%
Total Four-Year FTE Enrollment	98,280	95,670	40.7%
Community and Technical College (CTC) System			
CTC (excluding programs listed below)	NA	132,387	56.4%
CTC Worker Retraining Total	NA	6,200	2.6%
BAS/BSN Programs**	NA	160	0.1%
Total CTC FTE Enrollment	146,557	138,747	59.1%
Partnership Programs (in SBCTC budget and FTEs reported by Baccalaureate Institutions)	291	490	0.2%
Total State-Funded FTE Enrollment	245,128	234,907	100.0%

**Baccalaureate programs (Bachelor of Applied Science, Bachelor of Science in Nursing) at Bellevue College, Peninsula College, Olympic College, and South Seattle Community College.

Data Source: Washington Office of Financial Management, 2009 Budget Driver Report.

Together, the ten ICW institutions and the other private, independent colleges in Washington award more than a quarter of the bachelor's degrees and almost half of the masters and professional degrees. Twenty-one independent institutions that are not part of the ICW group report information to the U.S. Department of Education, Integrated Postsecondary Education Data System, and were included where possible in this System Design Plan analyses.

Well-distributed across the state, the 34 community and technical colleges provide transfer education, workforce preparation, applied bachelor's degrees and basic skills. Two out of every five bachelor's degree recipients (41 percent) transfer from a community or technical college. In AY 2008-09, the system transferred 16,000 students to public baccalaureate institutions

The system also retrains 15,000 workers annually for a changing economy and provides literacy and basic skills to those who do not complete high school and to immigrants. Nineteen percent – nearly one in five – of two-year college students take at least one remedial class, with many older, returning students included in this group.²⁰

Twenty-four of the two-year institutions host baccalaureate and graduate degree programs on their campuses through partnerships with public and private universities. And recently, seven community and technical colleges received approval to pilot eight applied bachelor's degrees (B.A.S.) in selected fields:

- Bachelor of Applied Arts in Interior Design – Bellevue College
- Bachelor of Applied Science in Applied Behavioral Science – Seattle Central Community College
- Bachelor of Applied Science in Applied Management – Columbia Basin College
- Bachelor of Applied Science in Applied Management – Peninsula College
- Bachelor of Applied Science in Hospitality Management – South Seattle Community College
- Bachelor of Applied Science in Radiation and Imaging Sciences – Bellevue College
- Bachelor of Science in Nursing – Olympic College
- Bachelor of Technology in Applied Design – Lake Washington Technical College
- Bachelor of Applied Science in Hospitality Management - South Seattle Community College

Washington's private career colleges comprise a small, but fast-growing, portion of the higher education system that provide baccalaureate degrees especially attuned for adult learners and using technology as part of its delivery mechanism.

²⁰ Washington Community and Technical Colleges. (2005). "The Remediation Challenge." Olympia, Washington. Retrieved November 8, 2009 from http://www.sbctc.ctc.edu/docs/legislative/2005/remediation_jan2005.pdf

Regional Analysis: Reaching Increased Degree Attainment Goals

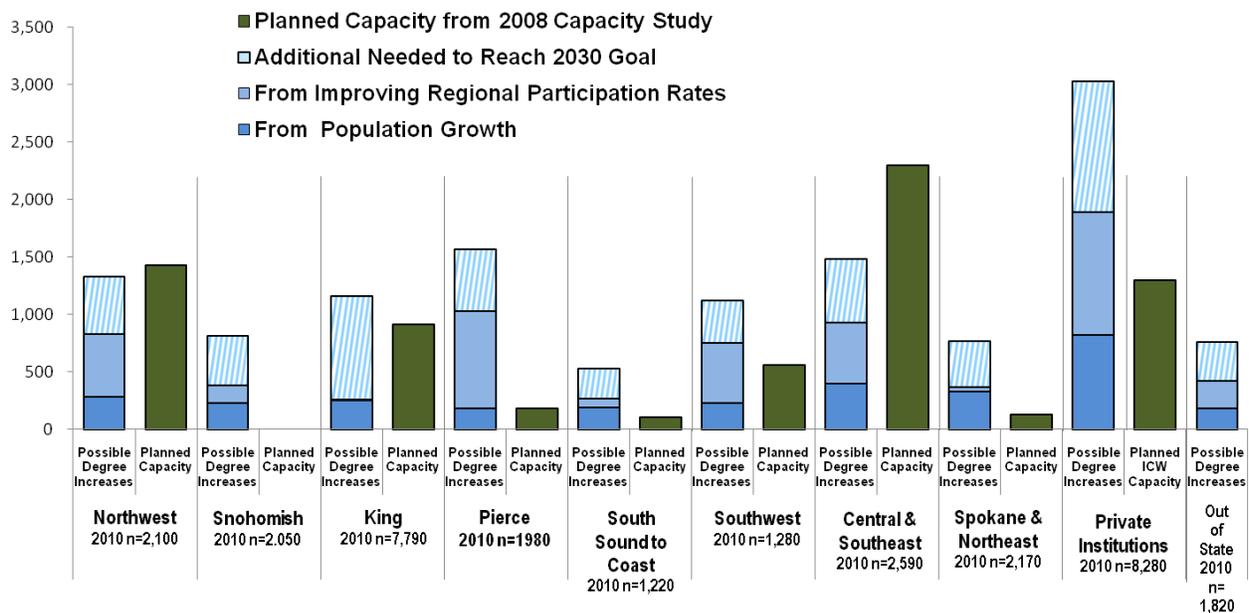
Regional differences in access represent one of the most formidable challenges in increasing degree attainment. Washington will need about 8,000 bachelor’s and 8,000 advanced degrees, over and above what population growth will contribute, by 2030 to reach master plan goals. An additional 5,000 CTC certificates and degrees also will be needed.

