

Enrollment Capacity and Technology Study

Washington Higher Education
Coordinating Board



MGT of America, Inc.
October 2008

Executive Summary

The 2007-09 Appropriations Act provided funding to the Higher Education Coordinating Board (HECB) to study the state's capital facility and technology capacity. Specifically, "...state appropriation is provided solely to implement a capital facility and technology capacity study which will compare the 10-year enrollment projections with the capital facility requirements and technology application and hardware capacity needed to deliver higher education programs for the period 2009-2019." Basically, the charge was to estimate the capacity of institutional space and the effect of technology on enrollments and space needs.

Through a competitive bid process, MGT of America, Inc. was selected to assist the HECB in conducting the study. In a collaborative effort, the project team made up of HECB and MGT staff worked closely with Washington's public four-year higher education institutions, the State Board of Community and Technical Colleges, the Council of Presidents, and the Independent Colleges of Washington to obtain and analyze the information contained in the report.

The major tasks conducted for the study included:

- Identifying the existing physical and programmatic capacity of each institution, branch campus, and education center including factors that have or will impact institutional capacity;
- Identifying the institutional degree and enrollment plans, by level, for the Community & Technical Colleges, Independent Colleges of Washington, and the four-year public institutions;
- Identifying the impact technology has and could have on accommodating future enrollments;
- Determining the capital and operating costs associated with accommodating future enrollments;
- Identifying conclusions and policy implications regarding institutional capacity and degree and enrollment plans.

Based on the information collected and analyzed as part of this study, the following conclusions and policy implications were developed.

REPORT CONCLUSIONS

Enrollment:

- The overall potential enrollment growth estimated by all sectors of higher education in Washington amounts to an increase of 46,898 by 2019-- assuming operating funds are available and institutional capital budgets are funded. (The HECB Statewide Master Plan called for an increase of 61,500 FTEs.)

- The four-year public institutions could add 23,723 student FTE.
- The Community and Technical College System could accommodate an additional 20,093 student FTE
- Independent Colleges of Washington enrollment could increase by 3,082 student FTE.

Degrees:

- Institutional growth plans could produce an additional 25,600 degrees for a total of approximately 92,200 by 2019. This would be a 38% increase over current degree production.
 - 44,389 mid-level degrees
 - 36,357 Bachelor's degrees
 - 11,558 graduate/professional degrees

Capital Needs:

- Additional degree production and new enrollments to meet public four-year institutional plans and support HECB goals can be supported within the projects identified in the institutions' ten-year capital plans. Major capital "growth" projects include the branch campuses build-out and Western's waterfront expansion.
- The community and technical college degree and enrollment growth plan can be supported by their existing capital plan.
- Preservation of existing facilities for both the two- and four-year institutions, including the replacement, renovation, and renewal of facilities to meet instructional suitability needs, is a higher priority than creating new enrollment capacity, with the exceptions of the branch campuses and Western's waterfront project.

eLearning Growth:

eLearning is using the unique affordances of digital technologies to support and transform learning in flexible, anytime / anywhere learning spaces. eLearning includes technologies that support learning support learning for everyone -- not just students separated by distance. The three major categories of eLearning are:

1. Online: conducted completely on the web.
 2. Hybrid: replace some – but not all – classroom time with online learning.
 3. Web-enhanced: meet in regular class sessions, but use online resources for additional student-teacher and student-to-student interaction, posting of assignments and course materials.
- The total estimated incremental Online and Hybrid growth in Community and Technical Colleges exceeds the total growth of all CTC enrollments through 2018-2019. Even though Online instruction will be major delivery system employed by the CTC system, on-campus enrollment at several colleges will continue to grow and require capital growth projects.
 - Under the institutional plans, Online instruction, which does not involve the use of scheduled classrooms and labs on campus, will be provided primarily by the community and technical colleges and by WSU, CWU and EWU. With the exception of limited self supporting programs at the UW, no other public four-year institution plans to mount

extensive Online instruction programs. However, all institutions will use technology in a “hybrid” fashion to augment and blend in-class instruction.

- The State Board for Community and Technical Colleges has led the eLearning efforts for the state’s community and technical colleges. Public four-year institutional plans indicate three institutional providers of *state-funded* Online instruction. Other institutions provide Online instruction but only through self-sustaining programs. As an ever increasing number of students utilize Online instruction for programs at the two-year level, there will likely be extensive demand for similar public offerings at the four-year upper division and graduate levels. The HECB should take steps to ensure the planning and coordination of Online instruction occurs in all higher education sectors and levels.

Operating and Capital Costs:

- The operating cost associated with the institution’s enrollment increase and enrollment plans is calculated to be \$634.4 million over 5 biennia. The costs for the first two biennia are estimated to be \$101.6 million and \$95.5 million, respectively. Shifting the 2009-2011 enrollment increases to the next biennium would increase costs by 5.6% per biennium or a total five biennia cost increase of \$35.5 million.
- The capital costs, derived from the institutions’ capital plans for the next four biennia are estimated to be \$4.8 billion. Of that amount, 65% is associated with preservation projects and 35% is related to growth projects.

Policy Conclusions:

- As noted in the Statewide Master Plan, “The demographic shift that is taking place in Washington raises the stakes. We cannot meet our enrolment or degree goals unless and until we do a better job of educating low-income students and students of color.” While current economic circumstances will certainly affect the ability of the state to significantly increase enrollment funding in the next (2009-11) biennium, a longer-term, systemic challenge impacting the ability to reach the Board’s degree goals by 2018 exists. Simply stated, it is likely that even the most successful efforts to increase “pipeline” demand will not result in the achievement of the Master Plan’s degree goals by 2018. A longer horizon for meeting those important goals seems necessary.
- Efforts to address the enrollment pipeline issues need to be given the highest priority. If Washington is to be truly competitive in the global economy, it needs to increase degree production, particularly in the science and technology areas. This effort requires motivated students, well rounded in the basics of math, science and comprehension. The measures outlined in the Statewide Master Plan require continuing attention by the institutions and the HECB. Because of the central need to implement the master plan strategies, the legislature should consider delaying the requirement for a new or updated master plan to allow the institutions and the HECB to focus on the implementation of the current master plan.
- eLearning efforts, and particularly Online instruction, must be carefully planned and coordinated to ensure that students have opportunities to utilize this “anytime – anywhere” approach to attain bachelors and higher degrees. There is a substantial disparity between the plans of the community and the technical colleges and the public four year institutions. A planning and coordinating framework needs to be established by the HECB to ensure that eLearning opportunities are available and that a seamless transition from two year to upper division level programming occurs.

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Section 1.0: Purpose and Process

Policy Reference

The 2007-09 Appropriations Act provided funding to the Higher Education Coordinating Board (HECB) to study the state's higher education capital facility and technology capacity. Specifically, the language stated, ". . . state appropriation is provided solely to implement a capital facility and technology capacity study which will compare the 10-year enrollment projections with the capital facility requirements and technology application and hardware capacity needed to deliver higher education programs for the period 2009-2019."

Inherent in the study language was the understanding to examine how the degree award and enrollment goals developed by the HECB can be achieved within the public and independent higher education sectors in Washington. The study was designed to evaluate the existing programmatic, technological, and facility capacities of the higher education institutions in Washington, and then determine if the enrollment goals can be accommodated within existing and planned capacity. The study also was to determine the costs, both operating and capital, associated with the additional enrollments.

Study Process

Previously conducted capacity studies focused on the physical capacity of core instructional space identified as classrooms, scheduled class laboratories, and faculty offices. These previous studies determined capacity using mathematical formulas based on space standards that were then applied to the space inventories' of the public institutions. Since the calculations were made on three different types of space, the resulting capacity calculations varied widely. In addition, the calculations did not take into account any programmatic factors or limitations that affect enrollment capacities of the institutions.

The effort for this study focuses more on the programmatic aspect of institutional capacity, but does include the institutional physical capacity as one of the factors. However, the programmatic capacity uses broader metrics than just classrooms, class laboratories, and faculty offices, resulting in a better reflection of capacity based on all of an institution's space and use of its space.

The project approach included several parallel activities. The activities were: determining the institutional capacity using national guidelines applied to institutional space inventories, determining the programmatic capacities for each of the public four-year institutions and for the Community and Technical Colleges and Independent Colleges as a whole, identifying the HECB enrollment goals by level and sector, and identifying the effect technology will have on institutional capacity.

Working with the Council of Presidents, an initial data request was sent to all four-year public institutions, the State Board for Community and Technical Colleges, and Independent Colleges of Washington. The data request was for institutional enrollment and degree estimates through the 2018-19 academic year and for space inventory information including planned adjustments to existing space. Once received and analyzed, project team members visited all of the public four-year institutions to review the data provided. The appendix contains a list of institutional and agency staff contacted during the project.

After the institutional enrollment plans were finalized, the project team analyzed the enrollment beginning with the academic year 2008-09 through 2018-19. Included in the analysis was the identification of the enrollment that could be accommodated using technology. The project team then developed the operating budget cost factors for the public institutions, categorizing the costs into undergraduate and graduate, and then by general, high demand, and health sciences enrollment. These cost factors were then applied to the enrollment plans to project future operating costs.

For capital costs, the project team conducted a high level analysis that resulted in categorizing the public institutions' ten-year capital projects into two categories, preservation and growth. Since the capital plans align with the institutional enrollment plans, the capital budgets provide a good indicator of the capital costs needed to support the institutional plans.

Throughout the project, the MGT and HECB project team met frequently to identify, clarify, and address issues. The project team also had frequent contact with institutional staff and periodically met with legislative staff to seek their input when needed.

The project team would like to recognize the efforts of Rick Heggie of the HECB staff who worked tirelessly to collect information from a variety of sources, analyze the information, and display the information in a variety of ways. He was also responsible for developing all of the operating cost information, an effort that was greatly appreciated.

The following capacity report is separated into the following sections: institutional enrollment and degree plans and capacity, enrollment challenges faced by institutions, the impact of technology on enrollment, cost impact (operating and capital), and report conclusions and policy implications.

Section 2.0: Institutional Degree and Enrollment Plans & Enrollment Capacity

As part of the study process, each public four-year institution provided degree and enrollment plans for the academic years 2008-09 through 2018-2019. For the Community and Technical Colleges and the Washington's independent higher education institutions, degree and enrollment plans were provided by the State Board for Community and Technical Colleges and Independent Colleges of Washington, respectively.

The following charts and tables display the degree and enrollment plan information. The enrollment information is displayed by institution and sector. This information reflects the enrollment institutions could accommodate in existing or planned facilities and not limited by funding considerations. Institutions took into account the physical and programmatic factors that could impact enrollment. For example, through an arduous process some institutions have a negotiated agreement with faculty for the maximum institutional enrollment. Other institutions determined their enrollment plan numbers based on a combination of factors including physical space, programs currently offered and planned, and program mix between colleges/departments and between undergraduate and graduate levels.

Degree information is displayed by the three degree categories identified in the HECB Statewide Master Plan, e.g., mid-level degrees, bachelor's degrees, and graduate/professional degrees. The degree information is displayed in tabular and graphical forms, with the last figure comparing the degrees from the institutional plans to the Statewide Master Plan degree goals.

In all cases, the institutions carefully reviewed their degree and enrollment plans with a variety of stakeholders to ensure the plans aligned with physical and programmatic capability of the institution. The enrollment plans also had to align with the institutions' facility master plans and the philosophy of the institutional leadership. For many institutions, this effort was the first time a long-range enrollment plan was developed for use outside of the institution. All institutions felt the process required to develop their degree and enrollment plans was worthwhile, and it allowed them to internally discuss and agree on the factors that affect enrollment and degree production.

For the two- and four-year public institutions, the enrollment plan information is compared to the Office of Financial Management (OFM) enrollment projection information. The OFM projections are

based on the most recent participation rates for higher education as they apply to Washington's population. It should be noted that the OFM projections are not static, but rather change as the participation rate changes and when population forecasts are updated.

Maximum Institutional Capacity

A part of the enrollment planning process included requesting from the institutions their maximum potential enrollment capacity, regardless of whether the enrollment could be funded. The intent was to let the institutions take into account all of the factors that could or do impact enrollment. In previous studies, institutional capacity was a calculated amount based on certain institutional space types, e.g., classrooms, class laboratories, and faculty offices. The calculated capacity figures varied widely between the different space types, making the figures difficult to use and understanding the institutional capacity complicated. In addition, the calculations did not take into account any programmatic areas that affect institutional enrollment capacity.

As previously stated, this 2008 capacity study incorporates the programmatic impacts in identifying institutional enrollment capacity. The institutional plans, described above, provided a realistic enrollment plan for each institution. The maximum institutional capacity is an effort for institutions to state their absolute maximum enrollment capacity for their institution. In some cases, the absolute maximum enrollment capacity is the same number as the enrollment stated in their enrollment plans. In other cases, the maximum enrollment capacity reflects the enrollment the institution could handle, but is more than the institution wished to state as part of their institutional enrollment plan.

The table below displays the maximum institutional enrollment capacity for the public institutions.

**Figure 2-1
Maximum Institutional Capacity**

Institution	MAX Enrollment Capacity	Institutional Enrollment Plans 2018-2019	Difference
UW-Seattle	36,500	36,580	(80)
UW-Tacoma	7,750	5,790	1,960
UW-Bothell	6,000	4,130	1,870
WSU- Pullman/Spokane	24,800	24,799	1
WSU-Vancouver	4,500	4,500	-
WSU-Tri-Cities	2,000	2,000	-
CWU-Ellensburg	10,000	9,895	105
CWU-Centers	2,500	2,220	280
EWU	11,500	9,623	1,877
TESC	5,000	4,593	407
WWU	14,500*	14,318	182
Sub Total	125,050	118,448	
Community and Technical Colleges	159,330	159,330	
Total	284,380	277,778	

*Includes WWU's estimate of space associated with development of water front property in Bellingham
Source: Institutional Plans and MGT analysis.

In addition to collecting information from the institution on their programmatic enrollment, the project team conducted a high-level capacity analysis of the four-year public institutions based on the gross square footage (GSF) of the campuses. The display below calculates facility capacity based on nationally recognized GSF per FTE factors. The factors used were 345 GSF per FTE for research institutions, and 197 GSF per FTE for comprehensive institutions. The results of this analysis indicate that the current facility capacity is closely aligned with the four-year institutions current levels. This high-level analysis does not take into account utilization of space or other factors, only the physical size of the institution. In addition, student residential housing is not included in the square footage figures.

