

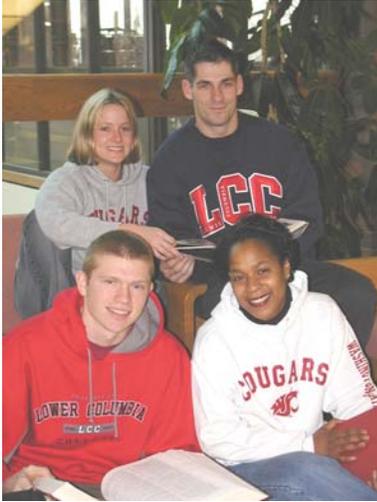
Consolidated Transfer Report



Transfer Policy and Upper-Division Baccalaureate Capacity

December 2006

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E D U C A T I O N**
C O O R D I N A T I N G B O A R D



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EDUCATION
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Introduction

In 2004, the Legislature passed House Bill 3103, which required that the Higher Education Coordinating Board (HECB) “Adopt statewide transfer and articulation policies that ensure efficient transfer of credits and courses across public two- and four-year institutions of higher education. The intent of these policies is to create a statewide system of articulation and alignment between two- and four-year institutions.” The board is required to submit a progress report by December 1, 2006.

One strategy, mandated by House Bill 2382 (also passed in 2004), is the development of transfer associate degrees that will satisfy lower-division requirements at public four-year institutions of higher education for specific academic majors. The board is required to submit a progress report by January 10, 2007.

House Bill 2382 also mandated that the HECB examine upper-division capacity in the public higher education system to ensure that the state’s baccalaureate institutions have sufficient space available to provide access to students transferring from community and technical colleges. The bill requires the board to submit its final report by December 10, 2006.

This document combines all three requirements into a single report. The HECB Education Committee reviewed the draft at its meeting on November 29, 2006, and the board approved the consolidated report at its December 14, 2006 meeting.

Executive Summary

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

Despite these successes, many students who begin their academic journey at community colleges with the intention of transferring and completing a baccalaureate degree are not able to reach their goal. In the 2005-06 academic year, 18 percent of these students transferred to public baccalaureate institutions in Washington. In recent studies conducted by the Center for the Study of Community Colleges, the average statewide transfer rates ranged from 11 percent to 40 percent, with an average transfer rate of 22 percent for first-time students entering community colleges in 1990.

Since improving students' ability to transfer successfully is an important strategy in increasing the number of baccalaureate degrees granted in Washington, the HECB and collaborating institutions and organizations have placed a top priority on the continuous improvement of the transfer system. This report provides greater detail about the policies and practices being used to increase the number of students who successfully transfer to baccalaureate institutions.

Web-based Advising

In 2004, the Legislature passed House Bill 2382 requiring the HECB to “*create a statewide system of course equivalency for public institutions of higher education, so that courses from one institution can be transferred and applied toward academic majors and degrees in the same manner as equivalent courses at the receiving institution.*” The HECB's response to this charge was to outline plans to develop a statewide, Web-based advising system that allows students to determine how courses taken at a community or technical college would be accepted at a baccalaureate institution.

In preparation to build a statewide system, the HECB has undertaken two projects to reduce the risk associated with a technical project of this size. First, an online advising system is being piloted by the University of Washington and Bellevue Community College. By piloting a system with actual users, the HECB can gather detailed information that will help ensure success if policy makers decide to implement a statewide system. Second, the HECB also is conducting a series of workgroup meetings around the state to gather additional feedback on the critical requirements of the system. The workgroups are comprised of representatives from the state's two- and four-year public and private higher education institutions. The board is taking this step to ensure that it maintains a statewide view of the Web-based advising system's critical functions and avoids tailoring the system's specifications too narrowly.

The State Board for Community and Technical Colleges is developing a system that helps students plan their path to an associate degree. Any statewide, online advising system will be designed in such a way as to compliment the SBCTC's efforts.

Bachelor's of Applied Science

In 2004, the Legislature recognized a need to provide more opportunities for students to earn bachelor's degrees in the applied sciences than were being offered by the four-year institutions. The Legislature authorized the SBCTC to identify four community and technical colleges to offer applied bachelor's degrees on a pilot basis. Applied bachelor's degrees build on technical associate degrees in two ways: 1) the upper-division training either provides further coursework in the same professional/technical field studied in the applied associate degree (e.g. nursing or engineering technology); or 2) it provides management specialization for technical workers (e.g. allied health management or hospitality management).

In April 2006, the SBCTC selected: Bellevue Community College's *Bachelor's of Applied Science in Radiology and Imaging Sciences*; Peninsula College's *Bachelor's of Applied Science Management*; Olympic College's *Bachelor's of Science in Nursing*; and South Seattle Community College's *Bachelor's of Applied Science in Hospitality Management* to pursue approval of their proposal by the HECB and the Northwest Commission on Colleges and Universities. The HECB approved each of the proposed programs in July 2006. Each is slated to begin enrolling students in fall 2007.

Transfer Associate Degrees

Transfer associate degrees prepare students for transfer from a two-year institution to a baccalaureate institution and typically take two years of full-time study to complete at a community college. Transfer associate degrees vary in design but always count toward the student's completion of general education requirements at the four-year institution. The degrees prepare students for possible admission to one of a group of majors, or prepare students for admission to a specific major. Transfer associate degrees currently exist for students who plan to major in liberal arts, business, secondary math and science education, or specific areas of science. These degrees benefit students by giving them a specific plan to follow and by preparing them early for their intended majors. In addition, they help to prepare students for transfer to any public baccalaureate institution in the state, as well as to any private institution that wishes to participate. Since better student preparation reduces the possibility of students completing credits that will not transfer or count toward their degree, these agreements benefit the state as well.

Prior to 2000, only the Direct Transfer Agreement (DTA) existed. The DTA was designed to allow students to complete general education requirements at the two-year institution and transfer them as a "package" to fulfill general education requirements at the baccalaureate institution. In fall 2000, the Associate of Science Transfer (AS-T) degree was developed to provide more direction than the general DTA for students to transfer into a variety of science majors. Both degrees allow students to transfer a "package" of coursework to baccalaureate institutions, eliminating the need to evaluate each course on a transcript.

House Bill 2382 required that three new transfer associate degrees be developed in 2004-05 for pre-nursing, engineering, and elementary education. The HECB provided a progress report on these degrees in the board's January 2005 report on transfer and articulation. Since that time, degrees in business and engineering technology have been created, which followed similar development processes. Faculty and staff from two- and four-year institutions across the state worked to reach agreement on the curriculum requirements for each new pathway. Staff from the HECB, the SBCTC, the Council of Presidents (COP), and the Independent Colleges of Washington (ICW) provided support. Wherever possible, the workgroups were encouraged to stay within the boundaries of the existing statewide DTA and AS-T agreements.

The Legislature also stated that the HECB must monitor implementation of the newly created transfer associate degrees as well as monitor progress on indicators of student usage. One of the challenges associated with reporting on the new degrees is that none of them has been offered long enough to produce sufficient data on student participation and completion.

In contrast, the AS-T has been offered long enough to allow a first glimpse of meaningful data on student participation and completion. The methodology used to examine the effectiveness of the AS-T will also be applied to the other transfer associate degrees, once they have been offered long enough to produce meaningful data.

The AS-T data identifies four different measures of effectiveness: 1) whether students are taking the degree, 2) if it is helpful in reducing the number of classes they have to take on the way to their associate degree, 3) if they are transferring after completion, and 4) if they are going on to earn the bachelor's degree.

Data from each area indicates that the AS-T is being used by students and that they are transferring to baccalaureate institutions at a higher rate than those students who took the more general Direct Transfer Agreement and concentrated on science and engineering. Analysis also shows that AS-T students are completing fewer credits to complete their associate degree than students who earn the science/engineering focused DTA. In addition, AS-T graduates are more likely to have earned a bachelor's degree than students who earned the DTA.

In short, the AS-T is helping students interested in science-related majors to realize their educational goals more efficiently than the general DTA. However, it should be noted also that the number of students taking the AS-T is still a very small percentage all students who earn associate degrees. Thus, the degree to which the AS-T can improve the overall transfer rate and total number of students who successfully transfer is limited.

The statute also requires that the HECB convene workgroups to identify whether additional transfer associate degrees are necessary. Baccalaureate institutions have named several different majors for which existing associate degrees do not provide the best preparation. Those majors include architecture, construction management, computer science, biology, and environmental science. Each major with a poor match to existing associate degrees will be examined to establish whether they meet the criteria to begin work to develop a transfer associate degree. One additional major, secondary education – earth science, has already been identified as lacking a “feeder” associate degree that provides the best preparation for entry. Work to create a transfer associate degree for this major will begin in late spring 2007 and will be complete by January 2008.