In all but three regions of the state--Northwest, King County, and Central and Southeast--institutions’ stated capacity is far less than the level needed to meet undergraduate education goals. Additionally, growth plans at the 10 ICW institutions will provide less than half of the total growth needed in the private sector to meet master plan goals.

The green bars in Chart 3 below show how many more degrees institutions located in the identified regions think they can produce if resources are available to fuel their expansion plans. The stacked blue bars represent level of growth needed to achieve the master plan goal of a 40 percent increase annual degree attainment.

The deep blue (bottom) portion of the stacked bar shows how many degrees population growth might produce. Above it, the medium blue portion shows degrees that could be gained by improving regional participation rates. And the top portion shows the additional degrees needed to meet master plan goals.

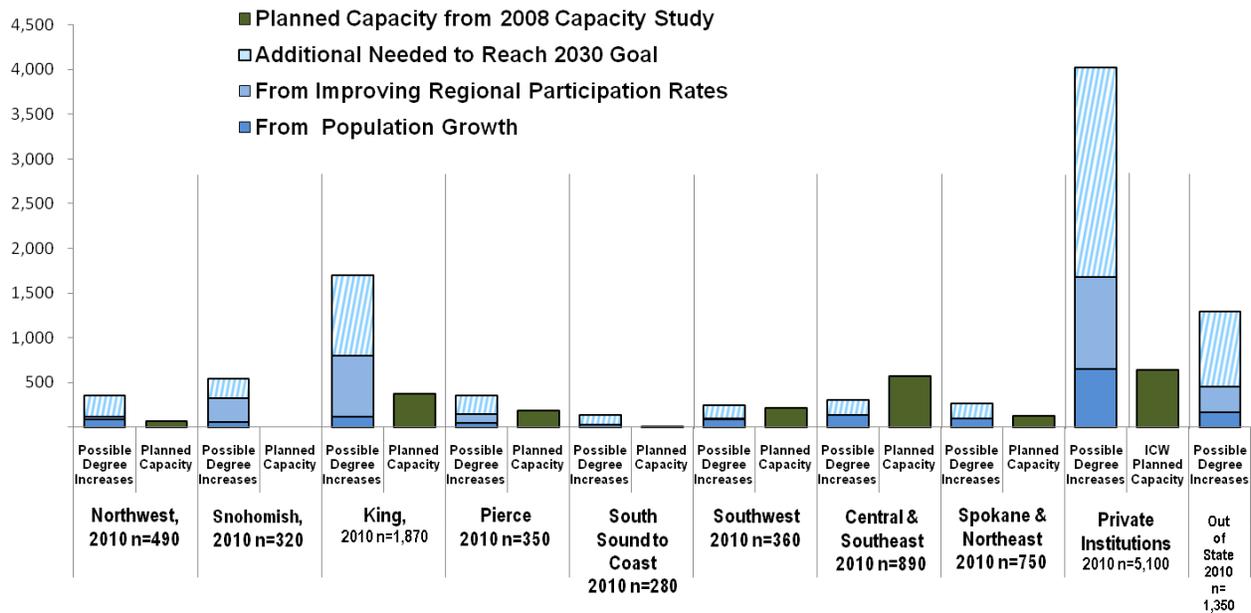
Chart 3: Regional Capacity Available to Increase Undergraduate Degree Production
By-Region Share of 4-Year Undergraduate Degree Production Increases to Reach Degree Goal by 2030



At the graduate level, the needs are even greater. The greatest need will be in King and Snohomish Counties. Institutions’ planned growth, however, is insufficient to meet goals in all but two regions – the Southwest region and the Central and Southeast region, as shown in Chart 4 below.

Chart 4: Regional Capacity Available to Increase Graduate Degree Production

**By-Region Share of 4-Year Graduate and Professional Degree Production
 Increases to Reach Degree Goal by 2030**



Summary

- Master plan degree production targets exceed the current capacity of the entire system.
- We need to use all existing capacity at main campuses, branches, and centers.
- A mechanism is needed to engage the independent colleges more fully in planning and delivery of higher education (through expanded e-learning opportunities, for example).
- Even building out the existing system to full capacity won’t enable the state to achieve a 40 percent annual increase in degree production.
- We need a statewide plan that encourages institutions to reach their existing planned capacity while also fostering innovative ways to expand educational attainment levels.