**Figure 2-2
Capacity Calculation based on Gross Square Feet (excluding residential)**

Institution	Gross Square Feet	Capacity Factor (GSF/FTE)	Estimated FTE Capacity	2008-09 Budgeted Enrollment
UW-Seattle	11,152,507	345	32,326	34,197
UW-Bothell	295,778	197	1,501	1,980
UW-Tacoma	525,129	197	2,666	2,349
WSU-Pullman*	7,148,750	345	20,721	19,272
WSU-TriCities	261,581	197	1,328	865
WSU-Vancouver	340,302	197	1,727	2,113
CWU-Ellensburg	1,820,079	197	9,239	9,322
EWU	1,878,952	197	9,538	9,184
TESC	1,256,279	197	6,377	4,213
WWU	2,055,796	197	10,436	12,175

*WSU-Pullman includes Spokane and Yakima ICNE

Source: UW information from the Facility Comparable Framework 2008 (Meng Analysis); All other institutions reported individually as part of this capacity study.

Comparison of State Funded Student FTEs

The table below displays the budgeted annual average student FTEs compared to the institutional enrollment plans for 2008-09. In addition and for comparison purposes, the actual annual average students FTEs for 2007-08 are also displayed. The actual annual average student FTEs for 2008-09 will be available in the spring of 2009.

**Figure 2-3
Budgeted Enrollments Compared to Institutional Plans**

Comparison of State Funded 2008-09 Student FTEs by Source				
Institution	2007-08 Actual	2008-09 Budgeted	2008-09 Institutional Estimates	Difference
UW-Seattle	33,796	34,197	34,195	(2)
UW-Bothell	1,566	1,980	1,980	0
UW-Tacoma	2,093	2,349	2,350	1
WSU-Pullman & Spokane *	19,586	19,272	18,808	(464)
WSU-Tri Cities	849	865	936	71
WSU- Vancouver	1,899	2,113	2,078	(35)
CWU	8,954	9,322	8,915	(407)
EWU	9,074	9,184	9,074	(110)
TESC	4,236	4,213	4,213	0
WWU	12,114	12,175	12,175	0
4-Year Total	94,167	95,670	94,724	(946)
CTC	133,987	139,237	138,907	(330)
Total	228,154	234,907	233,631	(1,276)

* Does not include 2008-09 institutional estimated Online instruction enrollments of 1,260 FTE.

Sources: Institution Enrollment Plans, 2008 Legislative Budget Notes, 2007 OFM Higher Education Enrollment Projections.

Public Two-Year Institutional Enrollment Plans

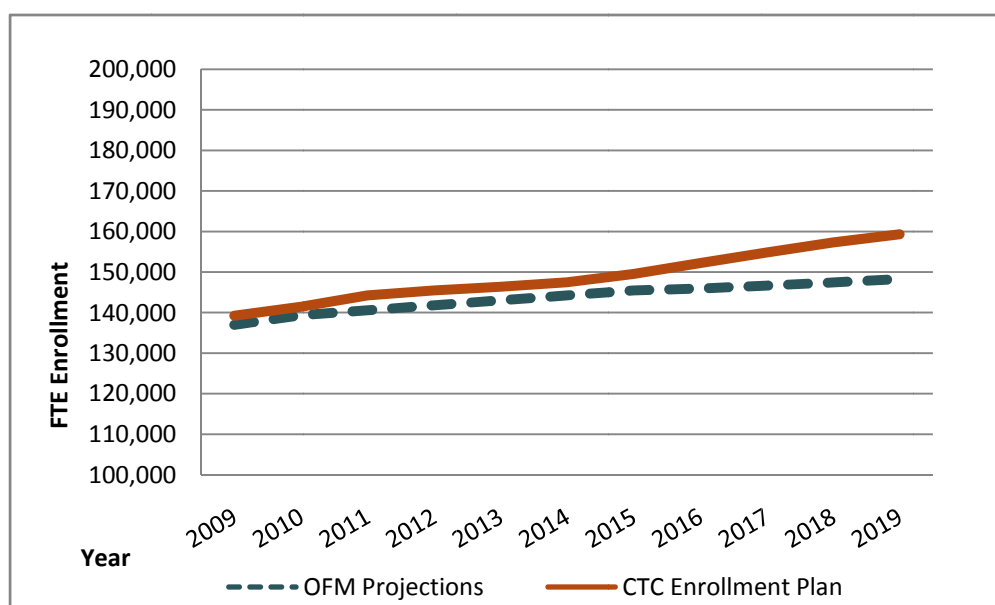
Figure 2-4
OFM Enrollment Projections and CTC Enrollment Plan

Academic Year (State-Funded Base)	OFM Enrollment Projections/Estimates*	CTC Enrollment Plans
AY 2008-2009	136,981	139,237
AY 2009-2010	139,342	141,450
AY 2010-2011	140,573	144,237
AY 2011-2012	141,804	145,470
AY 2012-2013	143,034	146,370
AY 2013-2014	144,265	147,480
AY 2014-2015	145,496	149,530
AY 2015-2016	145,955	152,230
AY 2016-2017	146,656	154,830
AY 2017-2018	147,467	157,330
AY 2018-2019	148,296	159,330
Total Growth 2009 to 2019	11,315	20,093

* OFM enrollment projections are based on current enrollment participation rates.

Source: Office of Financial Management and State Board for Community and Technical Colleges.

Figure 2-5
OFM Enrollment Projections Compared to CTC Enrollment Plans



Source: Office of Financial Management and State Board for Community and Technical Colleges.

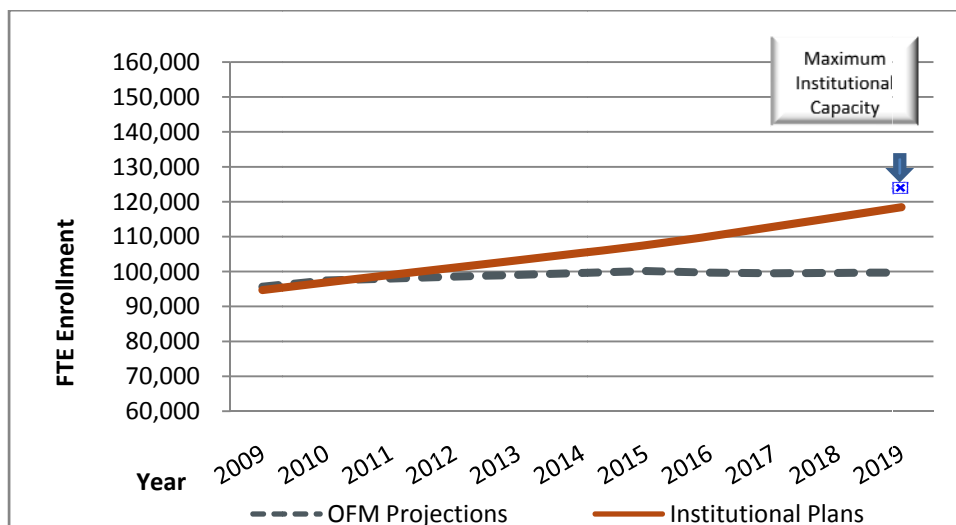
Public Four-Year Institutional Enrollment Plans

Figure 2-6
OFM Enrollment Projections and Four-Year Public Institutional Enrollment Plans

Academic Year (State-Funded Base)	OFM Enrollment Projections/Estimates	Enrollment Plans - TOTAL		
		TOTAL	UG	GRAD
AY 2008-2009	95,692	76,247	18,477	94,724
AY 2009-2010	97,467	78,161	18,745	96,906
AY 2010-2011	98,004	80,020	19,030	99,050
AY 2011-2012	98,541	81,776	19,428	101,204
AY 2012-2013	99,078	83,409	19,844	103,253
AY 2013-2014	99,615	85,092	20,312	105,404
AY 2014-2015	100,152	86,781	20,822	107,602
AY 2015-2016	99,697	88,690	21,391	110,081
AY 2016-2017	99,512	90,854	21,980	112,835
AY 2017-2018	99,605	93,035	22,598	115,633
AY 2018-2019	99,721	95,276	23,171	118,447
Estimated Growth 2009 to 2019	4,029	19,029	4,694	23,723

Source: Institutional Enrollment Plans. [NOTE: table does not include online enrollment for WSU, see Figure 4-1 Research category].

Figure 2-7
OFM Enrollment Projections Compared to Four-Year Public Institutional Enrollment Plans



Source: Institutional Enrollment Plans and Office of Financial Management Enrollment Projections.

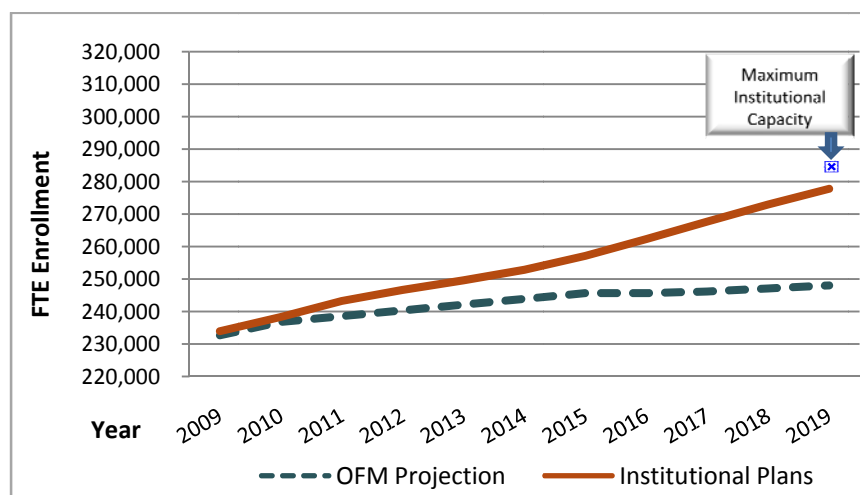
Enrollment Plans for All Public Institutions

Figure 2-8
OFM Enrollment Projections and All Public Institutions Enrollment Plans

Academic Year (State-Funded Base)	OFM Current Part Rate Enrollment Projections/Estimates	Enrollment Plans - TOTAL		
		Total	Undergrad	Graduate
AY 2008-2009	232,673	215,484	18,477	233,961
AY 2009-2010	236,809	219,611	18,745	238,356
AY 2010-2011	238,577	224,257	19,030	243,287
AY 2011-2012	240,345	227,246	19,428	246,674
AY 2012-2013	242,112	229,779	19,844	249,623
AY 2013-2014	243,870	232,572	20,312	252,885
AY 2014-2015	246,648	236,311	20,822	257,132
AY 2015-2016	245,652	240,920	21,391	262,311
AY 2016-2017	246,168	245,684	21,980	267,665
AY 2017-2018	247,072	250,365	22,598	272,963
AY 2018-2019	248,017	254,606	23,171	277,777
Total Estimated Incremental Growth 2009 to 2019	15,344	39,122	4,694	43,816

Source: Institutional Enrollment Plans.

Figure 2-9
OFM Enrollment Projections Compared to All Public Institutions Enrollment Plans



Source: Institutional Enrollment Plans and Office of Financial Management Enrollment Projections.

Enrollment Plans for Independent Colleges of Washington

Figure 2-10
Enrollment Plans for Independent Colleges in Washington

Academic Year (State-Funded Base)	Enrollment Plans - TOTAL		
	Undergraduate	Graduate	Total
AY 2008-2009	24,389	7,043	31,432
AY 2009-2010	24,720	7,137	31,857
AY 2010-2011	25,056	7,240	32,296
AY 2011-2012	25,362	7,328	32,690
AY 2012-2013	25,611	7,395	33,006
AY 2013-2014	25,800	7,459	33,259
AY 2104-2015	26,006	7,507	33,513
AY 2105-2016	26,209	7,556	33,765
AY 2016-2017	26,407	7,603	34,010
AY 2017-2018	26,608	7,650	34,258
AY 2018-2019	26,812	7,702	34,514
Enrollment Increase 2009 - 2019	2,423	659	3,082

Source: Independent Colleges of Washington Enrollment Plans.

Note: Independent institutions' enrollment growth is not predicated on the provision of additional public resources.

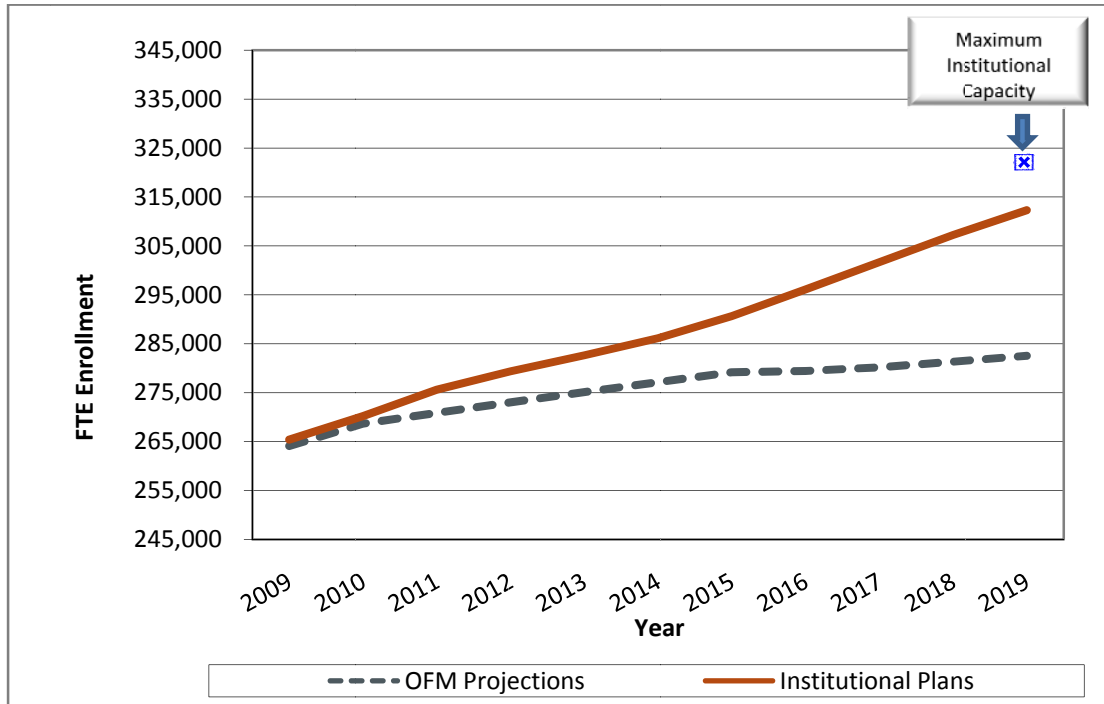
Enrollment Plans for ALL Washington Higher Education

Figure 2-11
OFM Enrollment Projections and Enrollment Plans for All Washington Higher Education

Academic Year	OFM Projections	Institutional Plans	Difference
AY 2008-2009	264,105	265,393	1,288
AY 2009-2010	268,666	270,213	1,546
AY 2010-2011	270,873	275,583	4,710
AY 2011-2012	273,035	279,364	6,329
AY 2012-2013	275,118	282,629	7,511
AY 2013-2014	277,139	286,144	9,004
AY 2014-2015	279,161	290,645	11,484
AY 2015-2016	279,417	296,076	16,659
AY 2016-2017	280,178	301,675	21,497
AY 2017-2018	281,330	307,221	25,890
AY 2018-2019	282,531	312,291	29,760
Growth 2009-2019	18,426	46,898	28,472

Source: Institutional Enrollment Plans, Office of Financial Management Enrollment Projections, and MGT analysis.