Upper-Division Capacity

In 2004, Substitute House Bill 2382 became law. The statute stipulates that: *“The Higher Education Coordinating Board must conduct a gap analysis of upper-division capacity in the public higher education system to accommodate transfer students. The analysis must address the total number of enrollment slots, specific academic majors, and geographic location of demand and supply of upper division capacity.”*

Over the last two decades, the state has initiated a number of strategies to provide students the opportunity to move smoothly from community and technical colleges to baccalaureate institutions. As these strategies are implemented, it is important that the system be prepared for the success of these programs and that sufficient space is available at the public baccalaureate institutions. In recent years, the state has faced significant constraints in providing access to qualified transfer applicants. While pressure has waned in the most recent academic year, many programs remain stretched to capacity. Furthermore, it is important to recognize that the ongoing work to encourage and enhance transfer, and the increasing demand for higher levels of education generally, could quickly place the state back into a crisis situation with regard to transfer capacity.

In fall 2005, just over 108,000 students were enrolled in the state’s public baccalaureate institutions. Of those, about 49,000 students (45 percent of total enrollments) were at the junior and senior level and thus constitute the total number of “upper-division” enrollments. Since 1992, the state’s baccalaureate institutions have honored a policy of “proportionality” which guarantees that a certain percentage of new enrollment slots will be available for incoming transfer students from the state’s community and technical colleges. Each institution has met or exceeded the percentage, and the policy has been useful in ensuring a minimum level of access for transfer students.

During the height of the capacity crisis, however, hundreds of qualified transfer students were unserved by the higher education system in Washington. The OFM Applications Match Study finds that transfer pressure was greatest during the 2003-04 academic year, with more than 700 students turned away. Transfer applicants represented over 40 percent of the total unserved undergraduate applicants. The vast majority of denied applications were concentrated at baccalaureate institutions in the Puget Sound region, including Pierce, King, Snohomish, Island, and Skagit counties.

Access to baccalaureate institutions also is limited by competition for entry into specific majors, rather than capacity constraints by region or sector. An examination of the degree of competitiveness for entry into specific majors reveals that several programs are impacted throughout the state, including business and nursing programs.

Findings and Recommendations

Based on analysis of efforts to improve transfer efficiency, as well as upper-division capacity, the HECB recommends the following:

- Continue work to develop additional transfer associate degrees for majors at baccalaureate institutions that currently lack a “good match” with existing associate degrees.
- Re-examine the existing proportionality agreements to ensure they adequately reflect the goals for transfer within the state’s system of higher education. In addition, HECB should establish a regular schedule for future review of proportionality goals.
- Provide for general enrollment growth to help meet enrollment needs of transfer students as well as direct entry students. Priority should be given to institutions in the Puget Sound region, including Pierce, King, Snohomish, Island and Skagit counties.
- Continue support for high-demand enrollments to reduce programmatic capacity constraints that currently limit access to specific majors.
- Develop a Web-based transfer advising system to provide students the opportunity to explore multiple majors at more than one institution, thus improving their ability efficiently transfer credits and continue making progress toward their degree goal.

Transfer Policy and Upper Division Baccalaureate Capacity

Transfer is a primary strategy for providing access to baccalaureate-level education in Washington State. For thousands of students, transfer is an effective and efficient way to complete their studies. About 41 percent of the 16,800 students awarded degrees at Washington public baccalaureate institutions in the 2000-01 academic year had completed at least 40 credits at a community or technical college. Of these students, 67 percent (27 percent of students earning baccalaureate degrees) had completed an academic associate degree, and another five percent (two percent of baccalaureate degree earners) had completed both an academic and a technical associate degree prior to transfer.

These successes are not accidental. The Higher Education Coordinating Board, the state's two- and four-year public institutions, the State Board for Community and Technical College, and the Council of Presidents have addressed the issue of transfer capacity aggressively in recent years by:

- Adding upper-division access opportunities at the research university system campuses (formerly called branch campuses) and higher education centers;
- Creating new associate degrees that prepare students for entry into competitive majors;
- Developing a proposal for a new Web-based advising system that establishes and publishes course equivalencies across sectors;
- Conducting a comprehensive study of upper-division capacity development needed to keep pace with growth of the community and technical college system.

Since improving students' ability to transfer successfully is an important strategy in increasing the number of baccalaureate degrees granted in Washington, the HECB and its collaborating institutions and organizations have placed a top priority on the continuous improvement of the transfer system. This report provides greater detail about the policies and practices being used and developed to increase the number of students who successfully transfer to baccalaureate institutions.

Background

The importance of baccalaureate-level training

A bachelor's degree is an increasingly important credential for workers interested in pursuing the jobs of tomorrow. Some would argue it is an indispensable credential. In Washington, more than 70 percent of students in Washington's public higher education institutions attend the state's community and technical colleges; therefore, for thousands of students, well-articulated and planned transfer programs hold the key to life success.

According to recent research, the number of well-paying jobs for those lacking post-secondary education has declined steadily over the last three decades. This has resulted in increasing levels of

salary disparity to education levels.¹ According to the U.S. Census Bureau, the average income for a Washington resident aged 21-64 with a high school degree is \$30,628, while those with bachelor's degrees average \$45,367. Long-term unemployment rates also decrease as the level of education increases.²

Nationally and in Washington, employers report almost all occupations are becoming more complex, and higher levels of education are needed to perform this work. Many of these occupations require increased training for supervisory roles and more highly technical roles, even in fields where advanced training formerly was not a high priority, such as sales and services occupations, agriculture, construction, production, and transportation.³

In addition, employers report they have become more selective in the hiring process. Workers with a deeper and more sophisticated skill sets are at a distinct advantage in this environment. Ideally, today's workers should have a mix of technical, management, communication, and teamwork skills commonly associated with baccalaureate level education.⁴ The state's Workforce Training and Education Coordinating Board (WTECB) reports that in addition to occupation-specific skills, about 20 percent of employers report difficulty finding workers with problem solving and critical thinking skills, positive work habits and attitudes, communication skills, and teamwork skills. Roughly 16 percent of employers reported difficulty hiring workers who could adapt to changes in duties and responsibilities.⁵

As national and state economic trends continue to illustrate shifts toward occupations requiring higher levels of education, policymakers must ensure that Washington citizens are provided the opportunity to compete for these jobs. By doing so, policymakers also ensure employers have access to the skilled workers they need to serve the community and foster economic growth.

Current trends in Higher Education in Washington

Demand for participation in higher education is growing

The public higher education system in Washington is comprised of two interdependent sectors: the community and technical college (CTC) sector with a 2005-06 enrollment of 184,912 students (130,933 FTE), and the baccalaureate sector, with an enrollment of 98,248 students (91,571 FTE) as illustrated in Figure 1.1. When these sectors are combined, Washington ranks about 17th nationally for participation in public higher education.⁶

¹ Ashenfelter, O. and Rouse, C. (2000). Schooling, intelligence, and income in America. In K. Arrow, S. Bowles, and S. Durlauf (Eds) *Meritocracy and economic inequality* (pp.89-117). Princeton, New Jersey: Princeton University Press.

² US Census Bureau, *Earnings by Occupation and Education*, Retrieved August 16, 2006 from OFM website.

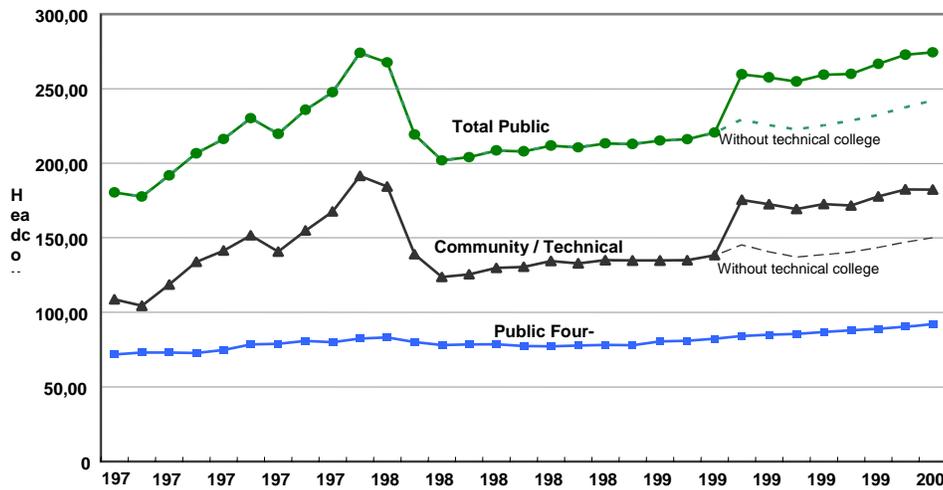
³ HECB, 2005, *State and Regional Needs Assessment*, p.27.

⁴ HECB, 2005, *State and Regional Needs Assessment*, p. 24-25

⁵ Workforce Training and Education Coordinating Board, *Washington State Employers' Workforce Training Needs and Practices 2006*.

⁶ Office of Financial Management, *Budget Driver Report, 2005-06*, measure of average annual FTE.