Key elements of the proposed recommendations

The *System Design Plan* offers a strategic framework for expanding Washington’s higher education system over the next two decades and beyond. It establishes a set of principles to guide progress toward the central vision of increased degree production set forth in the 2008 *Strategic Master Plan for Higher Education* and it also aligns well with the 2009 Obama Administration’s aggressive goal of raising the nation’s educational attainment levels 60 percent.

As the global economy rebounds, the need for a skilled and educated workforce and citizenry will become even more critical to our future than it has been. The *System Design Plan* will help Washington higher education institutions make full use of their existing capacity to meet current demand while creating a new, more flexible and responsive system to produce even greater numbers of graduates as we move further into the 21st century.

The plan’s recommendations were developed over seven months of meetings with the System Design work group, with state partner agencies, and with presidents and provosts of the public universities and several of the independent colleges.

The plan encompasses four key elements:

1. A set of *guiding principles* on which to base future growth decisions.
2. A *near-term strategy to grow enrollment* without major capital investment.
3. A longer term growth management strategy consisting of *twin processes*—one locally initiated and the other state-initiated—to spur needed growth, from either the bottom up or the top down.
4. A new *Fund for Innovation* based on competitive grants to foster innovation, pilot programs, and collaboration.

To meet state workforce needs and master plan goals, many more students must participate and succeed in postsecondary education than are currently doing so. The *System Design Plan* offers specific recommendations on how to achieve this goal.

- Invest in effective outreach programs to improve the motivation and preparation of K-12 students and young working-age adults to participate in postsecondary education.
- Make strategic use of existing capacity at the branch campuses, centers and comprehensive institutions to broaden the geographic availability of baccalaureate education.
- Apply an “expand on demand” philosophy to proposals for new construction by funding such proposals only when it has been demonstrated that a critical number of students in a region are prepared and motivated to enroll in college.
- Focus investment in expanded doctoral and high-cost graduate education at the main campuses of UW and WSU. Over time, shift the mix of undergraduate and graduate education at selected institutions so that graduate education also increases.

Guiding Principles for System Expansion and Optimization

Seven principles provide a framework to help gain maximum degree production capacity from the current higher education system while also providing a way to facilitate new expansion.

1. The interests and needs of current and future students should be one of the primary considerations in deciding whether and how to expand or revise higher education services.
2. Investments in higher education should advance the state's economic vitality, innovation, and job growth, including meeting the high demand needs of the state.
3. Washington should restore and further invest in its higher education system to preserve and build upon its excellence and productivity and optimize opportunities for future generations.
4. Major new investments in expansion to meet the HECB *Strategic Master Plan* degree goals should first leverage existing missions, institutions, partnerships, collaborations, and educational delivery models.
5. Washington should place an early emphasis on policies that will raise educational attainment in underserved populations and underserved regions of the state.
6. Incentives for innovation in outreach, access and completion, and alternative program delivery should be developed.
7. Washington should invest in online and hybrid instructional delivery to transform higher education so that it is better positioned to meet changing technological, cultural and economic forces, improve the efficiency and quality of higher education, and provide greater access for all students, particularly those place-bound and geographically isolated.

Enrollment Growth Strategies for the Near Term

- **Expanded pathways to the baccalaureate**

The System Design Plan calls for expanding degree production on two fronts: through existing capacity that does not require new capital investment and through future expansion that does. In the near-term, educational pathways should be expanded to reach even more potential students.

Target groups include under-educated and under-represented students graduating from high school, those transferring from community colleges, and adult learners who may or may not be working, and who may or may not have been enrolled in college before.

There are proven ways to reach these target groups. In helping develop the *Strategic Master Plan*, the Pipeline, Policy and Demographics Work Group recommended the following areas of research and analysis:

- developing a better understanding of the demographics of the under-educated;
- examining the policies and practices most likely to help them enter and succeed in postsecondary education; and
- creating a coherent set of recommendations to reverse the trends that continue to leave so many behind.²¹

²¹ HECB (November 2008). Policy and Demographic Analysis Work Group Draft Report and Recommendations. Olympia, WA. Retrieved November 8, 2009 from www.hecb.wa.gov/boardmtgs/documents/TAB1B.PolicyandDemographicReport-final.pdf

For High School Graduates

The work group also recommended strategies to encourage preparation, participation and success among under-educated and under-represented high school graduates that included:

- Creating a “college-going culture” in which students are expected to continue with college or career preparation right after high school.
- Developing early outreach partnerships between schools and colleges, beginning in elementary school and involving families.
- Using “promise scholarships,” such as Washington’s College Bound Scholarship, to encourage low- -income students and their families to start planning for college as early as middle school.
- Offering academic and career planning courses to middle and high school students to help them learn to navigate the educational system and to plan for a career.
- Expanding existing outreach programs that are proven effective (GEAR-UP, College Bound, drop-out prevention, dual credit, Navigation 101, and mentoring programs like “Compass 2 College.”
- Encouraging mentoring programs, especially those that use college students as mentors to K-12 students.
- Encouraging innovative and collaborative efforts to encourage students to consider all options for college.
- Among new entrants to higher education, encouraging those who are more academically prepared, – especially low-income students – to enter baccalaureate institutions directly from high school.
- Increasing participation in dual credit programs in which students can earn college credit while still in high school.
- Providing culturally relevant preparation for college so students learn to “walk in two worlds.”
- Asking universities to explore the best options for pre-enrollment and orientation of graduating high school students to help them successfully transition to college.
- Offering the proven support “triad” of mentoring, tutoring and social support to first-generation college students.
- Increasing utilization of independent non-profit colleges, through increased freshman, transfer, and graduate students.
- Providing information on debt-avoidance strategies to low-income families and students who fear debt.
- Increasing P-6 efforts that link colleges and schools to promote highly qualified, well-prepared teachers

For Working-age Adults

About 440,000 working age adults between 25-44 in Washington have had “some college,” – from a few courses to more than three years. Others have never enrolled in college, but as they have matured and become employees, spouses and parents, they have decided that they need further education to reach new career or personal goals.

Competing demands of family and work often make it difficult for adults to participate, just as do language barriers, negative past experiences in school, and learning disabilities. The following strategies have proven successful in expanding re-entry programs for working-age adults:

- I-Best and other re-entry programs that integrate academic, English language, and job skills so that students see the connections between academic and professional worlds.
- Flexible scheduling, such as evening and weekend classes, and convenient class locations near work or home.
- Online and hybrid courses and online advising and student services, such as registration
- Employer partnerships, such as the Lifelong Learning Accounts (LiLAs) being piloted by the WETCB, in which both employers and employees contribute to funds for further employee postsecondary education
- Financial aid for part-time students, such as Opportunity Grants.
- Outreach to encourage students who leave before completing their degree programs to return and complete them.
- Sequencing portions of curricula into one or more certificate programs that articulate with associate and/or baccalaureate degrees so that students who stop out to work can return later and complete their degrees
- Interventionist strategies that identify struggling students early on and provide advising and support.
- Credit for prior learning through portfolios assessments and other ways to demonstrate competence.
- Child care services at class locations—whether on- or off-campus.

For Those Transferring from Community Colleges

Transfer students seeking baccalaureate degrees can benefit from many of the strategies listed above, such as mentoring and social support services. However, there are several additional important transfer-specific strategies that deserve mention.

- Preserve CTC transfer opportunities at the baccalaureate institutions.
- Encourage more transfer students to enroll in independent colleges and universities through transfer-friendly policies.
- Develop financial aid programs to encourage transfer students to continue to the baccalaureate institutions.

- **Expanded baccalaureate capacity**

Near-term efforts to prepare more K-12 graduates, community and technical college transfer students, and adult learners to participate and succeed in postsecondary education, will require additional programs and facilities.

The main campuses, the branch campuses and the university centers all will need to operate at maximum capacity to ensure we can meet the increased demand for bachelor's degrees. Strategies to accomplish this include:

- Growing the Vancouver, Tacoma, Bothell and Tri-Cities branch campuses to their planned capacity levels and focusing on expanding program diversity.
- Expanding transfer and freshman capacity at the comprehensive universities, TESC, the branch campuses university centers, and community and technical colleges.
- Providing additional service in under-served regions (for example Kitsap, Clallam, Snohomish, Pierce) by rapid expansion of program diversity at existing university centers and sites.
- Providing additional access for hard-to-reach and place-bound populations through online programs and course offerings
- Expanding applied baccalaureate degrees at universities, university centers and community and technical colleges, through the following process:
 - SBCTC and HECB collaboratively develop a statewide assessment of need for additional applied baccalaureate degrees.
 - HECB and SBCTC develop a process to determine institutional interest in offering applied baccalaureates among two- and four-year institutions.
 - For applied baccalaureate degrees, SBCTC and HECB approve programs for CTC offerings. The HECB approves programs from public four-year institutions.

- **Applied baccalaureate degrees**

Another way in which Washington can increase baccalaureate degree production is through awarding a relatively new type of degree – the applied baccalaureate degree (B.A.S.). These are degrees specifically designed for individuals who hold an associate of applied science degree, or its equivalent, in order to maximize application of their technical course credits toward the baccalaureate degree.

In Washington, several institutions offer such degrees including public and private baccalaureates institutions and seven community and technical colleges that have been approved to offer eight applied baccalaureate degrees, under a pilot program established by the Legislature in 2005.

The System Design Plan recommendations include the expansion of applied baccalaureates based upon the principle of “expand on demand.” The Plan’s recommendations would move applied baccalaureate degrees from pilot status to regular program status, following normal SBCTC and HECB processes. The SBCTC and HECB will collaboratively develop a statewide assessment of the need for additional degrees, as well as a process to determine institutional interest in offering applied baccalaureates among two- and four-year institutions.