Figure 2-12
OFM Enrollment Projections Compared to Enrollment Plans for All Washington Higher Education



Source: Institutional Enrollment Plans, Office of Financial Management Enrollment Projections, and MGT analysis.

Degree Goals from Institutional Plans

The tables below identify the degree goals associated with the institutional enrollment plans. The degree numbers are aggregated and displayed in three categories: mid-level degrees, bachelor's degrees, and graduate/professional degrees. These categories are the same as identified in the Statewide Master Plan. Individual institutional degree information is displayed in the appendix. The total degree plans for the higher education institutions are contrasted with the Statewide Master Plan Goals in Figure 2-15.

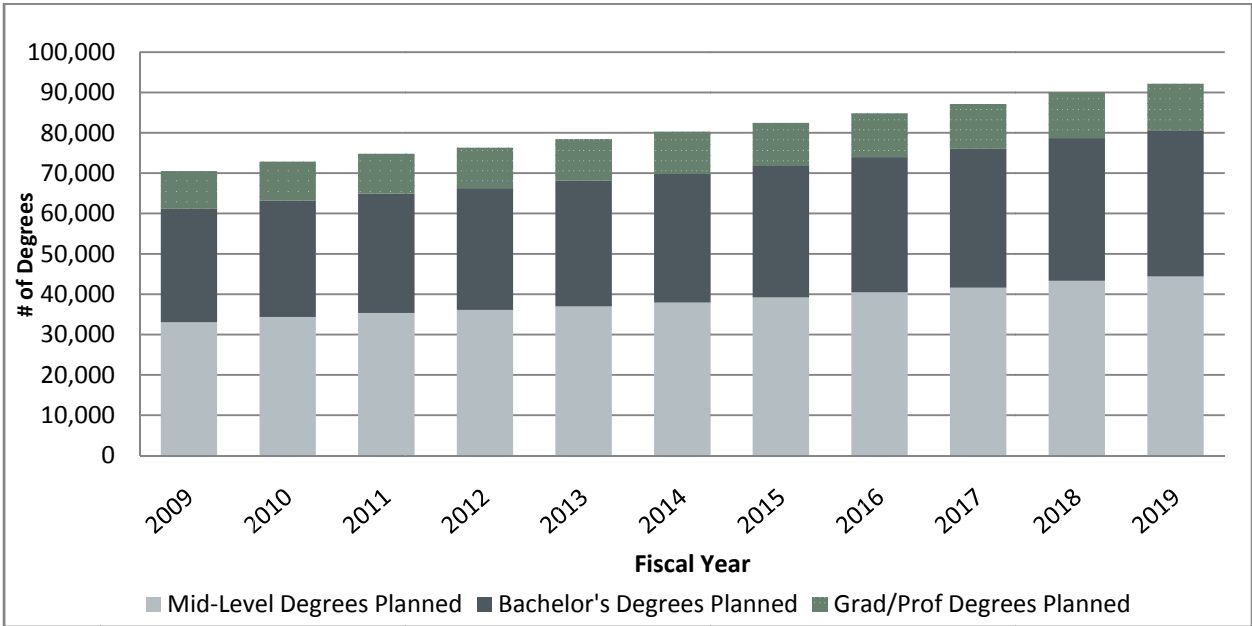
Figure 2-13
Degree Plans for All Washington Higher Education

Fiscal Year	Mid-Level Degrees Planned	Bachelor's Degrees Planned	Grad/Prof Degrees Planned	Total Degrees Planned
2009	33,059	28,125	9,358	70,542
2010	34,349	28,889	9,622	72,860
2011	35,350	29,588	9,859	74,797
2012	36,080	30,188	10,044	76,312
2013	36,989	31,211	10,255	78,455
2014	37,911	31,910	10,461	80,282
2015	39,179	32,607	10,678	82,464
2016	40,461	33,520	10,880	84,861
2017	41,620	34,421	11,122	87,163
2018	43,330	35,360	11,339	90,029
2019	44,389	36,257	11,558	92,204
Growth 2009-2019	11,330	8,132	2,200	21,662

Source: Institutional Plans and MGT analysis.

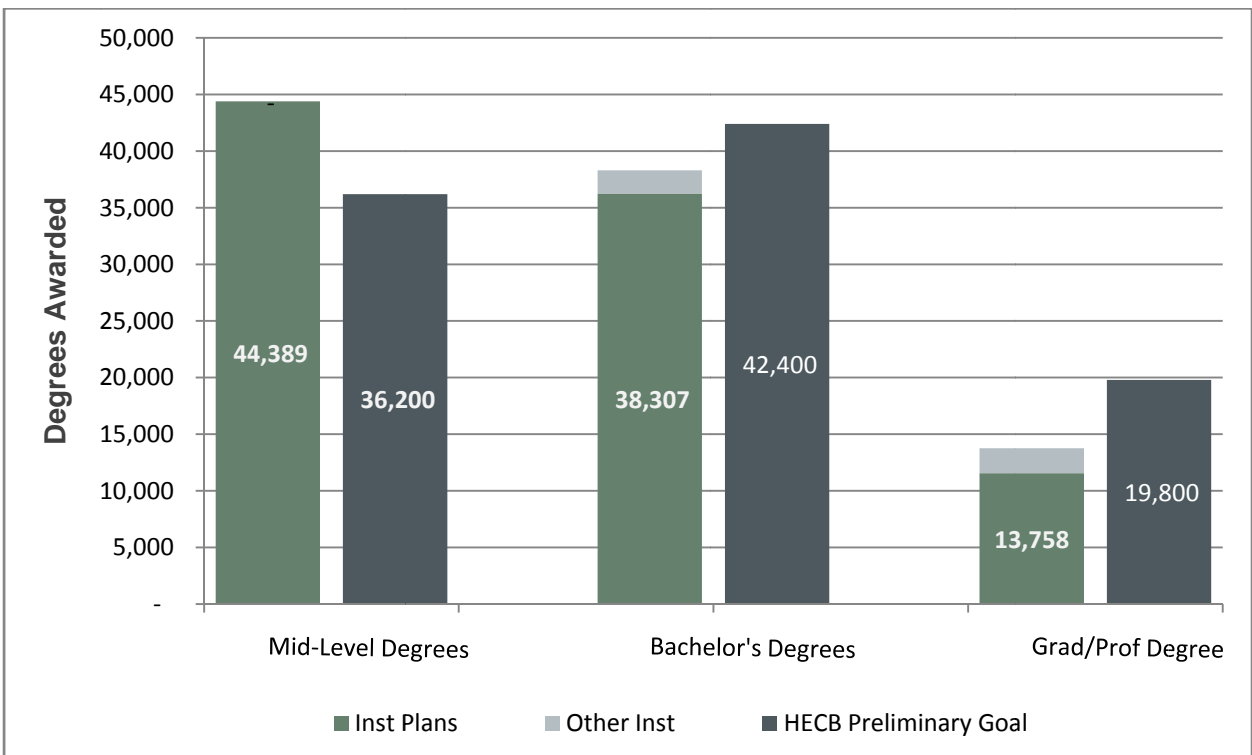
[NOTE: Additional degrees are awarded in Washington by entities outside the scope of this study amounting to approximately 2,050 (7%) more bachelors degrees and 2,200 (20%) more graduate and professional degrees. However, these degrees are reported to IPEDS and are included in the Statewide Master Plan goals. These additional degrees are reflected in the chart below, Figure 2-14.]

Figure 2-14
Charted Degree Plans for All Washington Higher Education



Source: Institutional Plans and MGT analysis.

Figure 2-15
Institutional Degree Plans for All Washington Higher Education Compared to Statewide Master Plan Goals (includes institutions outside the scope of this study)



Source: Institutional Plans and MGT analysis.

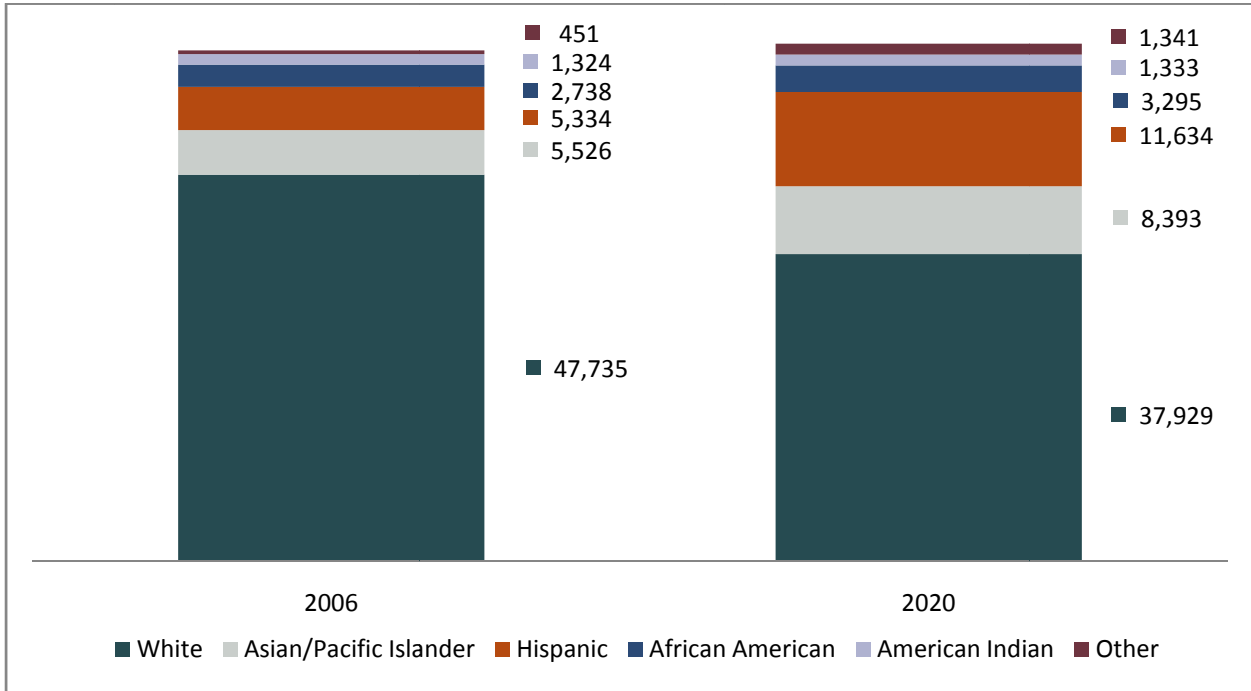
As indicated in the figure above, the institutional plans indicate a higher level of mid-level degrees awarded than called for in the master plan. Bachelor degrees awarded are somewhat lower than the master plan goals. The largest difference between degree plans and master plan goals is in the graduate/ professional category.

Section 3.0: Enrollment Challenges Faced By Institutions

During the field visits conducted as part of the study, each four-year institution expressed some degree of near term concern about meeting enrollment projections or plans. While it almost goes without saying that the willingness or ability of the legislature to fund additional FTE is a major factor, the pool of qualified students willing and able to enroll at a higher education institution is a significant concern. Until the improvements in high school preparedness and other initiatives recommended by the HECB in the most recent statewide master plan are implemented, each institution will have to develop and implement efforts to meet planning targets.

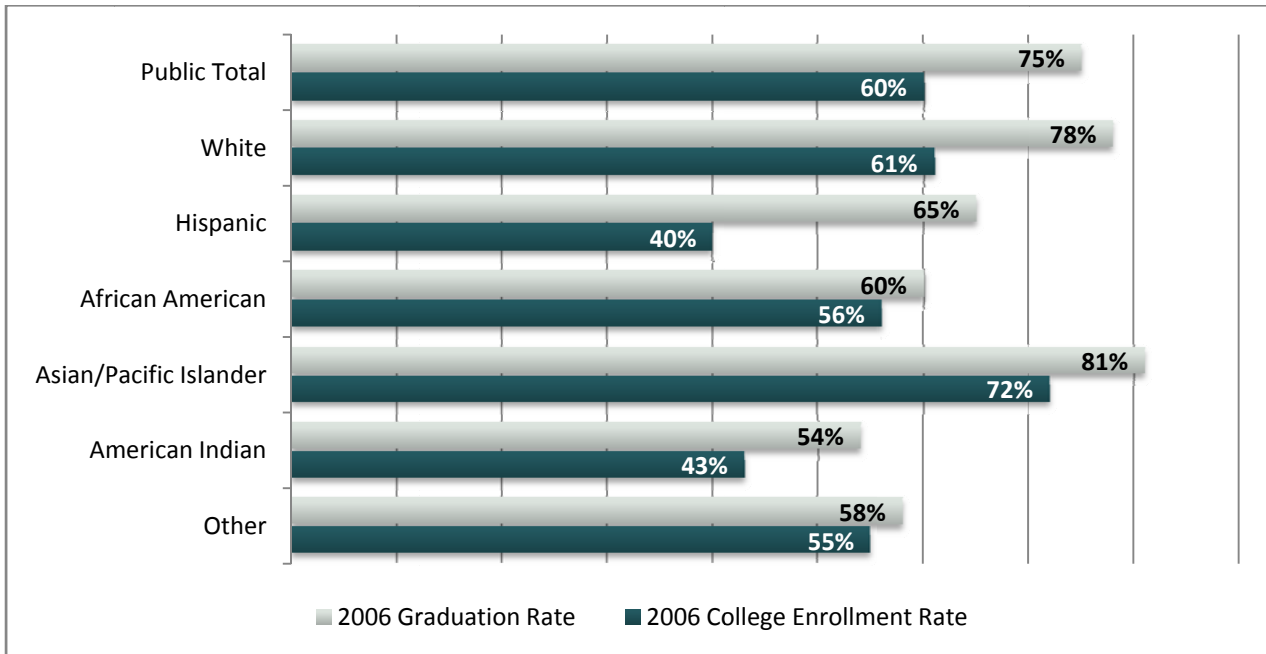
In this context, the project team examined the degree to which various populations were served by two- and four-year public institutions. Initially, the projected number of high school graduates was reviewed. Figure 3-1 displays the Washington State High School Graduates by Race / Ethnicity to the year 2020. The number of white high school graduates is projected to decline over 20%, while the number of Hispanic high school graduates is projected to increase nearly 120%. When applying these numbers to the college going rates for the various race / ethnicity groups, the data indicate a substantially lower college going rate for the group with the highest projected graduation growth. Figure 3-2 displays the high school graduation rates by race / ethnicity and displays the percent of the graduates in those groups that enroll in college. For the Hispanic/Latino population, 65% graduate from high school, but of that number, 40% enroll in college.