Figure 1.1: Combined Higher Education Enrollments 1970-2000

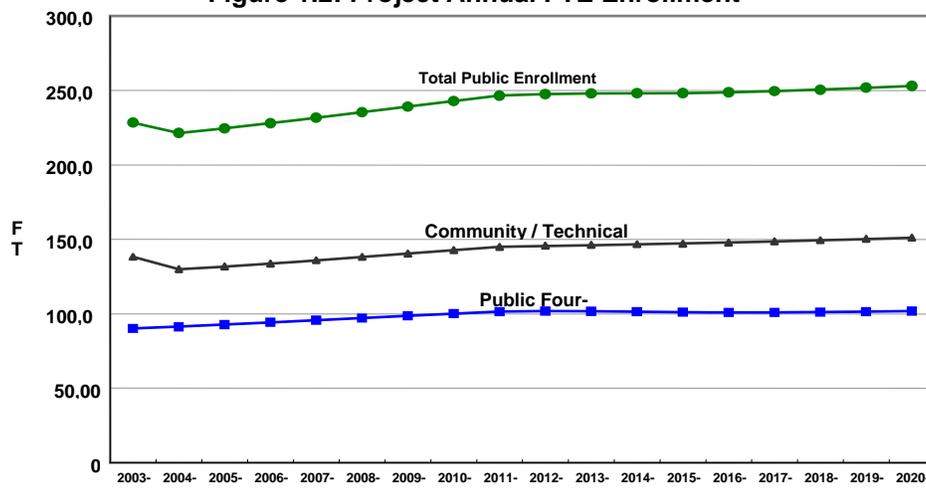


OFM, Higher Education Enrolment Statistics and Projections, Historical Fall Term Headcount Enrollment: Public Higher Education, 1970-2000. Table 1-4. P.9

In recent decades, demand for higher education has increased steadily. Enrollment trends for both the community and technical colleges and the public baccalaureate sectors reveal an increase in the fall term enrollments over the long term. While the two-year sector exhibited uneven growth in the 70’s and early 80’s, it has seen steady growth over the more recent 20-year period.

Researchers and policymakers indicate these trends will continue. According to projections developed by the Office of Financial Management, demand for education will continue to increase due to population growth and the growing importance of post-secondary education in the workplace. Figure 1.2 illustrates the increase in demand for higher education due only to population growth. OFM has not quantified the impact of increased participation in education.

Figure 1.2: Project Annual FTE Enrollment



OFM, Higher Education Trends and Highlights, p.4

To keep pace with population growth, Washington's public higher education system will need to serve about 242,770 FTE students by 2010, an increase of about 20,000 FTE.⁷ This increase must be accommodated through growth in both the two-year and baccalaureate sectors.

Since the 1970s, the community and technical colleges have expanded lower-division enrollment more rapidly than the baccalaureate sector, and the two-year system now makes up about 53 percent of the state's total public higher education enrollment. Participation in the four-year sector has not expanded at the same rate, although many institutions continue to enroll more students than their budgeted enrollment capacity. The existing four-year institutions will need to add 8,467 FTEs by 2010 to provide the same rate of access as students experienced in 2005-06. Even greater capacity will be needed to accommodate additional student demand for baccalaureate degrees.

Degree production

Washington produces similar numbers of associate and bachelor's degrees each year – 21,450 associate degrees, and 21,044 bachelor's degrees in 2006. This ratio is unusual amongst other states, as seen in the fact that Washington ranks fifth nationally in the number of associate degrees awarded and 36th in the production of baccalaureate degrees.⁸

Not surprisingly, given Washington's rank in baccalaureate degree production, the state is not producing enough bachelor's degrees to meet student and employer demand. Despite this, Washington has one of the country's most highly educated populations in terms of the number of baccalaureate degree holders as a percentage of total population.⁹

This disparity can be attributed to the presence of a large number of highly educated workers in the state who earned their degrees elsewhere. Between 1990 and 2000, over 201,000 22-64 year-olds holding a bachelor's degree or higher moved to Washington, while nearly 123,000 left the state.¹⁰ This net in-migration of approximately 78,000 degree holders is credited for mitigating the higher education system's shortfall in baccalaureate degree production, especially in high-demand fields. Washington ranks seventh among the states on this measure and is one of only 15 who experience net in-migration.

⁷ Office of Financial Management, Public Two- and Four-year Fall FTE Enrollment Projects, current participation rate carried forward.

⁸ NCES, Digest of Education Statistics, 2004, Table 305.

⁹ OFM, 2005, Higher Education Trends and Highlights, p.9

¹⁰ Analysis of US Census data and IPEDS completions survey conducted by NCHEMS.

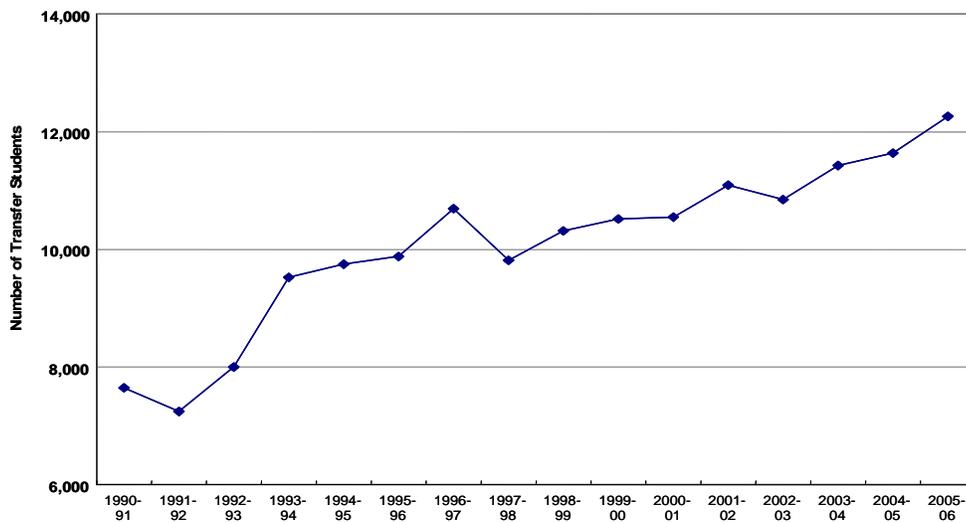
Trends in Student Transfer and Articulation

If Washington is to educate its citizens so they are able to compete for the best jobs in the state's economy – those that require bachelor's preparation or higher – it must increase the number of bachelor's degrees awarded to Washington citizens. As noted, a key strategy for increasing the number of bachelor's degrees is to improve the numbers of students who transfer successfully from the community and technical colleges to the four-year institutions.

Data collected over the last 16 years on student transfer shows the number of students who have successfully transferred from a community or technical college to a four-year institution has generally increased.

According to data compiled by the SBCTC, just over 7,600 students transferred from public community and technical colleges to public baccalaureate institutions in 1990. By 2005, the number of transfer students had grown to 12,262¹¹.

Figure 1.3: Transfers from Community & Technical Colleges to Public Baccalaureate Institutions

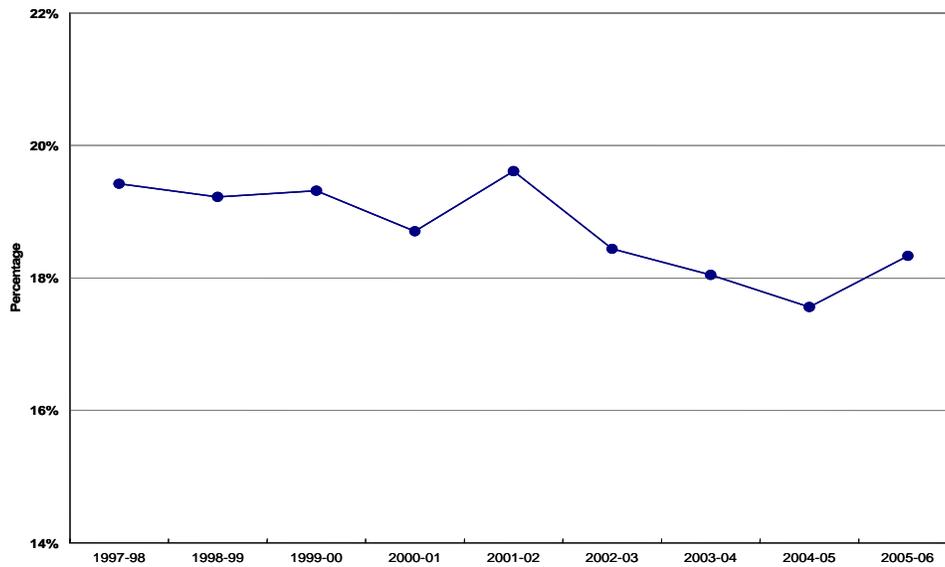


Source: HECB analysis of data provided by the State Board for Community and Technical Colleges

Even though the number of students transferring from the two-year to four-year institutions has increased, the rate at which they transfer has remained relatively static, and actually declined this decade. The transfer rate measures the percentage of students who actually transfer after entering the community colleges saying they intend to transfer. In 2001-02 the transfer rate was about 20 percent and has fallen to 18 percent in the 2005-06 academic year, (see figure 1.4). This static transfer rate may be attributable to lack of capacity at the four-year institutions, lack of adequate preparation, financial issues, or other reasons not fully understood. Although the transfer rate has begun to rebound and the number of students who transfer to four-year institutions has continued to increase, these gains have not yet improved the state's ranking in terms of bachelor's degrees awarded.

¹¹ Figure includes Running Start and students transferring into self-sustaining programs.

Figure 1.4: Percentage of Community & Technical College Students who Transfer Each Year



Source: HECB analysis of data provided by the SBCTC Student Data Warehouse. Transfer rate is calculated based on total transfers to public baccalaureate institutions, including Running Start, as a percentage of students who declared their intent to transfer (all funds).