The process for approving applied baccalaureates would follow both SBCTC and HECB approval processes. For applied baccalaureate degrees, SBCTC and HECB would approve programs for CTC offerings, with the HECB approving programs from public four-year institutions. Both University Centers and CTC B.A.S. degrees provide baccalaureate degrees located on community and technical college campuses. *Both* should be eligible for capital if they meet the FTE threshold.

To implement the System Design Plan recommendations regarding baccalaureate degrees, the legislation for the Plan will need to include changing the status of applied baccalaureate degrees from pilot to regular programs and spelling out the processes for approval of new B.A.S. programs described above.

- **Expanded graduate capacity**

Washington has fallen substantially behind most other states in the production of advanced degrees, especially those in high demand fields. Only by sharply increasing the number of graduate degrees being conferred in these fields can the state hope to develop the research, innovation and creativity it needs for its current and future economy.

The projected need for annual advanced degree production is now just as large as the annual need for undergraduate degrees – an estimated 8,000 a year more than any enrollment increases driven by population growth alone.

Careful planning is needed to increase graduate degree production. Washington's Research I institutions – the UW and WSU – educate nearly 90 percent of the state's doctoral students. At the same time, they educate about a third of the state's undergraduate students. The best way to increase graduate degree production is to focus on growing graduate programs at the main campuses of the research institutions so that *over time* the enrollment mix shifts toward a higher percentage of graduate students.

This does not imply that the number of undergraduates will not grow at these institutions. Rather, the number of graduate students needs to grow more rapidly, which will gradually result in a greater proportion of graduate students at the research institutions.*

Strategies to expand graduate capacity in Washington include:

- providing more state support for high cost graduate and doctoral programs at the main campuses of UW and WSU to leverage research and commercialization activity;
- incorporating statewide economic needs assessment to target graduate programs for expansion;
- identifying 2030 goals for undergraduate/graduate enrollment mix at the University of Washington and Washington State University;
- expanding graduate education at comprehensives and branch campuses; and
- providing financial aid and support for students pursuing graduate education.

Growing the System for the Longer Term

- **Rules for Expansion (New Sites or New Missions)**

Although the near-term strategies outlined above can help our system manage existing demand and build new levels of participation, they will not be sufficient to meet our longer-term needs. Even after we reach full capacity at existing campuses, branches, and centers, we will still need to grow more. This kind of growth will require new capital investments.

If past recessions are an indicator, Washington will emerge from the current downturn faster than many other states, largely because of its robust international trade relations, particularly with Pacific Rim countries. And this will mean accelerated demand for seats at our college and universities driven by the need for a more educated and skilled workforce.

This will occur at the same time we beginning to experience additional demand from a newly prepared and motivated base of students from under-represented groups. As noted, additional enrollment beyond the level of that provided by population growth and natural increases in aspiration will be needed to reach new levels of degree production, and the brunt of this must come from those who have been under-represented in higher education.

- **Expand on Demand**

To meet this new level of demand, the *System Design Plan* proposes a new growth management policy: *expand on demand*. This simply means the state can no longer afford to build facilities in the hope that students will show up; it should build them only when there is evidence they are showing up.

Expansion to new sites or new missions requiring substantial new capital expenditures would be predicated on the concept that *capacity should follow demand*. In other words, institutional growth requiring new capital expenditures would be approved by the HECB and Legislature only after a set of external criteria had been met.

The Expand on Demand illustration on the next page shows how the process would work and categorizes institutional types and characteristics, including costs to replicate capacity at new sites. Under this process, a proposal to create or expand to a branch campus, a comprehensive university or a research university requiring significant new state capital expenditure would need approval from the HECB, based on enrollment thresholds and other criteria, then forwarded to the Legislature for its consideration.

Other, less expensive expansion projects, such as growing university centers in leased facilities and developing new teaching sites, would be accomplished through regular budget and program approval processes.

- **Twin Review and Approval Processes for Major Expansion**

System-initiated

Proposals for major expansion would be subject to a new review process by the state and HECB. This process can be locally driven or HECB-initiated. A diagram of how this would occur is on page 40.

- In a locally-driven proposal, the institution(s) and/or the community would identify an under-served area or populations or high demand program areas to be targeted for expansion and submit a proposal to the HECB documenting the ability to “expand on demand” and the scope of the project. The HECB would evaluate the proposal and make a recommendation to the Legislature.