Figure 3-1
2006 & 2020 Washington State High School Graduates by Race / Ethnicity



Source: WICHE High School Graduate Projections (2008).

Figure 3-2
2006 Public High School Graduation and All College enrollment Rates by Race / Ethnicity



Source: Office of the Superintendent of Public Instruction – Extended Graduation Rates (2006), SESRC NCS College Enrollment Rates (2006).

Figure 3-3 below is based on data provided by HECB staff using information originally from OFM and the community and technical colleges. The table illustrates the relationship of the share of resident higher education enrollment in each sector of the various population groups compared to the population groups' proportion of "college age" (18 to 59) population in the state. As indicated, the Asian/Pacific Islander population participates in public postsecondary education in a higher proportion than their share of the population. The data also show that all minority populations participate in community and technical colleges at a rate equal to or greater than their proportion of college age population as a whole.

**Figure 3-3
Ethnic Group Participation Rates versus Washington College Age Population
Headcount Enrollment excluding Non-Resident, Other, and Unknown Categories**

Race / Ethnic Group	Four-Year Headcount	Two-Year Headcount	2006 State College Age Population	Four-Year Disparity	Two-Year Disparity
Asian/ Pacific Islander	12.66%	9.96%	7.34%	5.32%	2.62%
African American	2.89%	5.30%	3.50%	-0.61%	1.80%
Native American	1.88%	1.63%	1.49%	0.39%	0.14%
White	74.68%	68.67%	76.82%	-2.14%	-8.15%
Hispanic/Latino	5.57%	12.41%	8.52%	-2.95%	3.89%
Two or More	2.31%	2.03%	2.32%	-0.01%	-0.29%

Sources: 4-Year: OFM HEER Reports, Table 16a, Fall 2007; 2-Year: SBCTC, Fall 2006 Enrollment and Staffing Report; Washington State: 2006 Population Estimate, OFM; College Age Population Defined as 18-59 Years of Age.

In the four-year sector, the greatest disparity is in Hispanic/Latino enrollment. This population makes up 8.5% of college age population while its enrollment is 5.67% of the four-year enrollment. To eliminate this disparity between population and enrollment levels, a nearly 50% increase in Latino enrollment would be needed. With the likely growth in the Latino population over the next ten years, the potential pool of this group will increase even more. In addition to the Latino population, the African-American population is also participating at a lower rate in the four-year sector compared to their percentage of the population.

In view of the fact that the population with one of the highest college going rates is projected to decline and the population with the lowest college going rate is projected to more than double, the enrollment pipeline becomes a large issue. The issue becomes even more complex when including the movement between higher education sectors. Both the Latino and African-American populations

participate in community and technical colleges at rates greater than their population share indicating a considerable potential for increased participation by these groups at the four-year level. Increasing the participation of the populations from these two groups into and through higher education is an opportunity as well as a challenge. In order to ensure these populations are better served, a coordinated effort must be implemented. Competition between institutions for those currently qualified and willing to attend a higher education institution will do little to increase the overall participation from these populations. Coordinated initiatives targeted to improve access to higher education and from associate to the baccalaureate level participation, conducted in accordance with state law, could greatly assist institutions in meeting their and statewide goals and provide increased higher education opportunities for these traditionally underrepresented populations. .

Section 4.0: Impact Of Technology

The legislative language directing this study specifically addressed the use of new technology in higher education and the extent that it can be used in addressing capacity issues. Therefore, an important component of the study is the potential of technology to provide more and better learning opportunities for new and existing enrollments.

The term “eLearning” has been coined to represent the use of technology in higher education. eLearning is the using of unique affordances of digital technologies to support and transform learning in flexible, anytime / anywhere spaces. eLearning included technologies that support learning support and support learning for everyone, not just students separated by distance. The three major categories of eLearning are:

1. Online courses: conducted completely on the web;
2. Hybrid courses: replace some – but not all – classroom time with online learning;
3. Web-enhanced courses: meet in regular class sessions, but use online resources for additional student-teacher and student-to-student interaction, posting of assignments and course materials.

The benefits are:

- eLearning in the classroom provides for an enriched academic experience for students
- eLearning enhances communication and information sharing between and among students and faculty.
- eLearning can be used to partially offset the need for face-to-face scheduled classes or to allow students to keep pace in a course by using a combination of on-line and classroom instruction. This approach is called “hybrid” classes and is gaining in popularity.
- Central to the issue of institutional capacity is that a portion of future enrollments could be accommodated through eLearning.
- For the purposes of this study, “Online instruction” is defined and categorized as allowing students to take classes and obtain degrees without attending on-campus scheduled classes. In other words it is “any-time, any place” learning in an organized manner that can lead to completion of programs and degrees.
- Online enrollment does not require instructional space needs, as the instruction and learning environment is asynchronous using the Web and email for assignments, homework, and interaction with faculty, other students, and for administrative support.

- While not requiring instructional space, Online instruction does have space needs for faculty and support staff and technology infrastructure.

Faculty and staff engaged in any eLearning activity will need initial and on-going training for using the technology and preparing and aligning academic material. In addition, eLearning requires infrastructure investment and on-going maintenance & support to ensure program preparation and delivery meets or exceeds the user’s needs. The development of the systems and infrastructure also enables the use and expansion of technology in the regular classroom and in hybrid settings.

As the following table indicates, the Community and Technical College system is far and away the greatest provider of state funded Online instruction. Washington State University (in the Research category) is the largest provider in the four-year sector. Central and Eastern Washington comprise eLearning in the “Comprehensive” category. The University of Washington offers specialized courses through the internet but treats them as self sustaining.

**Figure 4-1
Enrollment Accommodated Solely through Online Activity**

Academic Year (State-Funded Base)	Research	Comprehensive	Community and Technical Colleges	Public Total
FY/AY 2009	1,260	306	14,980	16,546
AY 2009-2010	1,394	439	16,480	18,313
AY 2010-2011	1,498	583	18,130	20,211
AY 2011-2012	1,579	733	19,940	22,252
AY 2012-2013	1,642	883	21,930	24,455
AY 2013-2014	1,690	1,038	24,120	26,848
AY 2014-2015	1,730	1,088	26,530	29,348
AY 2015-2016	1,763	1,141	29,180	32,084
AY 2016-2017	1,789	1,194	32,100	35,083
AY 2017-2018	1,811	1,248	35,310	38,369
AY 2018-2019	1,829	1,301	38,840	41,970
Total Estimated Incremental Growth	569	995	23,860	25,424

Source: Institutional Enrollment Plans.

Except for WSU, all of the above FTE enrollments are included in the enrollment plan totals identified earlier in this report. [NOTE: for WSU, their Online instruction enrollment numbers were not separately identified for the main campus or branches, as per instructions from the Project Team.]

The differences among institutions in the planned use of Online instruction is striking. Western Washington University and The Evergreen State College have no plans to enter that field but do plan to make extensive use of technology to augment and enhance campus based classes and course work. While Washington State University is now the largest eLearning provider of baccalaureate and higher level programs, its rate of future growth is substantially less than that of the two comprehensive universities providing eLearning. Most significant is the emphasis placed on technology by the Community and Technical Colleges. The total estimated incremental growth in this area exceeds the total growth of all enrollment through 2018-2019. This is not to say that some colleges will not grow over this period and will have new space needs, but the net result is that e-learning will be a major delivery system of the Community and Technical Colleges.

The differing plans of Washington's public two-year and four-year sectors raise issues of coordination. If a vastly increasing number of students utilize eLearning for programs at the two-year level, there will likely be extensive demand for similar public offerings at the four-year and higher levels. Ensuring an appropriate response presents a considerable challenge for coordinated efforts.

As learned from the eLearning efforts in several other states, a coordinated approach is paramount to ensure eLearning is a viable mechanism for providing learning opportunities for students. While eLearning may be an option for many different learner segments, not all institutions can or should be expected to address the needs of all the segments. But, determining which institution provides services to which segment must be a coordinated effort between all providers. The technology infrastructure needed to support eLearning must also be coordinated. For without coordination, institutions could develop technology strategies that are not compatible with other institutions and thereby impacting the educational transparency for students.

States address the eLearning and technology coordination issues differently. Some states identify a single institution to coordinate eLearning throughout the state, while other states coordinate eLearning from the governing or coordinating board level. In Washington, the State Board for Community and Technical College Education coordinates the eLearning activities for the community and technical colleges. However, that strong coordinating effort is not yet present in the public four-year sector. Washington's Higher Education Coordinating Board is well suited to serve as the eLearning coordinating body to ensure eLearning is compatible across all sectors and becomes, sustains, and grows as a viable learning option for students.

Section 5.0: Cost Impact

The cost impact of the institutional enrollment plans is separated into two cost categories, capital costs and operating costs. The capital costs reflect the budget information provided by the public institutions as part of their 2009-2011 capital budget requests and ten-year capital plans. The operating costs are based on the budgeted costs for the academic year 2008-09 and inflated annually through the ten-year period. The following sections describe the estimated costs associated with the institutional enrollment plans and the assumptions underlying those cost estimates.

Operating Costs

The operating cost factors used to calculate the operating costs associated with the institutional enrollment plans were derived from several sources. The primary cost information source was the FY 2009 budgeted funding level. For those areas where budgeted funding levels were not available, Educational Cost Study (ECS) figures and figures from the most recent ESC Disclosure Report were used, inflated to 2008-09.

The cost categories used for calculating the operating cost component included undergraduate and graduate levels, and within these levels, the cost groupings of general, high demand, and health sciences. These cost categories align with the enrollment groupings contained in the institutional enrollment plans.

OPERATING COST ASSUMPTIONS

In order to estimate the operating costs of the institutional enrollment plans, several assumptions were made. The operating cost assumptions for determining the base level costs are listed below and in an appendix to this report.

**Figure 5-1
Operating Cost Assumptions**

Enrollment Category	Basis for Cost
Undergraduate Four-Year-General	Align with 2008-09 appropriations
Undergraduate Four-Year-High Demand	Align with 2008-09 appropriations
Undergraduate Research Inst-Health Sciences Costs	Align with 2008-09 appropriations
Undergraduate Comprehensive Inst-Health Sciences Costs	Based on Educational Cost Study and ECS Disclosure Report (due to no 2008-09 appropriation)
CTC Lower Division Costs -All Categories -	Align with 2008-09 appropriations
Graduate Four-Year-General Costs	Align with 2008-09 appropriations
Graduate Four-Year-High Demand Costs	Based <i>on</i> WSU's Masters in Engineering and Science program
Graduate Research <i>Inst</i> -Health Sciences Costs	Align with 2008-09 appropriations
Graduate Comprehensive Inst-Health Sciences Costs	Calculated using the ratio of undergraduate to graduate health sciences costs identified in the Educational Cost Study
CTC Applied Baccalaureate Costs	Align with 2008-09 appropriations

Source: HECB.

In addition to determining base-level costs, assumptions were also developed about future operating costs. These assumptions are listed below.

- Resident / Non-Resident mix remains constant
- Tuition remains in proportion to appropriations
- Escalation from base year is computed using a factor of 2.5% per year

OPERATING COST CALCULATIONS

The results of the operating cost calculations are displayed in the figures below. It is important to note that the operating costs are based on the institutional enrollment plans submitted by the institutions as part of this study and should not be construed to be budget or appropriation targets. As previously mentioned, the costs take into account undergraduate and graduate level enrollments, with

the enrollments within those levels categorized into general, high demand, and health sciences programs.

The first figure below (Figure 5-2) displays the operating costs by year for the research universities, comprehensive universities/college, and the community and technical colleges. Included in these calculations are the costs associated with enrollments in high demand and health sciences programs, as well as general enrollments. For the community and technical colleges, the operating costs associated with applied baccalaureate programs are included as well. For the ten year planning period (five biennia), the public sector operating costs associated with the institutions' enrollment plans are estimated to be \$634.4 million. Within that total, the operating costs for the additional enrollments at the research universities would be \$279.3 million, for the comprehensive institutions \$79.3 million and for the community and technical colleges \$275.8 million.

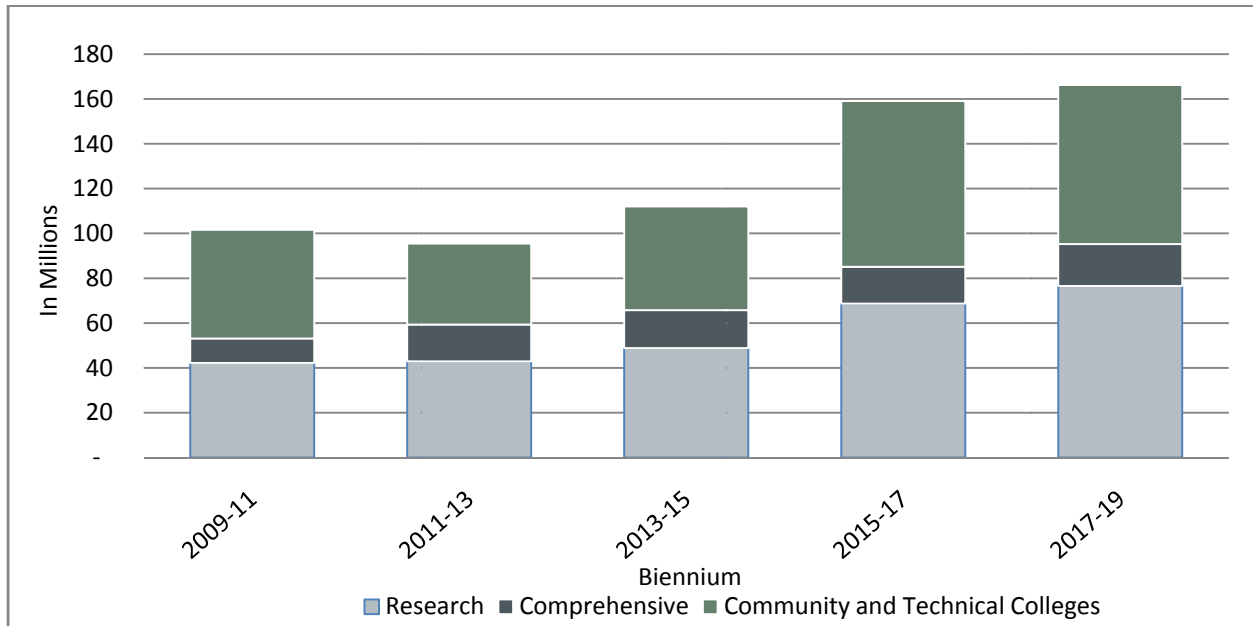
Figure 5-3 graphically displays the operating costs for the four-year institutions and community and technical colleges. The costs of the research, comprehensive, and CTC sectors, as a percentage of the total costs, vary slightly each biennium. But generally, the percentage of total costs associated with new enrollments are 44.0% for research institutions, 12.5% for comprehensive institutions, and 43.5% for the Community and Technical Colleges.