The remainder of this report documents the current status of transfer and articulation initiatives in the state to identify logical next steps in improving transfer efficiency. The report is presented in three sections. The first section records general efforts to ensure efficient transfer and articulation and includes summary information on the alignment of course equivalencies across sector, competency based transfer, and the applicability of technical courses toward a bachelor’s degree.

The second section examines the development and implementation of transfer associate degrees since the HECB’s last transfer and articulation progress report in January 2005. The analysis includes updates on transfer degrees in nursing, elementary education, engineering, engineering technology, and business. In addition, the report includes an examination of the Associate of Science – Transfer degree. This examination will serve as the basis for how other transfer associate degrees will be evaluated.

Finally, the third section provides a gap analysis of upper-division capacity in the public higher education system. This analysis addresses the total number of enrollment slots necessary to meet demand by specific academic major as well as geographic location. The report also includes recommendations on how to expand upper-division capacity, including costs. This third section will be linked with analysis of the state’s transfer policies, as contained in the first two reports, so that the impact of increased transfer efficiency on the number of upper-division slots needed to accommodate future growth can be better understood.

Progress Report on Transfer Policy (since 2004) Substitute House Bill 3103

RCW 28B.76.240 states, “The board shall adopt statewide transfer and articulation policies that ensure efficient transfer of credits and courses across public two- and four-year institutions of higher education. The intent of the policies is to create a statewide system of articulation and alignment between two and four-year institutions... The board shall submit a progress report to the higher education committees of the Senate and House of Representatives by December 1, 2006, by which time the Legislature expects measurable improvement in alignment and transfer efficiency.”

This report documents the current status of transfer and articulation initiatives in the state to identify logical next steps in improving transfer efficiency. The report identifies general efforts to ensure efficient transfer and articulation and includes summary information on the alignment of course equivalencies across sector, competency based transfer, and the applicability of technical courses toward a bachelor’s degree.

Statewide System of Course Equivalency

In 2004, the Legislature passed House Bill 2382 requiring the Higher Education Coordinating Board (HECB) to “create a statewide system of course equivalency for public institutions of higher education, so that courses from one institution can be transferred and applied toward academic majors and degrees in the same manner as equivalent courses at the receiving institution.” The HECB’s response to this charge was to outline plans to develop a statewide, Web-based advising system that allows students to determine how courses taken at a community or technical college would be accepted at a baccalaureate institution. The legislation specified the HECB submit a progress report in January 2005, including detailed options and cost estimates. The full report, documenting the agency’s initial response to this charge is available via the HECB website at: www.hecb.wa.gov/reports.

Many other states have developed Web-based course equivalency systems to expedite student transfer. These systems allow students to determine how courses taken at one institution will be accepted at another institution. Fully developed systems also allow students to conduct informal “degree audits” to compare their academic history against degree requirements at multiple institutions. These systems also help faculty and staff establish, publish, and maintain course equivalencies across institutions. Similar systems in other states help reduce expensive mistakes for students (and the state) by clearly outlining which credits can be transferred and which can apply to specific majors. Students can consult these automated systems at their convenience and investigate a variety of planning scenarios. For example, a student planning to major in a particular area who fails an important course can view how other credits they have earned might apply to a different major or a different college.

Each of the six public four-year institutions in Washington have developed, or are in the process of developing, their own Web-based systems that enable students to better understand how their courses would transfer to a specific institution. However, each public four-year institution uses a different format for communicating this information. Some institutions maintain interactive online systems where students can enter in a course taken at a community college and receive its equivalent at the four-year college. Other institutions maintain their information in PDF or HTML formats that are not interactive. At these institutions, students can consult the written material available on a Web page but they cannot enter in a course and receive its equivalent. A statewide online transfer advising system would allow transfer students to go to one site for degree planning and look across institutions and degree programs.

Following the progress report issued in 2005, the HECB requested funding to develop the Web-based advising system during the 2005 and 2006 legislative sessions. Both attempts were unsuccessful. Since the 2006 session, the HECB has engaged in a series of planning activities to outline detailed requirements for an advising system based on feedback from students, faculty and staff from around the state, as well as identify risks inherent in implementation. Each of these steps was taken to mitigate risk and ensure successful development and implementation. These planning activities are outlined below.

Web-Based Advising Pilot Project

The HECB was awarded a grant from the K-20 Education Network in July 2006 to engage in a pilot project with a private-sector partner to test an online advising system. The University of Washington and Bellevue Community College agreed to participate in the pilot project, which will end in July 2007. The goal of the pilot project is to provide students with a user-friendly, Web-based tool which they can use to search available courses and programs at participating institutions in the state, evaluate their progress toward a degree, and plan ahead successfully.

By piloting a system with actual users, the HECB can gather important information that will help ensure success if policy makers decide to implement a statewide system. Issues being addressed in the pilot include:

- Pilot project staff are gathering feedback from students, faculty, and staff on the “look, feel, and function” of the system so those key elements can be incorporated into any statewide system. This step is critical to ensure the system’s usability.
- Staff have identified, documented, and addressed challenges to implementing the system in a pilot setting and will provide guidance in identifying similar challenges in a statewide implementation.
- Staff are using information to assess the benefits, including potential cost savings, of using Web-based advising. Prior to the kick-off of the pilot project, staff put together an inventory of current advising practices at each of the participating institutions. This data will be compared to similar data on advising practices at the end of the pilot project, including feedback from students and staff, in order to measure the potential for improving services to college students.

Data gathered from this pilot project will identify the key components of a statewide advising system. Each of these components will be used to develop a Request for Proposals, if the Legislature moves forward with a statewide implementation project.

Statewide Requirements Gathering Focus Groups

The pilot project discussed above is linked with a concurrent data-gathering project. The HECB is convening several statewide focus groups to gather additional feedback on the critical requirements of the system. The work groups are comprised of representatives from the state's two- and four-year public and private higher education institutions. The board is taking this step to ensure that it maintains a statewide view of the Web advising system's critical functions and avoids tailoring the system's specifications too narrowly.

Much of the time and effort spent gathering feedback from end-users is necessary because each public four-year institution requires that specific courses be completed before a student can declare a major. Thus, each four-year institution can assess course equivalencies differently, which impacts how advisors communicate information to students. Much work has been done to create statewide articulation agreements and the major related programs described elsewhere in this report that will help students plan for junior-level study. Nevertheless, degree requirements still vary between institutions and space is competitive, making it difficult, yet very important, for transfer students to plan their courses as carefully and early as possible.

The project will build on the findings of a workgroup assembled in 2004, as a response to House Bill 2382, which directed the HECB to research the critical components of a Web-based student advising system.

The group developed a list of requirements for a statewide system, including:

- Interactive, Web-accessible course equivalency tables (crosswalks that translate one course to another at different institutions);
- Degree audit (the ability to evaluate courses a student has completed or plans to complete based on degree requirements);
- Faculty and staff communication (a vehicle for faculty to communicate online regarding course equivalency decisions);
- Interaction among existing systems (the ability to reduce additional work for institutions by electronically interfacing with degree audit systems already in place);
- Web-based survey for soliciting and collecting student feedback on the effectiveness of the system;
- Ability to send and receive electronic student records or unofficial transcripts between institutions, and allow students to upload their electronic record for evaluation against various degree requirements;

- User-friendliness and a unified statewide “look and feel”;
- Capacity to link to a degree audit system to be developed by Washington community colleges, and accept both individual courses and a “package” of courses (such as an associate transfer degree) from community college transfer students;
- Inclusion of a comprehensive list of the degree programs offered in the state by both public and private colleges and universities and “tips” to help transfer students plan; and
- Accommodation of start and end dates for courses and degree programs to reflect changing course content and degree requirements.

The next step in developing a Web-based advising system is to develop a prioritized set of user requirements relating to each of the bulleted points above. Input from faculty, staff, and students from the state’s two- and four-year, public and private institutions will drive the development of these requirements.

The HECB has initiated a contract with a vendor to conduct focus groups and develop the detailed, prioritized set of requirements. User requirements describe what the user will be able to do with the product, such as goals or tasks that users must be able to perform. The focus groups will reflect the diversity of perspectives from across the state. The project will be complete by the end of January 2007, at which point a final report will be made available. As with the web-based advising pilot project, each of these requirements will be used to develop the final Request for Proposals for development and implementation of the statewide web-based advising system.

Applicability of Technical Courses Toward Baccalaureate Degrees Bachelor’s of Applied Science (BAS) Degree

Background

In 2005, the Legislature found that, *“The Higher Education Coordinating Board has developed a strategic master plan for higher education that sets a goal of increasing the number of students who earn college degrees at all levels: associate, baccalaureate, and graduate.”* (E2SHB 1794, Section 3). The Legislature stated that, *“to meet both of the master plan’s goals and to provide adequate educational opportunities for Washington’s citizens, additional access is needed to baccalaureate degree programs . . . strategies must be implemented through service delivery models that reflect both regional demands and statewide priorities.”* (Section 6).