These proposals would be evaluated using the Guiding Principles for the System Design Plan listed in this report and criteria such as:

- The specific scope of the project (e.g. large vs. smaller capital investment needs, number of FTE and programs)
- Sustainable financial plan
- Response to the state’s and regional economic/workforce needs
- Extent to which existing resources are leveraged
- Near-term goals: current FTE to support the proposed programs/institutions/innovations, and 5-year projections
- Long-term goals: plans to accommodate expected growth over the next 20 years
- Extent to which new or existing partnerships and collaborations are part of the proposals
- Feasibility of any proposed innovations (3-year programs, joint use, technology, alternative calendar, etc.) to speed up degree production

HECB-initiated

A second path for major higher education expansion would be a competitive RFP process initiated by the HECB. The HECB would identify under-served areas or populations or high demand program areas and release an RFP to the higher education system. Proposals would be evaluated using the same process as that in the locally-driven approach, with the HECB again making its recommendation to the Legislature for approval.

In both paths—HECB-initiated or locally-driven—the proposals must respond to state and regional economic development and workforce and innovation needs. But the process also includes a way to prompt innovation and new thinking in delivering higher education through a new “Fund for Innovation” to support proposals that respond to the HECB’s Master Plan priorities.

Fund for Innovation

The *Fund for Innovation* is a critical part of the system Design Plan and would provide incentives to further drive improvement and innovation in higher education by allowing our public and independent institutions to test innovative and alternative ideas designed to help meet *Strategic Master Plan* goals.

Administered by the HECB, the fund would seek to leverage federal dollars such as those available through FIPSE and other grant programs, as well as some state dollars. This new process for competitive grants would be open to all public and private institutions to foster innovation, pilot programs, collaboration, and systemwide productivity. The Fund for Innovation is a key component to foster the kind of change in the core academic enterprise that can help raise educational attainment rates.

The fund would reward institutions for achieving specific outcomes such as:

- Access and completion initiatives targeted to underrepresented population groups.
- Partnerships among institutions, foundations and K-12 school districts to increase the number of college-ready high school graduates who transition directly to college.
- Expansion of hybrid and online courses, open courseware, and other uses of technology and online services to improve educational outcomes.
- Accelerated programs and alternative scheduling, such as three-year baccalaureate degrees.

A Final Consideration

Continuing the conversation on higher education funding

Many worthy policy objectives have been sacrificed in unplanned responses to the boom-and-bust cycle that characterizes higher education finance in Washington. A more stable and predictable higher education finance system is needed if the state is to continue to play a central role in providing higher education for its citizens.

Our higher education finance system should:

- Allow students at an early age to plan with confidence for their college educations.
- Encourage student choice among the state's public and private colleges.
- Insulate students' access to quality and diverse educational opportunities from the financial vagaries of the state's revenue base.
- Strike an appropriate level of shared financial responsibility from available funding sources, including tuition paid by students and their families, financial aid and state appropriations.
- Monitor and fund higher education to support system performance and sustainability.
- Adopt a state-level strategy for investing in productivity enhancement.

At its November 19, 2009 meeting, the HECB recommended conducting a more comprehensive education funding study as the next critical step in the implementation of the 2008 *Strategic Master Plan for Higher Education* (Board Resolution 09-29).

To achieve the targeted 40 percent annual increase in degree production called for in the 2008 *Strategic Master Plan*, higher education needs to grow efficiently and strategically. It can do this only if it is given a reliable and predictable source of state funding.

The *System Design Plan* is an important first step in this challenge. It recommends strategies to address both near- and longer-term expansion of degree production in Washington. It builds upon current capacity, while encouraging innovation and accountability. It also makes a strong commitment to serving under-served citizens and regions. And it provides a realistic growth management strategy that builds toward new investment when economic conditions improve.

Today, raising educational attainment isn't optional. It is a requirement of our changing global economy. A strong, resilient, innovative, and inclusive public higher education system is one of the best investments we can make to ensure the future success of our state and its citizens.