**Figure 5-2
Operating Costs based on Institutional Enrollment Plans**

Fiscal Year	Research	Comprehensive	Community & Technical Colleges	Public Sector Total	Biennial Cost
2010	\$13,968,598	\$3,433,171	\$14,769,020	\$32,170,789	
2011	\$13,887,897	\$4,208,124	\$18,544,792	\$36,640,813	\$101,581,788
2012	\$14,317,692	\$5,383,110	\$12,281,722	\$31,982,524	
2013	\$13,993,588	\$5,495,977	\$11,298,629	\$30,788,194	\$95,486,576
2014	\$15,677,132	\$5,762,583	\$13,132,800	\$34,572,515	
2015	\$17,098,056	\$5,510,763	\$19,636,530	\$42,245,349	\$111,993,760
2016	\$21,802,399	\$5,302,219	\$24,528,531	\$51,633,148	
2017	\$24,570,678	\$5,648,470	\$24,335,161	\$54,554,309	\$159,111,434
2018	\$25,593,573	\$6,166,115	\$24,457,732	\$56,217,420	
2019	\$24,738,914	\$6,732,394	\$21,454,217	\$52,925,524	\$166,206,019
			5-Biennia Total		\$634,379,577

Source: Institutional Plans and HECB/MGT analysis.

Figure 5-3
Cumulative Operating Costs based on Institutional Enrollment Plans



Source: Institutional Plans and HECB/MGT analysis.

Capital Costs

The project team conducted a high level review of the capital budgets. In no way did this review constitute an analysis or judgment of the institutional budgets. Rather, the review of the capital budgets was put into the context of the institutions' enrollment plans.

During the site visits, the institutions' staff members were asked if their existing facilities and the projects identified in their ten-year capital budgets would support the enrollment levels contained in their institutional plans. In all cases, the staff responded that their capital budgets, if funded, would support their enrollment plans.

Because capital preservation is a high priority for the state, the project team categorized projects into growth and preservation. Preservation includes renovation, renewal, and replacement projects. Most of the projects were categorized as preservation, but some, such as the build out of the branch campuses, Western Washington University's waterfront project, and a few individual campus projects,

were categorized as growth project because they were described as new projects or provided significant size additions to existing facilities.

Below are several assumptions that were applied to analysis of the capital budgets. These assumptions are followed by several tables that display the capital budgets for the two- and four-year public institutions.

CAPITAL COST ASSUMPTIONS

Several assumptions were made regarding the capital costs associated with the institutional enrollment plans. These assumptions are listed below

- Institutional enrollment capacities dependent on projects identified in the ten-year capital plans being funded.
- Capital projects supporting growth mostly occurs at the branch campuses.
- Minor works projects are included in preservation category.
- Capital costs for the 2017-19 biennium are not included in the analysis because it is unlikely that new growth or renovated facilities would be available before 2019, which is the end point of the institutional enrollment plans identified in this study.

GROWTH VERSUS PRESERVATION PROJECTS – FOUR-YEAR PUBLIC INSTITUTIONS

The tables below display the growth and preservation project categories for the four-year institutions and the community college system. Projects were placed into categories based on a high level review of the projects’ descriptions and did not involve an in depth project analysis.

**Figure 5-4
Four-Year Public Institution Sector
Growth Projects versus Preservation Projects
2009-11 through 2015-17**

Biennium	Growth	Preservation	Total	Growth % of Total
2009-11	\$254,656,000	\$553,650,000	\$808,306,000	31.5%
2011-03	\$214,608,000	\$376,234,000	\$590,842,000	36.3%
2013-15	\$580,914,000	\$372,074,000	\$952,988,000	61.0%
2015-17	\$203,457,000	\$359,857,000	\$563,314,000	36.1%

Source: Institutional Capital Budget Requests (Four-Year Institutions) and MGT analysis.

As noted in Figure 5-4, growth projects as a percent of total capital projects generally fall into a range of 31% to 36%. The major departure from this range is in the 2013-15 biennium. In this biennium, four major growth projects are proposed. These projects are identified in the table below.

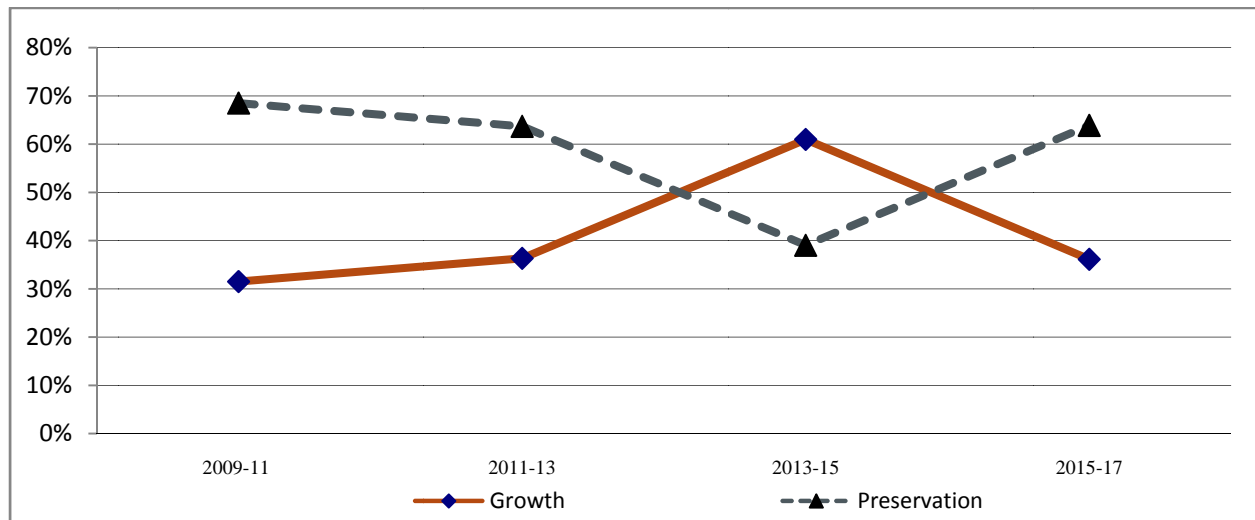
Figure 5-5
Four-Year Public Institution Sector
Specific Growth Projects Planned for 2013-15

Institutions & Project	Budget Amt
UW Tacoma Phase 4	\$72 million
UW Bothell Phase 2	\$62.9 million
WSU Vancouver Educational Facility	\$46.1 million
WWU Waterfront Facility-Huxley College of the Environment	\$75 million

Source: Institutional Capital Budget Requests (Four-Year Institutions).

The chart below graphically displays the growth projects versus preservation projects. The chart clearly shows the impact of the proposed branch campus projects. The chart also shows the relative consistency between growth and preservation projects for the years other than the 2013-15 biennium.

Figure 5-6
Four-Year Public Institution Sector
Percentage OF Growth Projects versus Preservation Projects
2009-11 through 2015-17



Source: Institutional Capital Budget Requests (Four-Year Institutions) and MGT analysis.

GROWTH VERSUS PRESERVATION PROJECTS – COMMUNITY AND TECHNICAL COLLEGE SYSTEM

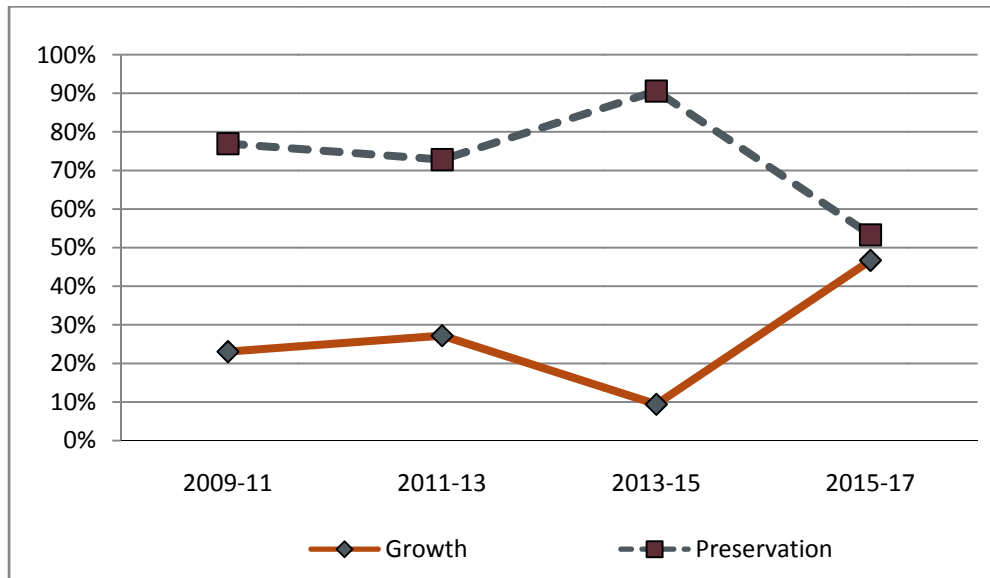
For the Community and Technical College System, the comparison of growth to preservation projects is generally consistent with the experience in the public four-year sector with slightly more emphasis on preservation. The displays below illustrate the comparisons. It should be noted that farther out in the planning cycle, fewer preservation projects are listed. Since this is eight years into the future, many preservation projects are yet to be identified. However, if the previous six years are any indication, the percentage of capital funds allocated toward preservation projects in 2015-17 will exceed 70% of the total CTC capital budget.

**Figure 5-7
Community and Technical Colleges
Growth Projects versus Preservation Projects
2009-11 through 2015-17**

	2009-11	2011-13	2013-15	2015-17
Growth	\$126,726,977	\$149,966,391	\$46,307,169	\$131,404,537
Preservation	\$422,843,474	\$401,636,878	\$445,301,559	\$150,000,000
Total	\$549,570,451	\$551,603,269	\$491,608,728	\$281,404,537
Percentages				
Growth	23%	27%	9%	47%
Preservation	77%	73%	91%	53%

Source: CTC Capital Budget Request and MGT analysis.

**Figure 5-8
Community and Technical Colleges
Percentage of Growth Projects versus Preservation Projects
2009-11 through 2015-17**



Source: CTC Capital Budget Request and MGT analysis.

OTHER CAPITAL CONSIDERATIONS

During the site visits to the four-year institutions and discussions with the SBCTC staff, particular points were made regarding the need to renew and upgrade the campus computing infrastructure. Not only is eLearning placing additional pressure on existing campus computing infrastructures, the technology being added to the traditional classroom delivery modes is exploding. Faculty and students expect classrooms and lecture halls to have the technology to support computer access to department and campus servers; library sources; DVD, CD, and tape players; older technologies such as slide and film formats, and to the Web. All of these data sources must be displayed, often using multiple display projectors.

Students often use their notebook computers in class as part of the learning process. When this occurs, they often need access to servers, library sources, the Web, etc. Wireless technology precludes the need for having connectivity at each workstation, but electrical power for notebook computers remains an issue. Many classrooms and class laboratories do not have the electrical capability for the increased use of student computers, which then places more pressure on those facilities that have the needed capability.

When adding hybrid classes to institutional curricula, technology needs begin to expand beyond the classroom and into faculty offices, student study and lounge areas, and other areas. As faculty continue to try new learning methods, even more demands will be placed on the existing campus computing infrastructure.

Many institutions included computing infrastructure projects in their 2009-11 capital and operating budget requests. Some institutions specifically identified the infrastructure projects, while others included their computing infrastructure projects in their minor works programs.

CAPITAL COST CONCLUSIONS

The following conclusions are drawn from the capital cost information above.

- The four-year public institutions are requesting \$2.91 billion for capital projects over the next four biennia; \$1.25 billion for growth projects, \$1.66 billion for preservation projects.
- The CTC system is requesting a total of \$1.87 billion for capital projects over the next four biennia; \$454 million for growth projects and \$1.42 billion for preservation projects.
- Costs for preservation of existing public higher education facilities exceeds costs for new facilities, except for the 2013-15 biennium when substantial build-out of the branch campuses occurs.
- The larger percentage of costs for preservation projects aligns with the results of the Facility Comparable Framework 2008 (Meng Analysis) results.
- Computing infrastructure projects supporting enhanced instructional opportunities and supported if not demanded by faculty and students are high priority projects for the institutions.

Section 6.0: Capacity Report Conclusions and Policy Implications

Based on the information contained in the previous sections, the following conclusions were developed.

REPORT CONCLUSIONS

Enrollment:

- The overall potential enrollment growth estimated by all sectors of higher education in Washington amounts to an increase of 46,898 by 2019-- assuming operating funds are available and institutional capital budgets are funded. (The HECB Statewide Master Plan called for an increase of 61,500 FTEs.)
- The four-year public institutions could add 23,723 student FTE.
- The Community and Technical College System could accommodate an additional 20,093 student FTE
- Independent Colleges of Washington enrollment could increase by 3,082 student FTE.