As a result of this finding, the Legislature recognized a need to provide more opportunities for students to earn bachelor’s degrees in the applied sciences beyond those currently offered by the four-year institutions. Thus, the Legislature authorized the SBCTC to choose four community and technical colleges to offer applied bachelor’s degrees in technical areas of study on a pilot basis. Applied bachelor’s degrees build on technical associate degrees in two ways; the upper division training either provides further course work in the same professional/technical field studied in the applied associate degree, e.g. nursing or engineering technology, or it provides management specialization for technical workers, e.g. allied health management, hospitality management.

The legislation called for the creation of a task force to develop objective selection criteria for the pilots. Representatives from the HECB, WTECB, and the Northwest College and University Accrediting Association participated in the task force to develop selection criteria and timelines with other related approval processes.

The task force included varied membership because each participating agency played a role in selecting, authorizing, and implementing the four pilot schools. The HECB has degree approval authority for bachelor's degrees, under 28B.76.230, including bachelor's degrees offered by community and technical colleges. The Northwest Commission on Colleges and Universities must reaccredit two-year colleges that add four-year degrees as bachelor's degree granting institutions. The WTECB provided expertise on labor force supply/demand analyses. A list of task force members is provided in Appendix A.

The task force met during late spring and summer and developed the following criteria approved by SBCTC in October 2005:¹²

Service to placebound students: Applied bachelor's degrees are intended primarily to serve students from the college's primary service area not otherwise served by existing public baccalaureate degree programs.

Workforce mission: Applied bachelor's degrees are an extension of the workforce education mission of community and technical colleges, and a response to the increasing skill requirements of employers in occupations for which community and technical colleges have traditionally provided education and training.

Capacity and sustainability: Colleges selected as pilots must have a record of good use of human and financial resources suggesting the likelihood of successful development and continuation of new curricular offerings.

Maintain two-year focus: Community and technical colleges will remain predominantly lower-division institutions. The applied bachelor's degree will be an additional degree offered by community and technical colleges, and is not viewed as the first step to a progressive conversion to a comprehensive baccalaureate institution.

Open door philosophy: Maintaining the open door mission of community and technical colleges is an important value and context for adding applied bachelor's degree programs at some colleges.

¹² The descriptions of criteria are taken from agenda item 14, "Approval of CTC Bachelor's Degree Selection Criteria and Process (Resolution 05-10-26)"

School Selection

In January 2006, six community and technical colleges submitted proposals to be selected as pilot sites. A review committee was established to review the proposals and select four programs to recommend to the board for approval. The committee included members representing the presidents, instruction faculty and staff, student services, business administration, staff from the SBCTC, universities offering applied bachelor's degrees, and a representative knowledgeable about the state's employment and training needs.

After extensive review, the committee recommended four schools as potential pilot schools and submitted them to the SBCTC for action. In April 2006, the board selected Bellevue Community College – *Bachelor's of Applied Science Radiology and Imaging Sciences*; Peninsula College – *Bachelor's of Applied Science Management*; Olympic College – *Bachelor's of Science Nursing*; and South Seattle Community College – *Bachelor's Applied Science Hospitality Management* to pursue approval of their proposal by the HECB and the Northwest Commission on Colleges and Universities. Summary information on each pilot program is included in Appendix B.

The proposed pilot programs were then sent to the HECB for review. The two agencies employed different criteria in the review process. While the process used by SBCTC focused on demand for the program, viability and sustainability of the program, impact on the institution, and institutional maintenance of mission with a goal of selecting the top four programs; HECB staff applied the same criteria for review of these programs as used for all new degree programs at the baccalaureate level and beyond:

- Support the unique role and mission of the institution(s);
- Foster high-quality programs that enable students to complete their studies in a reasonable amount of time;
- Meet state and/or regional student, employer, and community needs;
- Provide access for diverse student populations;
- Demonstrate that the need is commensurate with the costs to be incurred and represents an effective use of fiscal resources; and
- Be free from unnecessary program duplication.

After careful review, the HECB approved each of the proposed programs in July 2006. Upon HECB approval, programs entered a development phase in fall 2006 that included review by the Northwest Commission on Colleges and Universities, curriculum development, and faculty hiring. The programs will enroll students in fall 2007. The SBCTC allocated a total of 80 FTEs to support first year enrollments in these pilot programs and 160 FTEs to support second year enrollments. Pilot institutions also received one-time funding of \$100,000 to support infrastructure improvements and start-up funding averaging \$126,000 for 2006-07. Pilot colleges will receive \$6,300 per FTE expected to be enrolled in 2007-08 and will charge and retain tuition at the regional university tuition rate.

Evaluation

In 2008, the HECB and the SBCTC will collaborate in conducting a study to evaluate the implementation of SHB 1794. Criteria for the study were adopted by the HECB in February 2006, and include the following areas:

- Documentation of the completion of new degree program approval
 - HECB degree approval
 - Northwest Commission on Colleges and Universities Accreditation review and candidacy status
- Evaluation of program course development
 - Number of courses
 - Type of courses (general education/major specific)
- Evaluation of the completion of faculty hires (if required)
- Evaluation of baccalaureate application data
 - Applications received, offers extended, acceptance by students, fall matriculation (fall 2007, fall 2008)
- Evaluation of major program/upper-division enrollments
- Upper-division persistence
 - Fall 2007 to fall 2008 persistence
- Baccalaureate degrees awarded by summer 2008 (if applicable)
- Upper-division diversity
 - Upper-division Pell percentage compared to institution
 - Race/ethnicity compared to institution
 - Age compared to institution
 - Gender compared to institution
- Documentation confirming that the governing boards of each institution approved changes to institutional role and mission

In 2010, each of the pilot programs will undergo an accreditation evaluation from the Northwest Commission of Colleges and Universities.

Competency Based Transfer

Background

In 2003, the Legislature and governor enacted House Bill 1909 to create a pilot project on competency-based transfer between two- and four-year colleges and universities. The legislation directed the HECB to select institutions to define transfer requirements in several disciplines on the basis of students' skills and knowledge.

Eastern Washington University and the two community colleges in Spokane, which volunteered to undertake the project, began the pilot in fall 2003. Per legislative directive, the HECB submitted a report documenting the evolution of the pilot project in December 2005.

Competency-based transfer was described in the statute as *“the knowledge, skills and abilities students should possess in order to enter an upper division program in a particular academic discipline.”* In contrast to the current system, it does not necessarily involve “seat time” or the successful completion of a specified number of classes as a measure of student achievement and preparation for transfer. Rather, students must demonstrate they have mastered the necessary knowledge through a series of assessments. The objective of the legislation was to create a pilot project that explored how these “competencies” could be developed and assessed so that they could be used as the basis for transfer evaluation and admission to upper division programs.

Eastern Washington University, Spokane Falls Community College, and Spokane Community College collaborated throughout the project with the HECB, the COP, and the SBCTC. Academic leadership and faculty from the three colleges identified criminal justice, elementary education, and computer information systems as the pilot project disciplines. Faculty from the two- and four-year institutions worked together to reach agreements on the core competencies in each major, as summarized below:

Criminal Justice: Faculty at EWU developed a list of expected competencies for two foundational criminal justice courses: Basic Research Methods and Introduction to Statistics. When they developed an assessment tool and administered it to both EWU students and a limited number of community college students, they found the community college students were not exposed to enough instruction in statistics or research methods to attain the skills they needed to transfer.

Computer Information Systems: Faculty at EWU aligned the entire curriculum to conform to national standards in computer information systems education and have shared updated course descriptions with the community colleges. This standards-based information will, in turn, be used to align community college coursework with the expectations for entry to computer information systems majors at EWU. All students are currently required to pass a placement test before requesting junior status in the department.

Elementary Education: Faculty from EWU, SFCC, and SCC developed competencies for the Introduction to Education classes that are taught at all three institutions. Faculty workgroups made preliminary recommendations regarding assessment of students but did not test them.

Findings and Recommendations for Competency-Based Transfer

In the December 2005 report, the HECB and pilot project participants recommended that the state maintain the current system until outcome data from groups that are defining competencies could be subjected to cost/benefit analyses. The group found that developing a statewide competency-based transfer system would take significant investment as well as faculty and staff time, and that most competency-based initiatives were too new to have produced outcome data that would indicate whether students are actually moving through the system more efficiently. Thus, policy makers have little data with which to evaluate the prospective value of the large new investment that would be needed to refocus the current transfer system.

The HECB also recommended five steps that should be taken if future legislatures found that competency-based transfer initiatives should be expanded:

1. The state should allocate funding to support planning at the state level and to expand opportunities for ongoing communication between two- and four-year faculty.
2. Institutions should develop competencies for the general education requirements that are required for most transfer students, regardless of their desired majors.
3. Institutions should develop oversight committees to designate and/or update competencies and design student assessments.
4. The departments at receiving four-year institutions must describe the standard body of knowledge required for entry into their programs.
5. Four-year institutions should communicate their expectations to transfer students early in their community college careers so that they can pursue coursework that will adequately prepare them for transfer.

Progress on Transfer Associate Degrees (Major Related Programs) Substitute House Bill 2382

In 2004, the Legislature found that “*community and technical colleges play a vital role for students obtaining baccalaureate degrees,*” serving as an “essential partner” in meeting the demands of students; however, the Legislature also found that “current policies and procedures do not provide for efficient transfer of courses, credits, or prerequisites for academic majors” (House Bill 2382, Section 1).