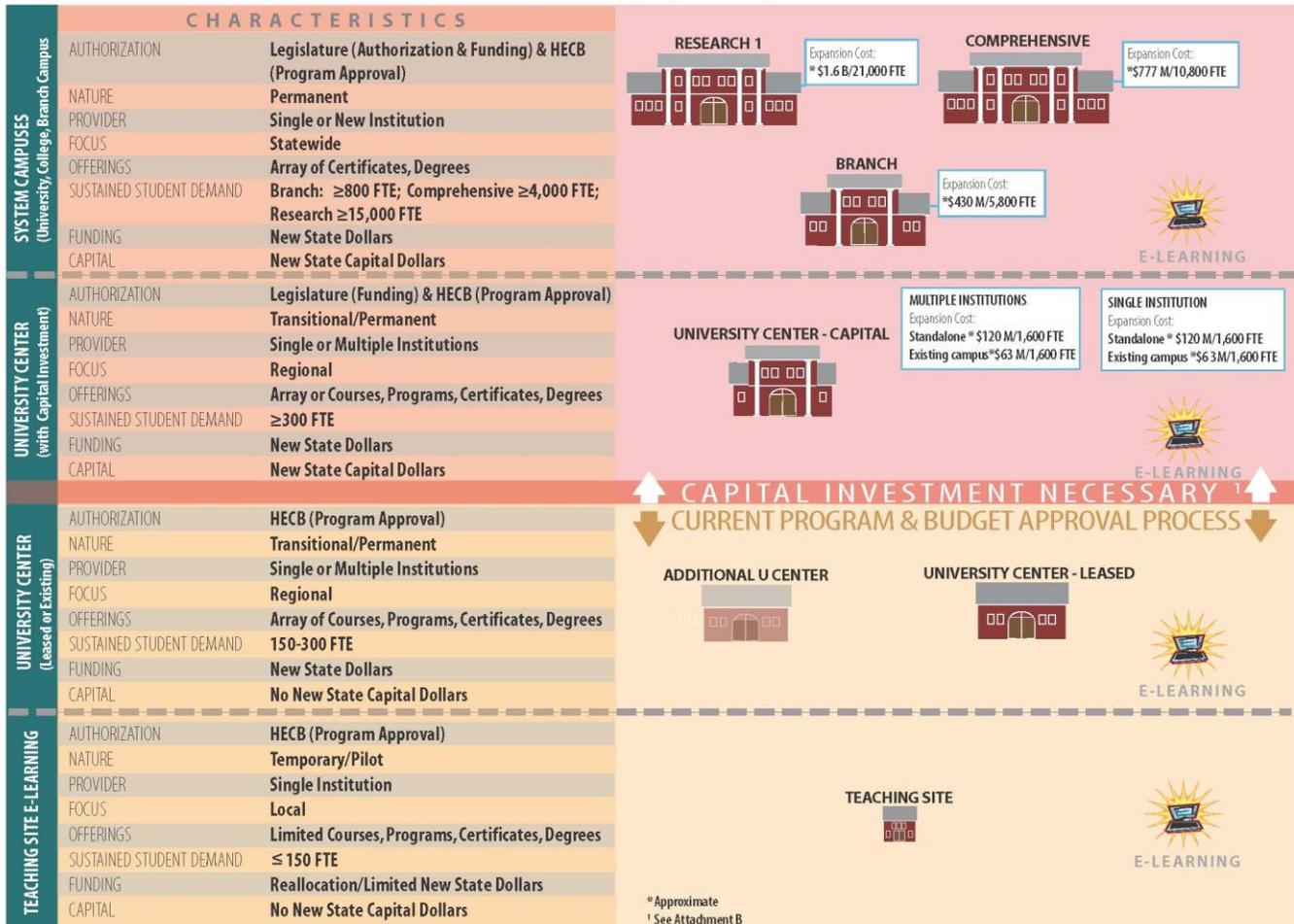
The SYSTEM DESIGN PLAN

A Statewide Plan for Moving the Blue Arrow

EXPAND ON DEMAND

(Cost depends on program and partner mix)