Degrees:

- Institutional growth plans could produce an additional 25,600 degrees for a total of approximately 92,200 by 2019. This would be a 38% increase over current degree production.
 - 44,389 mid-level degrees
 - 36,357 Bachelor's degrees
 - 11,558 graduate/professional degrees

Capital Needs:

- Additional degree production and new enrollments to meet public four-year institutional plans and support HECB goals can be supported within the projects identified in the institutions' ten-year capital plans. Major capital "growth" projects include the branch campuses build-out and Western's waterfront expansion.
- The community and technical college degree and enrollment growth plan can be supported by their existing capital plan.
- Preservation of existing facilities for both the two- and four-year institutions, including the replacement, renovation, and renewal of facilities to meet instructional suitability needs, is a higher priority than creating new enrollment capacity, with the exceptions of the branch campuses and Western's waterfront project.

eLearning Growth:

eLearning is using the unique affordances of digital technologies to support and transform learning in flexible, anytime / anywhere learning spaces. eLearning includes technologies that

support learning support learning for everyone -- not just students separated by distance. The three major categories of eLearning are:

4. Online: conducted completely on the web.
 5. Hybrid: replace some – but not all – classroom time with online learning.
 6. Web-enhanced: meet in regular class sessions, but use online resources for additional student-teacher and student-to-student interaction, posting of assignments and course materials.
- The total estimated incremental Online and Hybrid growth in Community and Technical Colleges exceeds the total growth of all CTC enrollments through 2018-2019. Even though Online instruction will be major delivery system employed by the CTC system, on-campus enrollment at several colleges will continue to grow and require capital growth projects.
 - Under the institutional plans, Online instruction, which does not involve the use of scheduled classrooms and labs on campus, will be provided primarily by the community and technical colleges and by WSU, CWU and EWU. With the exception of limited self supporting programs at the UW, no other public four-year institution plans to mount extensive Online instruction programs. However, all institutions will use technology in a “hybrid” fashion to augment and blend in-class instruction.
 - The State Board for Community and Technical Colleges has led the eLearning efforts for the state’s community and technical colleges. Public four-year institutional plans indicate three institutional providers of *state-funded* Online instruction. Other institutions provide Online instruction but only through self-sustaining programs. As an ever increasing number of students utilize Online instruction for programs at the two-year level, there will likely be extensive demand for similar public offerings at the four-year upper division and graduate levels. The HECB should take steps to ensure the planning and coordination of Online instruction occurs in all higher education sectors and levels.

Operating and Capital Costs:

- The operating cost associated with the institution’s enrollment increase and enrollment plans is calculated to be \$634.4 million over 5 biennia. The costs for the first two biennia are estimated to be \$101.6 million and \$95.5 million, respectively. Shifting the 2009-2011 enrollment increases to the next biennium would increase costs by 5.6% per biennium or a total five biennia cost increase of \$35.5 million.
- The capital costs, derived from the institutions’ capital plans for the next four biennia are estimated to be \$4.8 billion. Of that amount, 65% is associated with preservation projects and 35% is related to growth projects.

Policy Conclusions:

- As noted in the Statewide Master Plan, “The demographic shift that is taking place in Washington raises the stakes. We cannot meet our enrollment or degree goals unless and until we do a better job of educating low-income students and students of color.” While current economic circumstances will certainly affect the ability of the state to significantly increase enrollment funding in the next (2009-11) biennium, a longer-term, systemic challenge impacting the ability to reach the Board’s degree goals by 2018 exists. Simply stated, it is likely that even the most successful efforts to increase “pipeline” demand will

not result in the achievement of the Master Plan's degree goals by 2018. A longer horizon for meeting those important goals seems necessary.

- Efforts to address the enrollment pipeline issues need to be given the highest priority. If Washington is to be truly competitive in the global economy, it needs to increase degree production, particularly in the science and technology areas. This effort requires motivated students, well rounded in the basics of math, science and comprehension. The measures outlined in the Statewide Master Plan require continuing attention by the HECB and its staff. Because of the central need to implement the master plan strategies, the legislature should consider delaying the requirement for a new or updated master plan to allow the HECB and its staff to focus on the implementation of the current master plan.
- eLearning efforts, and particularly Online instruction, must be carefully planned and coordinated to ensure that students have opportunities to utilize this “anytime – anywhere” approach to attain bachelors and higher degrees. There is a substantial disparity between the plans of the community and the technical colleges and the public four year institutions. A planning and coordinating framework needs to be established by the HECB to ensure that eLearning opportunities are available and that a seamless transition from two year to upper division level programming occurs.

Appendix A

Appendix A

Institution

Community and Technical Colleges

Campus/Location

FTE Enrollment - State Funded					
Undergraduate					
	General	STEM (High Demand)¹	Health Sciences	Applied Baccalaureate	Total Undergraduate
FY/AY 2009 (State-Funded Base)	121,337	5,110	12,630	160	139,237
Estimated Growth Increment					
AY 2009-2010	1,583	360	270	-	2,213
AY 2010-2011	2,117	360	270	40	2,787
AY 2011-2012	-267	1,050	330	120	1,233
AY 2012-2013	-880	1,060	520	200	900
AY 2013-2014	-840	1,090	520	340	1,110
AY 2014-2015	80	1,110	520	340	2,050
AY 2015-2016	750	1,120	540	290	2,700
AY 2016-2017	760	1,150	500	190	2,600
AY 2017-2018	630	1,170	540	160	2,500
AY 2018-2019	200	1,200	520	80	2,000
Total Estimated Incremental Growth	4,133	9,670	4,530	1,760	20,093
Total AY 2008-2009 Base Plus Incremental Growth	125,470	14,780	17,160	1,920	159,330

¹ For Community and Technical Colleges, STEM (High Demand) includes STEM and Workforce Development.

Appendix A

Institution

Community and Technical Colleges

Campus/Location

		Degrees, 1 year or longer Certificates, Apprenticeship Awards - All Funding Sources				
		Baccalaureate				
		General	STEM (High Demand)¹	Health Sciences	Applied Baccalaureate	Total
FY/AY 2009 (Base)		26,490	1,890	4,680	40	33,099
Estimated Growth Increment						
	AY 2009-2010	1,050	140	100	70	1,360
	AY 2010-2011	770	130	100	10	1,011
	AY 2011-2012	220	390	120	-5	725
	AY 2012-2013	330	390	190	35	944
	AY 2013-2014	321	401	201	90	1,012
	AY 2014-2015	659	419	190	145	1,413
	AY 2015-2016	671	411	200	260	1,542
	AY 2016-2017	549	430	180	245	1,405
	AY 2017-2018	1,081	429	200	230	1,940
	AY 2018-2019	419	440	200	140	1,199
	Total Estimated Incremental Growth	6,070	3,580	1,680	1,220	12,551
	Total AY 2008-2009 Base Plus Incremental Growth	32,560	5,470	6,360	1,260	45,649

Appendix A

Institution Washington State University
 Campus/Location Pullman / Spokane

	FTE Enrollment - State Funded								
	Undergraduate				Graduate				
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
FY/AY 2009 (State-Funded Base)	12488	1364	670	14522	1586	1096	1604	4286	18808
Estimated Growth Increment									
AY 2009-2010	636	54	42	732	75	6	20	101	833
AY 2010-2011	622	85	44	751	67	47	16	130	881
AY 2011-2012	313	52	27	392	85	51	3	139	531
AY 2012-2013	215	42	22	279	89	55	10	154	433
AY 2013-2014	202	59	23	284	54	60	53	167	451
AY 2014-2015	232	46	24	302	95	63	18	176	478
AY 2015-2016	143	139	71	353	5	147	32	184	537
AY 2016-2017	317	41	30	388	98	72	21	191	579
AY 2017-2018	375	46	24	445	100	75	21	196	641
AY 2018-2019	415	52	26	493	68	51	15	134	627
Total Estimated Incremental Growth	3470	616	333	4419	736	627	209	1572	5991
Total AY 2008-2009 Base Plus Incremental Growth	15958	1980	1003	18941	2322	1723	1813	5858	24799
Projections assume an unlimited supply of students and operating budgets and that all WSU buildings on 10-year capital plan are built and fully occupied.									
Building availability and occupancy are modeled in a step-wise fashion for FTEs, while maintaining the relationship of FTEs to degrees in modeling degree production									

Appendix A

Institution
Campus/Location

Washington State University
Pullman / Spokane

	Degree Awards All Funding Sources								Undergraduate and Graduate Total
	Baccalaureate				Graduate				
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	
BA	BS/BAS								
FY/AY 2009 (Base)	2534	587	358	3479	444	221	289	953	4432
Estimated Growth Increment									
AY 2009-2010	54	27	25	106	15	1	2	18	124
AY 2010-2011	305	41	25	371	16	9	3	28	399
AY 2011-2012	164	27	17	208	21	10	4	35	243
AY 2012-2013	92	24	15	131	23	11	4	38	169
AY 2013-2014	82	31	15	128	17	12	14	43	171
AY 2014-2015	60	25	16	101	28	12	5	45	146
AY 2015-2016	26	68	42	136	10	29	9	48	184
AY 2016-2017	101	24	19	144	31	14	5	50	194
AY 2017-2018	118	21	13	152	32	15	6	53	205
AY 2018-2019	113	24	15	152	39	10	4	53	205
Total Estimated Incremental Growth	1115	312	202	1629	232	123	56	411	2040
Total AY 2008-2009 Base Plus Incremental Growth	3649	899	560	5108	676	344	345	1364	6472

Appendix A

Institution
Campus/Location

Washington State University
Vancouver

	FTE Enrollment - State Funded								
	Undergraduate			Graduate				Undergraduate and Graduate Total	
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences		Graduate Total
FY/AY 2009 (State-Funded Base)	1476	187	36	1699	287	29	63	379	2078
Estimated Growth Increment									
AY 2009-2010	248	31	6	285	21	3	16	40	325
AY 2010-2011	56	40	8	104	14	4	11	29	133
AY 2011-2012	48	64	8	120	20	13	3	36	156
AY 2012-2013	96	19	9	124	34	6	3	43	167
AY 2013-2014	88	19	9	116	37	6	3	46	162
AY 2014-2015	98	20	10	128	41	8	4	53	181
AY 2015-2016	198	36	15	249	64	11	15	90	339
AY 2016-2017	177	33	16	226	70	14	17	101	327
AY 2017-2018	83	31	80	194	43	15	56	114	308
AY 2018-2019	158	24	12	194	88	15	27	130	324
Total Estimated Incremental Growth	1250	317	173	1740	432	95	155	682	2422
Total AY 2008-2009 Base Plus Incremental Growth	2726	504	209	3439	719	124	218	1061	4500
Projections assume an unlimited supply of students and operating budgets and that all WSU buildings on 10-year capital plan are built and fully occupied.									
Building availability and occupancy are modeled in a step-wise fashion for FTEs, while maintaining the relationship of FTEs to degrees in modeling degree production									

Appendix A

Institution Washington State University
 Campus/Location Vancouver

	Degree Awards All Funding Sources								
	Baccalaureate				Graduate				
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
BA	BS/BAS								
FY/AY 2009 (Base)	487	96	16	599	107	6	29	142	741
Estimated Growth Increment									
AY 2009-2010	47	15	3	65	0	0	7	7	72
AY 2010-2011	32	21	3	56	8	1	5	14	70
AY 2011-2012	10	33	3	46	7	2	2	11	57
AY 2012-2013	29	9	4	42	12	2	1	15	57
AY 2013-2014	29	10	4	43	14	1	1	16	59
AY 2014-2015	31	10	4	45	15	1	2	18	63
AY 2015-2016	32	18	6	56	12	2	7	21	77
AY 2016-2017	45	18	6	69	24	3	8	35	104
AY 2017-2018	22	15	33	70	11	3	25	39	109
AY 2018-2019	52	13	5	70	28	3	13	44	114
Total Estimated Incremental Growth	329	162	71	562	131	18	71	220	782
Total AY 2008-2009 Base Plus Incremental Growth	816	258	87	1161	238	24	100	362	1523

Appendix A

Institution
Campus/Location

Washington State University
Tri-Cities

	FTE Enrollment - State Funded								
	Undergraduate				Graduate				
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
FY/AY 2009 (State-Funded Base)	570	53	102	725	143	34	34	211	936
Estimated Growth Increment									
AY 2009-2010	78	8	14	100	4	1	1	6	106
AY 2010-2011	86	8	17	111	1	2	2	5	116
AY 2011-2012	47	4	11	62	4	2	2	8	70
AY 2012-2013	43	5	12	60	0	1	1	2	62
AY 2013-2014	46	4	13	63	1	1	1	3	66
AY 2014-2015	50	5	14	69	-1	1	1	1	70
AY 2015-2016	52	6	15	73	-1	1	1	1	74
AY 2016-2017	53	106	35	194	-1	1	1	1	195
AY 2017-2018	112	22	31	165	-1	1	1	1	166
AY 2018-2019	95	19	25	139	0	0	0	0	139
Total Estimated Incremental Growth	662	187	187	1036	6	11	11	28	1064
Total AY 2008-2009 Base Plus Incremental Growth	1232	240	289	1761	149	45	45	239	2000
Projections assume an unlimited supply of students and operating budgets and that all WSU buildings on 10-year capital plan are built and fully occupied.									
Building availability and occupancy are modeled in a step-wise fashion for FTEs, while maintaining the relationship of FTEs to degrees in modeling degree production									

Appendix A

Institution Washington State University
 Campus/Location Tri-Cities

	Degree Awards All Funding Sources								
	Baccalaureate				Graduate				
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
BA	BS/BAS								
FY/AY 2009 (Base)	177	43	2	222	50	21	5	76	298
Estimated Growth Increment									
AY 2009-2010	22	5	0	27	11	0	0	11	38
AY 2010-2011	17	7	1	25	1	1	0	2	27
AY 2011-2012	17	4	0	21	-1	2	1	2	23
AY 2012-2013	16	3	0	19	3	0	0	3	22
AY 2013-2014	16	4	0	20	0	1	0	1	21
AY 2014-2015	17	4	0	21	0	1	0	1	22
AY 2015-2016	17	4	1	22	0	0	0	0	22
AY 2016-2017	-49	85	0	36	0	1	0	1	37
AY 2017-2018	28	18	1	47	0	0	0	0	47
AY 2018-2019	30	15	0	45	0	0	0	0	45
Total Estimated Incremental Growth	131	149	3	283	14	6	1	21	304
Total AY 2008-2009 Base Plus Incremental Growth	308	192	5	505	64	27	6	97	602

Appendix A

Institution
Campus/Location

The Evergreen State College

	FTE Enrollment - State Funded								
	Undergraduate			Graduate					
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
FY/AY 2009 (State-Funded Base)	3863	50	0	3913	300	0	0	300	4213
Estimated Growth Increment									
AY 2009-2010	25		25	50	0	0	0	0	50
AY 2010-2011	25	25		50	0	0	0	0	50
AY 2011-2012	45		25	70	0	0	0	0	70
AY 2012-2013	35		25	60	0	0	0	0	60
AY 2013-2014	10	25		35	0	0	0	0	35
AY 2014-2015	25			25	0	0	0	0	25
AY 2015-2016	0			0	0	0	0	0	0
AY 2016-2017	0			0	0	0	0	0	0
AY 2017-2018	10		25	35	0	0	0	0	35
AY 2018-2019	30	25		55	0	0	0	0	55
Total Estimated Incremental Growth	205	75	100	380	0	0	0	0	380
Total AY 2008-2009 Base Plus Incremental Growth	4068	125	100	4293	300	0	0	300	4593