The bill stipulated (as found in RCW 28B.76.250) that, “*The Higher Education Coordinating Board must convene workgroups to develop transfer associate degrees that will satisfy lower-division requirements at public four-year institutions of higher education for specific academic majors; monitor implementation of transfer associate degrees by public four-year institutions to ensure compliance...(as well as) monitor progress on the indicators (of student usage), and provide other data on improvements in transfer efficiency.*” The Legislature requires the HECB to, “*submit a progress report on the development of transfer associate degrees to the higher education committees of the House of Representatives and the Senate*”.

Transfer associate degrees prepare students for transfer from a two-year institution to a baccalaureate institution and typically take two years of full-time study to complete at a community college. Transfer associate degrees vary in design but always count toward the student's completion of general education requirements at the four-year institution. These degrees benefit students by giving them a specific plan to follow and by preparing them early for their intended majors. In addition, they help to prepare students for transfer to any public baccalaureate institution in the state, as well as to any private institution that wishes to participate. Since better student preparation reduces the possibility of students completing credits that will not transfer or count toward their degree, these agreements benefit the state as well.

What follows is an update on the development and implementation of major related programs since the HECB's last report in January 2005. House Bill 2382 required that three degrees be developed in 2004-05 for pre-nursing, engineering, and elementary education. This section will provide updates on the development and implementation of these degrees as well as a summary of plans to create additional degrees.

The development processes for each of the degrees specified in SHB 2382 was similar. Faculty and staff from two- and four-year institutions across the state worked to reach agreement on the curriculum requirements for each new pathway. Staff from HECB, SBCTC, COP, and the Independent Colleges of Washington (ICW) provided support. Whenever possible, the work groups were encouraged to stay within the boundaries of the current statewide agreements, the Direct Transfer Agreement (DTA) or the Associate of Science Transfer Degree. The DTA and the AS-T allow students to transfer a “package” of coursework to baccalaureate institutions, eliminating the need to evaluate each course on a transcript.

One of the challenges associated with reporting on the transfer associate degrees is that none of them has been offered long enough to produce data on participation and completion. Thus, the indicators specified in the HECB's first progress report are not available for this report. The exception to this rule is the Associate of Science – Transfer, which has been offered since the fall of 2000. The AS-T degree was developed to provide an efficient pathway for students to complete an associate degree and transfer into a variety of science majors. The methodology used to examine the effectiveness of the AS-T will also be applied to the other transfer associate degrees, once they have been offered long enough to produce meaningful data.

Nursing Transfer Associate Degree

The transfer associate degree for nursing was nearly complete at the time of the last HECB progress report in January 2005. The work group, comprised of faculty and staff from two- and four-year public and private institutions, worked for about a year to develop a degree pathway for students intent on entering the nursing profession with a bachelor's degree. The agreement does not address the "RN-BSN completion program," designed for registered nurses who have received an associate degree and wish to continue with a BSN.

This agreement was approved by public and private baccalaureate institutions in the spring of 2005. The new associate degree pathway became available at community colleges in fall 2006. Students are expected to complete the new pathway no earlier than spring 2008 and are expected to complete their BSN degree no earlier than spring 2010.

Engineering Transfer Associate Degree

As with the Nursing transfer associate degree, the bulk of work creating the new degree in engineering was documented in the progress report submitted by the HECB to the Legislature in January 2005. The new pathways follow the broad requirements set out in the Associate of Science – Transfer degree, which was designed for students in engineering, computer science, physics, and atmospheric sciences. The work group provided expanded detail of the AS-T Track Two for three "sub-pathways" within this degree: 1) Chemical and Bio-Engineering, 2) Electrical and Computer Engineering, and 3) Aeronautical, Civil, Industrial, and Mechanical Engineering.

Expanded details of the AS-T Track Two were approved by the public and private baccalaureate institutions and the Instruction Commission, on behalf of the State Board for Community and Technical Colleges in December 2005. Participating institutions included the University of Washington – Seattle campus, Washington State University, Eastern Washington University, Gonzaga University, Henry Cogswell College, Saint Martin's University, Seattle Pacific University, Seattle University, and Walla Walla College.

Elementary Education Transfer Associate Degree

The Elementary Education Transfer Associate Degree was also well on its way to completion at the time of the last HECB transfer progress report. The work group, made up of representatives from two- and four-year, public and private institutions, created a new pathway within the existing Direct Transfer Agreement (DTA) that aligns with the standards listed in the Washington Administrative Code (WAC) for teacher education programs. Separate subgroups were created to engage in more detailed discussions regarding quantitative skills and psychology coursework requirements, design of an introductory course, and assessment of computer literacy. The work was designed in such a way that there were no gaps between the DTA, the WAC, and the lower-division courses that would be included in the new associate degree pathway.

- **The Math Subgroup** was asked to identify the areas of consistency and inconsistency in lower division requirements. Some baccalaureate institutions require minimal lower division math credits (5 credits or less) and focus math content and methods at the upper division, while other programs expect substantial math content at the lower division (10 credits). The general direct transfer agreement requires five credits. The group resolved the issue by specifying that students should take between 9 and 15 credits of math which includes geometry, probability and statistics, as well as a focus on the development of mathematical concepts in elementary education curriculum. The group also stated that any additional credits would be accepted as electives.
- **The Professional Introduction Subgroup** was asked to address what the bachelor's institutions would like in an exploration of education class and what they don't want in such a class. The disconnect exists because baccalaureate institutions prefer that elementary education applicants have gained prior supervised experience working with children. However, a general consensus exists at community and technical colleges that an introductory course in education should include the history of education, philosophical foundations, legal aspects, and an introduction to teacher education in Washington. The workgroup resolved the problem by requiring 5 credits of work that includes study of the historical, philosophical, and social aspects of elementary education as well as 30 hours of K-8 classroom experience.
- **The Social Sciences and Humanities Subgroup** was asked to develop a matrix of psychology, history classes, and other specific classes required by the baccalaureate institutions in an effort to decide whether expansion to 20 credits for these blocks is needed. The group resolved the issue by requiring 15-20 in the humanities distribution area and 20 credits in social sciences, but then allowed students to choose to fulfill those requirements from a list of specified areas. For example, students fulfilling their social science requirement were required to take 5 credits of work civilization but could choose to fulfill the other requirements with a combination of political science, geography, economics, psychology, or another history. Some institution-specific requirements remained part of the agreement.

The Elementary Education transfer associate degree was approved by the academic leadership at the participating institutions in winter 2006. The new associate degree pathway will be available at community colleges beginning in fall 2007. Students are expected to complete the new pathway no earlier than spring 2009, and are expected to complete their bachelor's degree no earlier than spring 2011. Participating institutions include Central Washington University, Eastern Washington University, Washington State University, Western Washington University, City University, Gonzaga University, Heritage University, Pacific Lutheran University, St. Martin's University, Seattle Pacific University, Walla Walla College, and Whitworth University.

Engineering Technology Transfer Associate Degree

After working closely with the Engineering workgroup, The Washington Council for Engineering and Related Technical Education, (WCERTE), a voluntary organization of post secondary educational institutions within the State of Washington who are involved with engineering and engineering related technical education, took on the development of pathways in Engineering Technology as a special project. Working closely with the HECB and other JAOG members, WCERTE identified the need to negotiate three engineering technology pathways for students entering fields in applied technology. Representatives of the WCERTE group included faculty from all three public baccalaureate institutions offering Engineering Technology (Eastern Washington University, Central Washington University, and Western Washington University) as well as several community colleges, and others. For a complete list of members, see Appendix C.

- **Electrical and Computer Engineering Technology Pathway:** This pathway provides expanded detail on the Associate of Science – Transfer, Track 2. This new pathway will be accredited by the Accreditation Board for Engineering Technology (ABET)
- **Mechanical Engineering Technology:** This pathway also provides expanded detail on the Associate of Science – Transfer, and will be accredited by ABET.
- **Industrial and Manufacturing Technologies:** This pathway will not be accredited by ABET and will be based on the current Direct Transfer Agreement.

The new pathways were reviewed and approved by WCERTE in April of 2006 and approved by the participating public baccalaureate institutions in fall 2006. Participating institutions include Central Washington University, Eastern Washington University, and Western Washington University.

Business Transfer Associate Degree

Analysis conducted by the SBCTC indicated that transfer students who major in business take about 10 more credits on their way to a degree than direct entry students. This, coupled with the high volume of students interested in majoring in business across the state led the academic leadership of the state's institutions of higher education as well as staff from the HECB, SBCTC, COP, and ICW to update the existing business DTA, first approved in 2004.

The workgroups were provided a charge, general timeline, and suggested guidelines to follow from the Joint Access Oversight Group. The JAOG is a voluntary group composed of academic leaders from the two- and four-year public colleges, and staff from the COP, HECB, and SBCTC, with regular participation by representatives of the independent institutions. HECB staff provided additional direction and support.

The workgroup met during October and December 2005 as well as January, February, and March of 2006 to update the existing Business DTA. In addition to these meetings, the steering group communicated via conference calls and e-mail. A complete list of work group members is included in Appendix D.