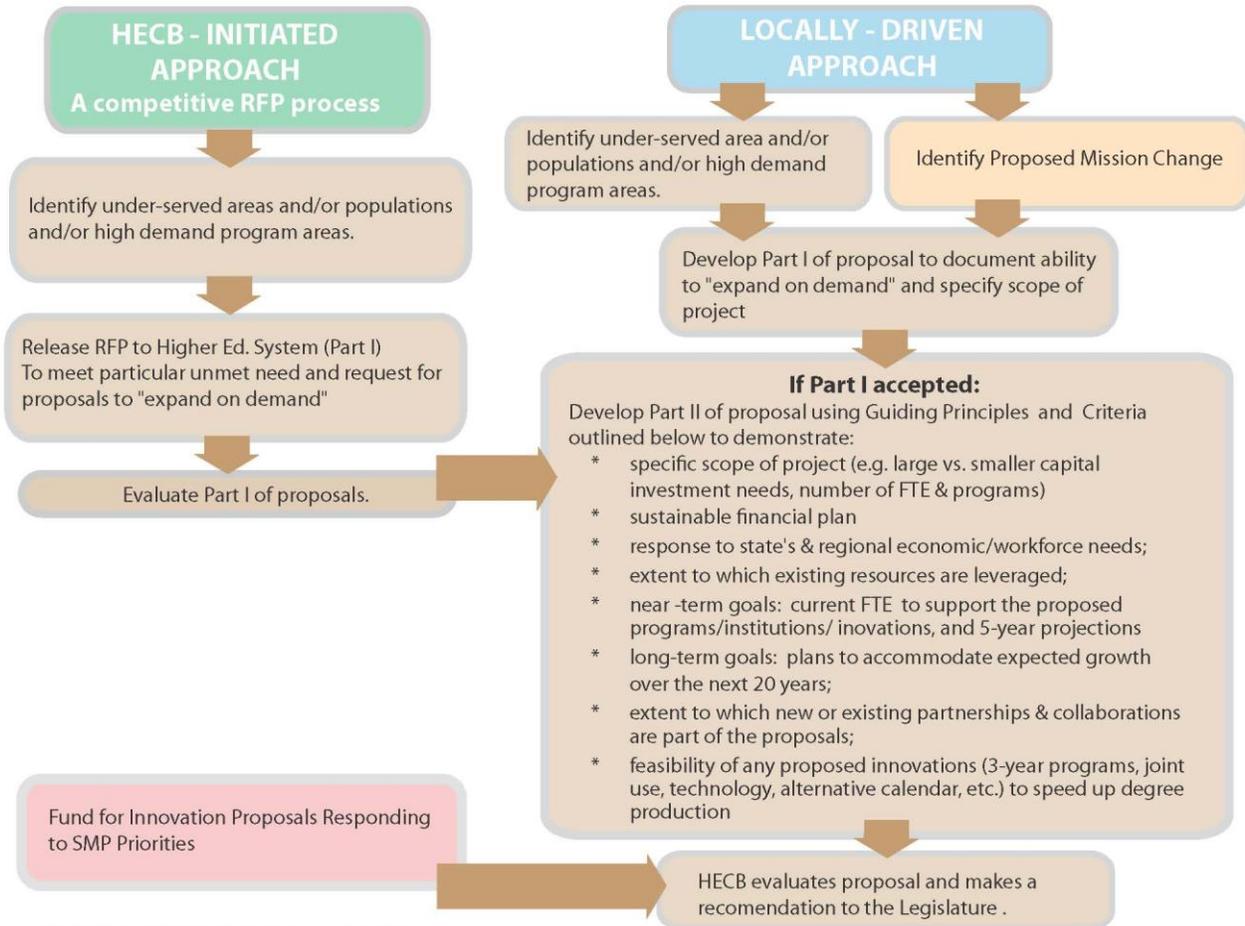
A



* Approximate
¹ See Attachment B

**Increasing Washington's Higher Educational Attainment Levels:
 Process for Reviewing Proposals for Major Expansion**

B





STATE OF WASHINGTON
HIGHER EDUCATION COORDINATING BOARD

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RESOLUTION NO. 09-29 (amended)

WHEREAS, The Board's 2008 *Strategic Master Plan for Higher Education* and the companion *Implementation Plan* called for a comprehensive review of the existing delivery system and the development of a process to assess future needs, guide the development of new campuses, and recommend changes in institutional missions; and

WHEREAS, Pursuant to Engrossed Substitute House Bill 1244, Sec. 612, the Legislature has endorsed the process of developing a system design that "defines how the current higher education delivery system can be shaped and expanded over the next ten years to best meet the needs of Washington citizens and businesses for high quality and accessible post-secondary education;" and

WHEREAS, The *System Design Plan* was developed over seven months with input from a broad array of constituents, including the State Board for Community and Technical Colleges, the Council of Presidents, the Independent Colleges of Washington, a main System Design Plan work group of university provosts and community and technical college presidents, and a Steering Committee composed of leaders from Washington business and industry, and legislators and their staff; and

WHEREAS, The *System Design Plan* recommendations contain a set of guiding principles on which to base future growth decisions; a near-term strategy to grow enrollment without major capital investment; a new process for evaluating major new expansion proposals; and a new Fund for Innovation to foster change and innovations in higher education; and

WHEREAS, The *System Design Plan's* recommendations rest on key concepts concerning improving the preparation of K-12 students and young working-age adults; strategically using existing capacity in higher education to broaden access to baccalaureate and graduate education; employing a philosophy of "expand on demand" articulated in the 2008 *Strategic Master Plan*; and shifting the mix of undergraduate and graduate education over time at selected institutions so that graduate education also increases; and

WHEREAS, The Plan envisions a new process where institutions and/or communities would submit proposals developed at their own initiative or in response to Higher Education Coordinating Board-initiated Requests for Proposals to identify under-served regions and populations or high need program areas requiring capital investment, with evaluation and recommendations by the HECB to the Legislature and the Governor; and

WHEREAS, The Fund for Innovation, the final piece of the *System Design Plan*, allows higher education to test innovative, collaborative and alternative ideas in a process administered by the HECB that would seek to leverage federal funds for innovation as well as state funds; and

WHEREAS, The Board recommends that a larger higher education funding study be conducted as part of the work of the *System Design Plan*, which would elaborate on preliminary work regarding the funding cycle of higher education as well as the components determining the cost of instruction; and

WHEREAS, The *System Design Plan* supports renewed commitment to investments in higher education as a necessary means to address declining levels of baccalaureate and graduate degree attainment that would otherwise result in real losses for Washington, not just in talented workers for business and industry, but also in lower median annual household income, a greater percent of the population living in poverty, a higher percent using state or federal welfare, fewer taxes paid to the state, greater reliance on state human and social services, and less research and innovation to fuel Washington's economy.

THEREFORE BE IT RESOLVED, That the Board approves the *System Design Plan* set forth in the Discussion Outline for the System Design Plan and the Summary Letter to the System Design Plan Steering Committee (dated November 9, 2009), and directs staff to complete the final report, make changes and adjustments as needed, and deliver to the Governor and the Legislature by December 15, 2009.

Adopted:

November 19, 2009

Attest:

Jesús Hernández, Chair

Roberta Greene, Secretary