Appendix A

Institution
Campus/Location

The Evergreen State College

Degree Awards All Funding Sources									
Baccalaureate				Graduate					
General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total	
BA	BS/BAS								
FY/AY 2009 (Base)	1024	140	0	1164	100	0	0	100	1264
Estimated Growth Increment									
AY 2009-2010	5	0	0	5	10	0	0	10	15
AY 2010-2011	1	14	0	15	0	0	0	0	15
AY 2011-2012	6	15	0	21	0	0	0	0	21
AY 2012-2013	16	2	0	18	0	0	0	0	18
AY 2013-2014	10	1	0	11	0	0	0	0	11
AY 2014-2015	7	1	0	8	0	0	0	0	8
AY 2015-2016	0	0	0	0	0	0	0	0	0
AY 2016-2017	0	0	0	0	0	0	0	0	0
AY 2017-2018	10	1	0	11	0	0	0	0	11
AY 2018-2019	14	3	0	17	0	0	0	0	17
Total Estimated Incremental Growth	69	37	0	106	10	0	0	10	116
Total AY 2008-2009 Base Plus Incremental Growth	1093	177	0	1270	110	0	0	110	1380

* Currently, Evergreen's Bachelor of Science and dual Bachelor of Art and Science are counted as STEM degrees per our National Science Foundation grants and for purposes of Dept. of

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Institution
Campus/Location

University of Washington
Seattle

	FTE Enrollment - State Funded								
	Undergraduate				Graduate				
	General	STEM (High Demand) ²	Health Sciences	Undergraduate Total	General	STEM (High Demand) ²	Health Sciences	Graduate Total	Undergraduate and Graduate Total
FY/AY 2009 (State-Funded Base)	13,690 ³	9,050 ³	955	23,695	3,675 ³	3,125 ³	3,700	10,500	34,195
Estimated Growth Increment									
AY 2009-2010		100		100		50		50	150
AY 2010-2011		100		100		50		50	150
AY 2011-2012		50		50		120		120	170
AY 2012-2013		50		50		120		120	170
AY 2013-2014		50		50		120		120	170
AY 2014-2015		75		75		140		140	215
AY 2015-2016		125		125		140		140	265
AY 2016-2017		225		225		140		140	365
AY 2017-2018		225		225		140		140	365
AY 2018-2019		225		225		140		140	365
Total Estimated Incremental Growth	0	1,225	0	1,225	0	1,160	0	1,160	2,385
Total AY 2008-2009 Base Plus Incremental Growth	13,690	10,275	955	24,920	3,675	4,285	3,700	11,660	36,580

¹ The UW did not provide funding sources for degrees produced, and so all degrees reported are recorded as State Funded.

² The UW has reported "STEM (High Demand)" as equivalent to Areas of Critical State Need which include "life, natural, environmental and health sciences, engineering, computer and information systems and sciences, education and teacher preparation, and mathematics, applied mathematics, and statistics."

³ General and High Demand Enrollments in FY/AY 2009 are split according to 2008-09 Base Analysis provided by UW.

⁴ Health Science degree awards are included in the STEM (High Demand) awards.

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Institution
Campus/Location

University of Washington
Seattle

Degree Awards All Funding Sources ¹								
Baccalaureate				Graduate				Undergraduate and Graduate Total
General	STEM (High Demand) ²	Health Sciences	Undergraduate Total	General	STEM (High Demand) ²	Health Sciences	Graduate Total	
BA	BS/BAS							
FY/AY 2009 (Base)	4,450	2,700 ⁴	7,150	1,720	2,040 ⁴		3,760	10,910
Estimated Growth Increment								
AY 2009-2010	170	100	270	-70	80		10	280
AY 2010-2011	-270	240	-30	-10	20		10	-20
AY 2011-2012	0	-30	-30	0	0		0	-30
AY 2012-2013	-60	110	50	10	10		20	70
AY 2013-2014	-20	40	20	-10	20		10	30
AY 2014-2015	40	-70	-30	10	10		20	-10
AY 2015-2016	-5	25	20	0	10		10	30
AY 2016-2017	-25	55	30	0	10		10	40
AY 2017-2018	20	0	20	-10	20		10	30
AY 2018-2019	10	30	40	10	0		10	50
Total Estimated Incremental Growth	-140	500	360	-70	180	0	110	470
Total AY 2008-2009 Base Plus Incremental Growth	4,310	3,200	7,510	1,650	2,220	0	3,870	11,380

Appendix A

Institution
Campus/Location

University of Washington
Bothell

	FTE Enrollment - State Funded								
	Undergraduate				Graduate				
	General	STEM (High Demand) ²	Health Sciences	Undergraduate Total	General	STEM (High Demand) ²	Health Sciences	Graduate Total	Undergraduate and Graduate Total
FY/AY 2009 (State-Funded Base)	1,335 ³	275 ³	140	1,750	140 ³	60 ³	30	230	1,980
Estimated Growth Increment									
AY 2009-2010	50	25		75	20	0		20	95
AY 2010-2011	50	25		75	20	0		20	95
AY 2011-2012	130	45		175	15	10		25	200
AY 2012-2013	130	45		175	15	10		25	200
AY 2013-2014	175	50		225	20	15		35	260
AY 2014-2015	175	50		225	20	15		35	260
AY 2015-2016	175	50		225	20	15		35	260
AY 2016-2017	175	50		225	20	15		35	260
AY 2017-2018	175	50		225	20	15		35	260
AY 2018-2019	175	50		225	20	15		35	260
Total Estimated Incremental Growth	1,410	440	0	1,850	190	110	0	300	2,150
Total AY 2008-2009 Base Plus Incremental Growth	2,745	715	140	3,600	330	170	30	530	4,130

- 1 The UW did not provide funding sources for degrees produced, and so all degrees reported are recorded as State Funded.
- 2 The UW has reported "STEM (High Demand)" as equivalent to Areas of Critical State Need which include "life, natural, environmental and health sciences, engineering, computer and information systems and sciences, education and teacher preparation, and mathematics, applied mathematics, and statistics."
- 3 General and High Demand Enrollments in FY/AY 2009 are split according to 2008-09 Base Analysis provided by UW.
- 4 Health Science degree awards are included in the STEM (High Demand) awards.

Appendix A

Institution
Campus/Location

University of Washington
Bothell

	Degree Awards All Funding Sources ¹								
	Baccalaureate				Graduate				
	General	STEM (High Demand) ²	Health Sciences	Undergraduate Total	General	STEM (High Demand) ²	Health Sciences	Graduate Total	Undergraduate and Graduate Total
BA	BS/BAS								
FY/AY 2009 (Base)	640	220 ⁴		860	65	55 ⁴		120	980
Estimated Growth Increment									
AY 2009-2010	0	0		0	15	-5		10	10
AY 2010-2011	10	-10		0	10	10		20	20
AY 2011-2012	20	0		20	0	10		10	30
AY 2012-2013	20	0		20	20	0		20	40
AY 2013-2014	30	0		30	10	10		20	50
AY 2014-2015	30	0		30	20	0		20	50
AY 2015-2016	30	0		30	10	10		20	50
AY 2016-2017	20	0		20	30	0		30	50
AY 2017-2018	20	0		20	10	10		20	40
AY 2018-2019	10	0		10	10	10		20	30
Total Estimated Incremental Growth	190	-10	0	180	135	55	0	190	370
Total AY 2008-2009 Base Plus Incremental Growth	830	210	0	1,040	200	110	0	310	1,350

Appendix A

Institution
Campus/Location

University of Washington
Tacoma

	FTE Enrollment - State Funded								
	Undergraduate				Graduate				
	General	STEM (High Demand) ²	Health Sciences	Undergraduate Total	General	STEM (High Demand) ²	Health Sciences	Graduate Total	Undergraduate and Graduate Total
FY/AY 2009 (State-Funded Base)	1,520 ³	380 ³	75	1,975	160 ³	150 ³	65	375	2,350
Estimated Growth Increment									
AY 2009-2010	160	40		200	10	10		20	220
AY 2010-2011	160	40		200	10	10		20	220
AY 2011-2012	225	75		300	15	15		30	330
AY 2012-2013	225	75		300	15	15		30	330
AY 2013-2014	225	75		300	20	30		50	350
AY 2014-2015	225	75		300	20	30		50	350
AY 2015-2016	250	100		350	30	30		60	410
AY 2016-2017	250	100		350	30	30		60	410
AY 2017-2018	250	100		350	30	30		60	410
AY 2018-2019	250	100		350	30	30		60	410
Total Estimated Incremental Growth	2,220	780	0	3,000	210	230	0	440	3,440
Total AY 2008-2009 Base Plus Incremental Growth	3,740	1,160	75	4,975	370	380	65	815	5,790

1 The UW did not provide funding sources for degrees produced, and so all degrees reported are recorded as State Funded.

2 The UW has reported "STEM (High Demand)" as equivalent to Areas of Critical State Need which include "life, natural, environmental and health sciences, engineering, computer and information systems and sciences, education and teacher preparation, and mathematics, applied mathematics, and statistics."

3 General and High Demand Enrollments in FY/AY 2009 are split according to 2008-09 Base Analysis provided by UW.

4 Health Science degree awards are included in the STEM (High Demand) awards.

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Institution
Campus/Location

University of Washington
Tacoma

	Degree Awards All Funding Sources ¹								
	Baccalaureate				Graduate				
	General	STEM (High Demand) ²	Health Sciences	Undergraduate Total	General	STEM (High Demand) ²	Health Sciences	Graduate Total	Undergraduate and Graduate Total
BA	BS/BAS								
FY/AY 2009 (Base)	820	170 ⁴		990	65	55 ⁴		120	1,110
Estimated Growth Increment									
AY 2009-2010	-10	0		-10	15	-5		10	0
AY 2010-2011	0	0		0	10	10		20	20
AY 2011-2012	50	0		50	0	10		10	60
AY 2012-2013	40	10		50	20	0		20	70
AY 2013-2014	40	0		40	10	10		20	60
AY 2014-2015	40	0		40	20	0		20	60
AY 2015-2016	30	0		30	10	10		20	50
AY 2016-2017	20	0		20	30	0		30	50
AY 2017-2018	20	10		30	10	10		20	50
AY 2018-2019	20	0		20	10	10		20	40
Total Estimated Incremental Growth	250	20	0	270	135	55	0	190	460
Total AY 2008-2009 Base Plus Incremental Growth	1,070	190	0	1,260	200	110	0	310	1,570

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Institution Central Washington University
 Campus/Location Ellensburg

	FTE Enrollment - State Funded								
	Undergraduate				Graduate				
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
FY/AY 2009 (State-Funded Base)	5150	1710	440	7300	210	40	15	265	7565
Estimated Growth Increment									
AY 2009-2010	106	35	9	150	5	3	2	10	160
AY 2010-2011	126	43	11	180	5	3	2	10	190
AY 2011-2012	152	53	15	220	10	3	2	15	235
AY 2012-2013	164	59	17	240	10	5	2	17	257
AY 2013-2014	175	66	19	260	15	5	2	22	282
AY 2014-2015	145	57	18	220	15	5	4	24	244
AY 2015-2016	128	55	17	200	20	5	4	29	229
AY 2016-2017	128	55	17	200	20	7	4	31	231
AY 2017-2018	134	58	18	210	25	7	4	36	246
AY 2018-2019	138	62	20	220	25	7	4	36	256
Total Estimated Incremental Growth	1396	543	161	2100	150	50	30	230	2330
Total AY 2008-2009 Base Plus Incremental Growth	6546	2253	601	9400	360	90	45	495	9895

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Institution Central Washington University
 Campus/Location Ellensburg

	Degree Awards All Funding Sources								
	Baccalaureate				Graduate				
	General	STEM (High Demand)*	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
	BA	BS/BAS							
FY/AY 2009 (Base)	1360	320	120	1800	130	15	10	155	1955
Estimated Growth Increment									
AY 2009-2010	10	5	2	17	5	2	2	9	26
AY 2010-2011	10	5	5	20	5	2	2	9	29
AY 2011-2012	10	7	5	22	6	3	2	11	33
AY 2012-2013	15	8	5	28	6	3	3	12	40
AY 2013-2014	15	10	8	33	6	4	3	13	46
AY 2014-2015	25	10	8	43	7	4	3	14	57
AY 2015-2016	30	15	10	55	7	5	3	15	70
AY 2016-2017	30	15	10	55	7	5	4	16	71
AY 2017-2018	25	20	12	57	8	6	4	18	75
AY 2018-2019	20	20	15	55	8	6	4	18	73
Total Estimated Incremental Growth	190	115	80	385	65	40	30	135	520
Total AY 2008-2009 Base Plus Incremental Growth	1550	435	200	2185	195	55	40	290	2475

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Institution: Central Washington University
 Campus/Location: University Centers

	FTE Enrollment - State Funded								
	Undergraduate				Graduate				
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
FY/AY 2009 (State-Funded Base)	1240	30	20	1290	55	5	0	60	1350
Estimated Growth Increment									
AY 2009-2010	40	5	3	48	5	3		8	56
AY 2010-2011	50	5	3	58	5	3		8	66
AY 2011-2012	50	10	5	65	7	5		12	77
AY 2012-2013	60	10	5	75	7	5		12	87
AY 2013-2014	70	10	7	87	7	5		12	99
AY 2104-2015	70	10	7	87	10	7		17	104
AY 2105-2016	60	10	10	80	10	7		17	97
AY 2016-2017	60	10	10	80	10	7		17	97
AY 2017-2018	50	10	10	70	12	10		22	92
AY 2018-2019	50	10	10	70	15	10		25	95
Total Estimated Incremental Growth	560	90	70	720	88	62	0	150	870
Total AY 2008-2009 Base Plus Incremental Growth	1800	120	90	2010	143	67	0	210	2220

Appendix A

Institution: Central Washington University
 Campus/Location: University Centers

	Degree Awards All Funding Sources								
	Baccalaureate			Graduate					
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
FY/AY 2009 (Base)	550	10		560	20	10	0	30	590
Estimated Growth Increment									
AY 2009-2010	5	2		7	2	1		3	10
AY 2010-2011	10	2		12	2	1		3	15
AY 2011-2012	15	3		18	4	2		6	24
AY 2012-2013	20	3		23	4	2		6	29
AY 2013-2014	25	4		29	5	2		7	36
AY 2104-2015	25	4		29	5	2		7	36
AY 2105-2016	30	5		35	6	3		9	44
AY 2016-2017	30	5		35	6	3		9	44
AY 2017-2018	40	6		46	7	4		11	57
AY 2018-2019	40	6		46	7	4		11	57
Total Estimated Incremental Growth	240	40	0	280	48	24	0	72	352
Total AY 2008-2009 Base Plus Incremental Growth	790	50	0	840	68	34	0	102	942

Appendix A

Institution
Campus/Location

Eastern Washington University
All Locations

*Eastern has provided a FY/AY 2008 Base. The FY/AY 2009 Base used here is their FY/AY 2009 Estimate.