Issues

The business DTA work group was asked to examine and resolve specific items related to curriculum. The group formed four subcommittees, each tasked with tackling a specific curricular issue.

The Statistics/Math Subcommittee was asked to establish which math classes each university requires (including the college-level prerequisites), as a means of gaining consensus on whether the Finite Math and Business Calculus sequence should be the declared preference of the statewide agreement. The group decided to list both Finite Math and Business Calculus on the agreement, making explicit the previously unstated requirement of Finite Math as a prerequisite to the currently required Elements of Calculus.

The sub-group also committed to work closely with community colleges to help communicate which competencies the four-year institutions expect from Finite Math coursework, since some community colleges do not currently offer a finite class.

The Business Law Subcommittee was asked to establish law competencies expected by the various business schools as a means of determining if it is feasible for colleges to offer a single course that helps students gain the expected competencies. The group concluded that the differences between the requirements of law classes offered at the University of Washington (UW) and other public and private institutions were too significant. As such, students preparing for entry into UW or another public baccalaureate would still be required to take two courses. The group agreed to create a rationale to be used to communicate with students so they understand that they are not being required to take the same class twice.

The MIS Subcommittee was asked to define the competencies expected in the lower division MIS course for those business schools that expect juniors to enter with MIS related competencies. The group was asked to address this issue because there is a wide range of expectations from the four-year institutions regarding the type of MIS preparation required. Some institutions require an application-based class, while others require a philosophically based class like understanding information management. In addition, some baccalaureate institutions require MIS for acceptance into the institution, while others require it for admission into the major.

The workgroup resolved the issue by adding a footnote to the agreement in the electives section encouraging students to use their elective to fulfill the MIS requirement.

The Accounting Subcommittee was asked to examine the rationale for the community and technical colleges to continue to offer a 15-credit sequence in accounting. The baccalaureate institutions switched to a two course series (10 credits). The subcommittee surveyed community college accounting faculty and learned that the breadth of objectives and requirements for all four-year institutions across the state was too wide to be addressed by a two-course series in the first year. In addition, community colleges serve a wider array of students (in terms of their academic preparation), including a higher number of non-traditional students. The success of the overall population of students would be jeopardized by condensing and/or intensifying the coverage of content in the first-year accounting sequence; therefore, the agreement would not reflect a switch to teaching two sections.

In addition to the curricular issues, the business DTA work group was careful to consider the implementation of changes to the major related program in such a way as to “cause no harm” to students already preparing under the current agreement. The plan will become effective in the fall of 2008, at which time it will cancel and supersede the existing statewide Business DTA. Participating institutions are given the option to honor the 2006 agreement if it is advantageous to the student. The agreement is also subject to review and renewal no later than winter 2010. Participating institutions include Central Washington University, Eastern Washington University, University of Washington (all campuses), Washington State University (all campuses), Western Washington University, Gonzaga University, Heritage University, Pacific Lutheran University, St. Martin’s University, Seattle Pacific University, Seattle University, and Walla Walla College.

Associate of Science – Transfer

The Associate of Science-Transfer degree was created in 2000 to provide an efficient pathway for students to complete an associate degree and transfer into a variety of science majors that had not articulated well with the existing Direct Transfer Agreement. The AS-T is similar to the Direct Transfer Agreement (DTA) in that it provides an umbrella under which students can select different transfer pathways or tracks. Unlike the DTA (which is best suited for students majoring in the social sciences, humanities, and the arts) two versions of the AS-T were approved: AS-T “Track One” is designed for students interested in biological sciences, environmental/resource sciences, chemistry, geology, and earth science. AS-T “Track Two” is designed for students planning to enter majors in engineering, computer science, physics, and atmospheric sciences. Expanded details of the AS-T, Track Two form the basis for the engineering and engineering technology major-related programs discussed above.

Methodology

The intent in creating the AS-T degree was to improve articulation and transfer beyond the capabilities of the direct transfer agreement. Evaluation of the AS-T should test whether the degree is improving articulation and reducing credits to degree for transfer students when compared with the general DTA. This evaluation should be further refined by comparing students who have completed the AS-T degree with those who have completed a Science/Engineering focused DTA. For this analysis, the science/engineering focused DTA is defined as a DTA containing at least 55 credits in science, math, or engineering.

This analysis will not contain a comparison of the students taking the DTA with students who enter baccalaureate institutions directly from high school. That analysis will take place beginning in April 2007 when the HECB and SBCTC work collaboratively to update the "Role of Transfer in the Class of 2003" report for the class of 2005-06. The planned study will include transcript-level analysis of student course taking patterns with regard to the role of transfer in the attainment of a bachelor's degree. The report will be completed prior to the 2008 legislative session.

The methodology used in this report for evaluation of the AS-T was developed by staff from the Council of Presidents, at the request of the Joint Access Oversight Group. It will be applied to other major related programs when these degrees have been offered long enough to produce meaningful data. Data for this analysis were compiled by the State Board for Community and Technical Colleges using a match with the National Clearinghouse.

Issues to be addressed to evaluate the effectiveness of the AS-T:

- Total number of students earning the AS-T since its inception
 - Number of AS-T awards as a proportion of total academic degrees awarded
 - Number of AS-T awards compared with the science/engineering focused DTA
- Total credits to attain AS-T compared with total credits taken to attain a science/engineering focused DTA
- Transfer rate of students taking the AS-T
 - Transfer rate of AS-T versus transfer rate of students earning the science/engineering DTA
- Total number of students earning the AS-T that also earned a bachelor's degree
 - Percentage of students who earn the degree who go on to earn a bachelor's degree
 - Type of bachelor's degree earned after having completed the AS-T

Total Number of Students Earning the AS-T

The Associate of Science –Transfer degree was first awarded in 2000 to 69 students. Since then, degree awards have increased dramatically to nearly 600; see figure 3.1. Though the AS-T accounts for only four percent of the total number of degrees awarded within the community and technical college system, it represents a rapidly growing portion of degrees awarded.

The AS-T degree was designed to provide a better pathway to transfer for science and engineering focused students. It was expected that the AS-T would surpass the DTA as the “degree of choice” for science/engineering students, and the six-year trend in degree awards indicates that this is the case. In 2000, the AS-T (both tracks) accounted for 10 percent of all science and engineering associate degrees awarded. In 2006, the AS-T represented 55 percent of science/engineering awards, surpassing the science/engineering DTA in total degrees awarded.

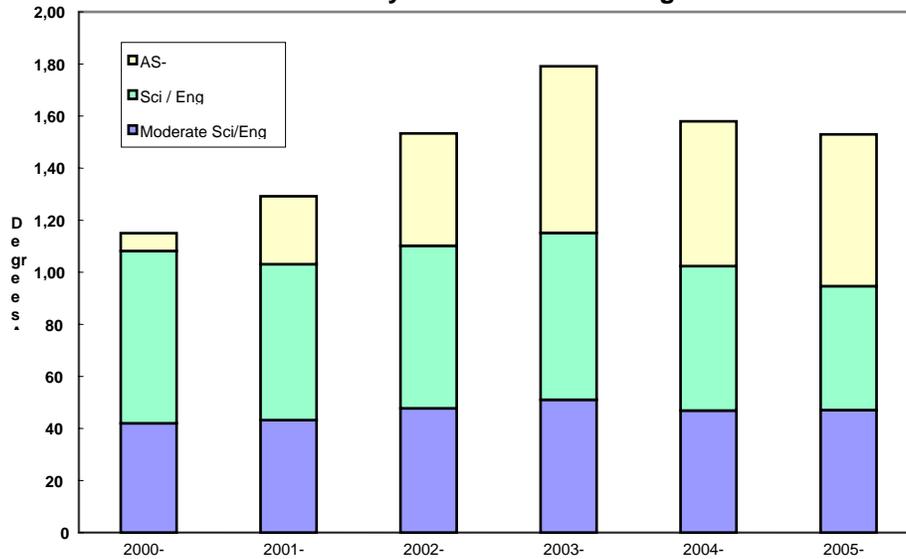
**Figure 3.1: Total Number of Science-Related Associate Degrees Awarded
Academic Years 2000 - 2006**

	Science/Eng Focused DTA	AS-T Track 1	AS-T Track 2	Total AS-T Degrees	Sci/Eng DTA & AS-T Combined	Total Academic Degrees	AS-T Awards as Percent of All Academic Degree	Percentage of All Science/Eng Degrees as part of all Academic Degrees
2000-01	661	26	43	69	730	11,413	0.6%	6.4%
2001-02	599	74	187	261	860	12,940	2.0%	6.6%
2002-03	625	132	299	431	1,056	13,822	3.1%	7.6%
2003-04	641	214	426	640	1,281	14,728	4.3%	8.7%
2004-05	555	204	352	556	1,111	13,906	4.0%	8.0%
2005-06	475	212	372	584	1,059	13594	4.3%	7.8%

Source: SBCTC Student Data Warehouse

The number of students taking a moderate load of science and math classes within a DTA, defined as those students taking between 45-55 credits of math, science, or engineering courses, has remained constant; see figure 3.2. In 2000, 420 students completed the “moderate” degree compared with 471 in 2006. It does not appear that the arrival of the AS-T has influenced the choices of those students. The greatest impact of the AS-T is seen for students who take 55 or more credits, as indicated above.