	FTE Enrollment - State Funded								
	Undergraduate				Graduate				Undergraduate and Graduate Total
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	
FY/AY 2009 (State-Funded Base)	5,681	1,252	807	7,739	1,144	39	151	1,335	9,074
Estimated Growth Increment									
AY 2009-2010	-76	19	16	-41	1	1	2	4	-37
AY 2010-2011	9	19	16	44	1	1	2	4	48
AY 2011-2012	51	19	17	87	1	1	2	4	91
AY 2012-2013	28	20	17	65	1	1	2	4	69
AY 2013-2014	21	20	17	58	1	1	2	4	62
AY 2014-2015	15	20	18	53	1	1	2	4	57
AY 2015-2016	10	21	18	49	1	1	2	4	53
AY 2016-2017	32	21	19	72	1	1	2	4	76
AY 2017-2018	17	21	19	57	1	1	2	4	61
AY 2018-2019	25	21	19	66	1	1	2	4	70
Total Estimated Incremental Growth	133	201	177	511	10	6	22	38	549
Total AY 2008-2009 Base Plus Incremental Growth	5,813	1,453	984	8,250	1,154	46	173	1,373	9,623

Appendix A

Institution
Campus/Location

Eastern Washington University
All Locations

	Degree Awards All Funding Sources								
	Baccalaureate				Graduate				
	General	STEM (High Demand)*	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
BA	BS/BAS								
FY/AY 2009 (Base)	1,476	325	223	2,023	482	16	63	562	2,585
Estimated Growth Increment									
AY 2009-2010	-19	5	4	-10	95	3	12	111	101
AY 2010-2011	2	5	4	11	1	0	1	1	12
AY 2011-2012	13	5	4	22	1	0	1	2	24
AY 2012-2013	7	5	4	16	1	0	1	2	18
AY 2013-2014	5	5	4	15	1	0	1	2	16
AY 2014-2015	4	5	5	13	1	0	1	2	15
AY 2015-2016	3	5	5	12	1	0	1	2	14
AY 2016-2017	8	5	5	18	1	0	1	2	20
AY 2017-2018	4	5	5	14	1	0	1	2	16
AY 2018-2019	6	5	5	16	1	0	1	2	19
Total Estimated Incremental Growth	33	51	45	128	100	6	22	128	256
Total AY 2008-2009 Base Plus Incremental Growth	1,509	375	267	2,151	582	22	85	689	2,841

Appendix A

Institution
Campus/Location

Western Washington University

	FTE Enrollment - State Funded								
	Undergraduate				Graduate				
	General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
FY/AY 2009 (State-Funded Base)	9719	1408	512	11639	408	85	43	536	12175
Estimated Growth Increment									
AY 2009-2010	180	25	9	214	7	1	1	9	224
AY 2010-2011	152	25	9	186	7	1	1	9	195
AY 2011-2012	181	25	9	215	7	1	1	9	224
AY 2012-2013	171	25	9	205	7	1	1	9	214
AY 2013-2014	171	25	9	205	7	1	1	9	214
AY 2014-2015	171	25	9	205	7	1	1	9	214
AY 2015-2016	171	25	9	205	7	1	1	9	214
AY 2016-2017	171	25	9	205	7	1	1	9	214
AY 2017-2018	171	25	9	205	7	1	1	9	214
AY 2018-2019	171	25	9	205	7	1	1	9	214
Total Estimated Incremental Growth	1711	248	90	2049	72	15	7	94	2143
Total AY 2008-2009 Base Plus Incremental Growth	11429	1656	602	13688	480	100	50	630	14318

Appendix A

Institution
Campus/Location

Western Washington University

	Degree Awards All Funding Sources								
	Baccalaureate				Graduate				
	General	STEM (High Demand)*	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total
BA	BS/BAS								
FY/AY 2009 (Base)	2641	433	201	3275	265	55	58	378	3653
Estimated Growth Increment									
AY 2009-2010	114	19	9	143	5	1	1	7	150
AY 2010-2011	114	20	9	143	5	1	1	7	150
AY 2011-2012	114	20	9	143	5	1	1	7	150
AY 2012-2013	114	20	9	143	5	1	1	7	150
AY 2013-2014	114	20	9	143	5	1	1	7	150
AY 2014-2015	114	20	9	143	5	1	1	7	150
AY 2015-2016	114	20	9	143	5	1	1	7	150
AY 2016-2017	114	20	9	143	5	1	1	7	150
AY 2017-2018	114	20	9	143	5	1	1	7	150
AY 2018-2019	114	20	9	143	5	1	1	7	150
Total Estimated Incremental Growth	1139	197	93	1429	51	12	8	71	1500
Total AY 2008-2009 Base Plus Incremental Growth	3780	630	294	4704	316	67	66	449	5153

Appendix A

Institution
Campus/Location

Independent Colleges

FTE Enrollment - Independent Colleges at Current Level of Resources									
Undergraduate				Graduate				Undergraduate and Graduate Total	
General	STEM (High Demand)	Health Sciences	Total Undergraduate	General	STEM (High Demand)	Health Sciences	Total Graduate		
FY/AY 2009 (State-Funded Base)	18,496	4,278	1,672	24,446	6,425	117	506	7,048	31,494
Estimated Growth Increment									
AY 2009-2010	684	221	69	974	289	9	-4	294	1,268
AY 2010-2011	234	83	40	357	99	12	3	114	471
AY 2011-2012	258	115	27	400	85	13	12	110	510
AY 2012-2013	221	119	47	387	62	12	2	76	463
AY 2013-2014	177	109	38	324	58	12	22	92	416
AY 2014-2015	182	83	38	303	45	13	22	80	383
AY 2015-2016	266	103	7	376	44	12	22	78	454
AY 2016-2017	261	99	6	366	44	13	2	59	425
AY 2017-2018	229	132	6	367	44	12	2	58	425
AY 2018-2019	199	71	8	278	50	12	1	63	341
Total Estimated Incremental Growth	2,711	1,135	286	4,132	820	120	84	1,024	5,156
Total AY 2008-2009 Base Plus Incremental Growth	21,207	5,413	1,958	28,578	7,245	237	590	8,072	36,650

Appendix A

Institution
Campus/Location

Independent Colleges

Degree Awards State Funded - Independent Colleges at Current Level of Resources									
Baccalaureate				Graduate					
General	STEM (High Demand)	Health Sciences	Undergraduate Total	General	STEM (High Demand)	Health Sciences	Graduate Total	Undergraduate and Graduate Total	
BA	BS/BAS								
FY/AY 2009 (State-Funded Base)	4,606	911	446	5,963 #	2,730	43	189	2,962	8,925
Estimated Growth Increment				0					
AY 2009-2010	59	10	5	74 #	58	0	0	58	132
AY 2010-2011	51	11	4	66 #	113	0	9	122	188
AY 2011-2012	26	4	34	64 #	80	1	10	91	155
AY 2012-2013	330	91	27	448 #	68	0	0	68	516
AY 2013-2014	60	35	3	98 #	66	0	1	67	165
AY 2014-2015	54	38	17	109 #	44	1	18	63	172
AY 2015-2016	46	38	29	113 #	31	0	19	50	163
AY 2016-2017	55	15	17	87 #	34	0	18	52	139
AY 2017-2018	69	28	1	98 #	35	1	1	37	135
AY 2018-2019	121	21	1	143 #	34	0	0	34	177
Total Estimated Incremental Growth	871	291	138	1,300	563	3	76	642	1,942
Total AY 2008-2009 Base Plus Incremental Growth	5,477	1,202	584	7,263	3,293	46	265	3,604	10,867

Appendix B

Potential Cost Rates for Capacity Study Enrollment Plans as of 10/08/08

2008-09 Base State Support Rates per Average Additional FTE

Includes Resident and Nonresident Students

Sources: Senate Ways & Means Committee Proposal for 2007-09 Higher Education Enrollment; Calculated Costs from 2005-06 Education Cost Study, 2007-08 Disclosure Report, Methodology Below

	Undergraduate			Graduate		
	General	STEM	Health Sciences	General	STEM	Health Sciences
UW-Seattle	5,600	9,600	12,500	15,100	15,500	16,800
UW-Bothell	5,800	10,000	12,500	15,000	15,500	16,800
UW-Tacoma	5,800	10,000	12,500	15,000	15,500	16,800
WSU-Pullman/Spokane	5,600	9,600	12,500	15,100	15,500	16,800
WSU-Tri-Cities	5,800	10,000	12,500	15,000	15,500	16,800
WSU-Vancouver	5,800	10,000	12,500	15,000	15,500	16,800
Central Washington University	6,200	9,000	7,800	11,300	15,500	14,900
Eastern Washington University	6,200	9,000	7,800	11,300	15,500	14,900
The Evergreen State College	6,200	9,000	7,800	11,300	15,500	14,900
Western Washington University	6,200	9,000	7,800	11,300	15,500	14,900
Community and Technical Colleges	5,600	8,800	8,800			
<i>CTC Applied Baccalaureate</i>		6,300				
Calculated						

2007-09 Budgeted Rates Assumptions and Methodology

- 1 Undergraduate Four-Year-General Costs align with 2008-09 appropriations
- 2 Undergraduate Four-Year-High Demand Costs align with 2008-09 appropriations
- 3 Undergraduate Research Inst-Health Sciences Costs align with 2008-09 appropriations
- 4 Undergraduate Comprehensive Inst-Health Sciences Costs calculated based on Educational Cost Study and ECS Disclosure Report (due to no 2008-09 appropriation)
- 5 CTC Lower Division Costs -All Categories - based on 2008-09 appropriations
- 6 Graduate Four-Year-General Costs align with 2008-09 appropriations
- 7 Graduate Four-Year-High Demand Costs based on WSU's Masters in Engineering and Science program
- 8 Graduate Research Inst-Health Sciences Costs align with 2008-09 appropriations
- 9 CTC Applied Baccalaureate Costs based on 2008-09 appropriations
- 10 Costs are weighted by Base FTE within sectors.

Calculated Rate Assumptions

Assumptions

- 1 The ratio of resident to nonresident students remains constant.
- 2 The ratio of tuition to total state cost remains constant.

Methodology

Step 1) Ratios of enrollment category costs by level to total costs by level were calculated using the 2005-06 Education Cost Study (ECS).

Notes:

- a) For the Community and Technical Colleges, Health and P.E. academic cluster was considered Health Science Enrollment.

Step 2) The ratios of enrollment category costs were applied to net FTE cost, weighted by residency, from the 2007-08 Disclosure Report.

Notes:

- Cost of instruction is identical for resident and nonresident students. Tuition varies greatly, with nonresident students paying more tuition.
- a) The final state cost numbers reflect the status quo split of resident and nonresident students, based on budgeted 2007-08 FTEs and may appear lower than other estimates which include only resident students.

Step 3) For 08-09 base rates, the increase in total state cost between 07-08 and 08-09 (5.9%) is equal to the average of the increase from 05-06 to 06-07 (3.6%) and the increase from 06-07 to 07-08 (8.3%).

Step 4) 08-09 undergraduate health science base rates were weighted among for the comprehensive sector, based on FTEs within enrollment categories from the 05-06 ECS. Rates were rounded to nearest hundred.

Step 5) The overall 05-06 ECS ratio of undergraduate health sciences to graduate health sciences rates was applied to the calculated FY 2009 base rates for undergraduate health sciences at comprehensives to get graduate health science rates at comprehensives.

Appendix C

Appendix C

The institutional and agency personnel listed below assisted the project team during the course of the Capacity Study.

Name	Title	Organization
Terry Teale	Executive Director	Council of Presidents
Shelly Johnson	Budget Director	Central Washington University
Carmen Knoke	Assistant Director, Institutional Research	Central Washington University
Mark Lundgren	Director, Institutional Research	Central Washington University
Linda Mahaney	Space Analyst	Central Washington University
Wayne Quirk	VP Academic Affairs	Central Washington University
Carmen Rahm	Asst. VP for Info Tech	Central Washington University
Douglas Ryder	Facilities Planning Officer	Central Washington University
Libby Street	Chief Planning Officer	Central Washington University
John Swiney	Admissions Director	Central Washington University
Lawrence Briggs	Associate VP Enrollment Services	Eastern Washington University
Shawn King	Associate VP Facilities and Planning	Eastern Washington University
Teressa Martin	Director, Institutional Research	Eastern Washington University
John Mason	Provost	Eastern Washington University
Gary Pratt	Chief Information Officer IT	Eastern Washington University
Tomson Spink	Facilities Contract Specialist	Eastern Washington University
Violet Boyer	President & CEO	Independent Colleges of Washington
Elaine Davis	Research Manager	State Board for Community and Technical College Education
Cable Green	Director, eLearning	State Board for Community and Technical College Education
Mary Alice Grobins	Director, Financial Services	State Board for Community and Technical College Education
Tom Henderson	Director, Capital Budget	State Board for Community and Technical College Education
Loretta Seppanen	Director, Research and Analysis	State Board for Community and Technical College Education
Jan Yoshiwara	Deputy Executive Director of Education	State Board for Community and Technical College Education
Don Bantz	Academic Vice President and Provost	The Evergreen State College
Laura Coghlan	Director, Institutional Research	The Evergreen State College
Steve Hunter	Student Affairs	The Evergreen State College
John Hurley	VP Finance and Administration	The Evergreen State College
Kirk Knittle	Scheduling/Space Management	The Evergreen State College
Paul Smith	Director, Facilities Services	The Evergreen State College
Ken Tabbutt	Academic Dean	The Evergreen State College
Phil Hoffman	Director, Office of Institutional Studies	University of Washington
Colleen Pike	Director, Capital & Space Planning	University of Washington
Edward Taylor	Vice Provost and Dean	University of Washington
Phyllis Wise	Provost & Executive Vice President	University of Washington
Robert Bates	Director, Res and Grad Educ	Washington State University
Deborah Carlson	Director, Capitol Budget	Washington State University
Cathy Fulkerson	Director, Institutional Research	Washington State University
Charles Hemphill	Space Alloc Mgr, Cap Plng & Dev	Washington State University
Viji Murali	VP Information Services	Washington State University
Jane Sherman	Vice Prov Acad Policy & Eval	Washington State University
Rick Benner	E.D. Facility Planning and Development	Western Washington University
Jerry Boles	Special Assistant to the Provost	Western Washington University
John Lawson	Vice Provost / CIO	Western Washington University
Denis Murphy	Provost	Western Washington University
Sharon Schmidtz	Asst. Dir. Institutional Research	Western Washington University
Tim Wynn	Director, Facilities Management	Western Washington University