Figure 3.2: Number of Science/Engineering Degrees Awarded at Community and Technical Colleges



Total credits taken to attain AS-T

Another rationale for the creation of the AS-T is that it would reduce the total number of credits needed to earn an associate degree. The typical science-oriented transfer student takes between 20-45 credits above the minimum of 90 credits required for an associate degree. In many cases, students take additional classes to effectively compete for admission into math, science, and engineering majors at the baccalaureate institutions. For example, the new major-related program for engineering requires students to take up to 110 credits.

According to analysis completed by the SBCTC, the typical student who earns the science/engineering focused DTA took 127 credits on his/her way to the degree.¹³ Since the AS-T became available, the typical student earning the AS-T took 119 credits toward his/her degree. This represents an eight-credit difference between the two pathways; AS-T graduates were able to structure their courses so they took two classes *less* than their peers who took the science/engineering focused DTA.

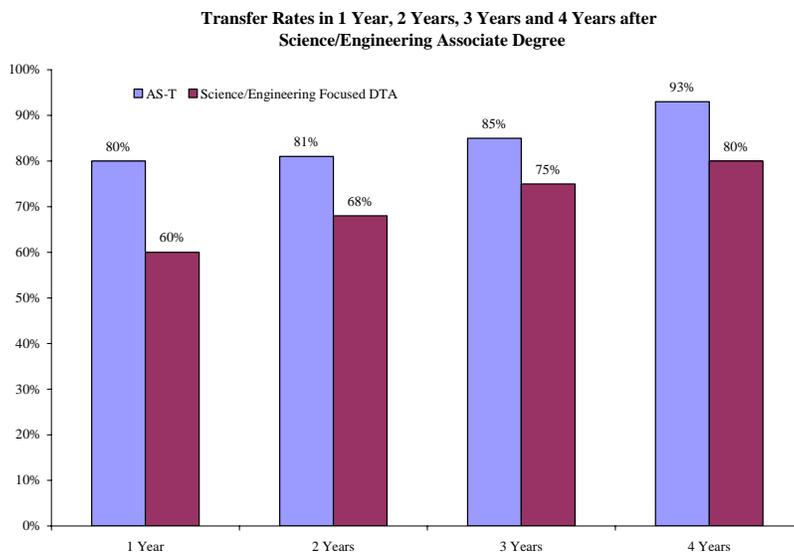
¹³ “Typical” in this analysis refers to a measure of the central tendency of credits applied toward the specific associate degree-using median, versus mean as the measure.

Transfer rate of students taking the AS-T

The majority of students who earn either the AS-T or the science/engineering focused DTA transfer to a baccalaureate institution with four years. According to a match of student data from the SBCTC’s database and the National Clearinghouse, earning either degree indicates a high probability of transfer to a four-year institution. A minimum of 80 percent of students earning either degree have transferred within four years of completion of their associate’s degree.

It is also of note that the transfer rate for AS-T graduates exceeds that of science/engineering focused DTA graduates. See figure 3.3. According to the same National Clearinghouse match, 80 percent of AS-T graduates transfer within one year of earning their degree. That transfer rate increases to 93 percent within four years of earning the degree.

Figure 3.3: Transfer Rates for Students Earning Science/Engineering Associate Degrees



Source: SBCTC Student Data Warehouse matched with student-level data from the National Clearinghouse

Total number of students earning the AS-T that also earned a bachelor’s degree

Students who earned the Associate of Science – Transfer were also more likely to have earned a bachelor’s degree than those who took the science/engineering DTA. Data from the National Clearinghouse match indicate that two years after the second cohort (CTC class of 2001-02) completed their AS-T, 46 percent had earned their bachelor’s degree. That percentage increased to 63 percent within three years of graduation from community college. When the same time period is examined for students earning the DTA, only 33 percent of science/engineering DTA graduates had earned their bachelor’s, increasing to 51 percent three years after graduation.

By 2005-06, 312 students who graduated with the AS-T had earned their bachelor's degree. Not surprisingly, most of these students completed four-year degrees in the sciences. The vast majority of AS-T graduates chose to major in some sort of engineering.

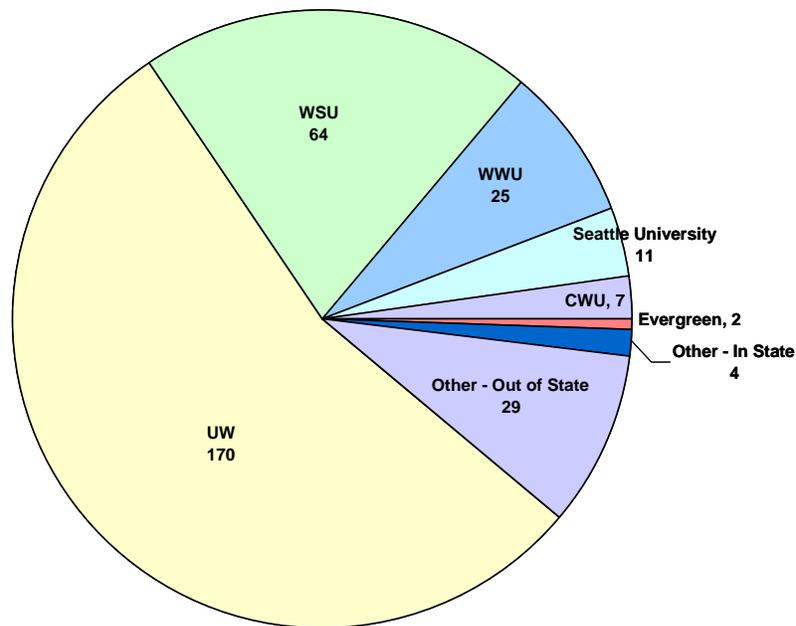
Figure 3.4: Baccalaureate Degrees Earned by Students Earning the AS-T

	Track 1	Track 2	Total	Percent of Total Degrees Earned
Engineering Miscellaneous	3	95	98	31%
Computer Engineering and Electrical Engineering	1	59	60	19%
Biology	40	1	41	13%
Computer Science	0	28	28	9%
Chemistry	17	0	17	5%
Math	0	13	13	4%
Natural Resources	9	4	13	4%
Chemistry/Biology E	6	6	12	4%
Biochemistry	8	1	9	3%
Earth and Space Science	5	1	6	2%
Liberal Arts	4	0	4	1%
Agriculture	2	0	2	1%
Business	0	2	2	0%
Physics	1	1	2	0%
Engineering Tech	0	2	2	0%
Medical Tech	1	0	1	0%
Nursing	1	0	1	0%
Science, general	1	0	1	0%
TOTALS	99	213	312	

Source: SBCTC Student Data Warehouse matched with student-level data from the National Clearinghouse
 NOTE: Counts from Eastern Washington University are not included in this chart, as EWU does not provide degree title to the National Clearinghouse nor degree level (undergraduate vs. graduate)

Given the concentration AS-T graduates who enter engineering majors at the baccalaureate level, it is not surprising that the vast majority of students earning the AS-T, earned degrees at the state's research institutions. Over half of the 312 AS-T graduates who earned a bachelor's degree, did so at the University of Washington, followed by Washington State University.

Figure 3.5: Institutions Awarding Bachelor's Degrees to AS-T Graduates



Source: SBCTC Student Data Warehouse matched with student-level data from the National Clearinghouse

Plans for New Transfer Associate Degrees

Matching Existing Associate Degrees to Majors

During the spring and summer of 2006, the Joint Access Oversight Group, a voluntary group representing academic leadership from the public two-year and four-year colleges and universities, asked the Intercollegiate Relations Commission (ICRC) to develop a matrix of bachelor's degrees for which existing associate degrees do not ensure a "good match" for students intent on transferring into a particular major. For this analysis, a poor match means that students who follow the requirements laid out in the associate degree would likely need to take additional classes after transferring, beyond the two years required to finish their degree.

This analysis identified several "poor matches" between associate degrees and baccalaureate majors including Architecture, Construction Management, Computer Science, Biology, Computer Science, and Environmental Science. Each major with a poor match to existing associate degrees will be examined to establish whether they meet the following criteria to begin work to develop a transfer associate degree:

- The major has high demand from students;
- A "gap" exists between transfer students and direct entry students in which transfer students are taking more to their degree than students who began their studies at a baccalaureate institution;
- Multiple institutions award the bachelor's degree in the field;

- A pattern of under-preparation exists which places transfer students at a competitive disadvantage with their direct entry counterparts when applying for competitive majors; and
- Sufficient lower division pre-requisites for the major are required. The threshold was discussed in terms of number of prerequisites and whether they are electives or in the distribution or core.

The HECB and JAOG will evaluate which of the majors listed above should be selected for development of a new transfer associate degree.

Elementary Education – Earth Science

In November 2006, JAOG and the HECB issued a charge to establish a workgroup to develop a transfer associate degree (otherwise known as a major related program - MRP) for Secondary Education – Earth Science. The work to complete the MRP began in 2004 when the community and technical colleges and public baccalaureate institutions undertook an effort to develop transfer pathways for students working toward secondary education credentials in mathematics and science. The working group recommended MRPs in six areas for secondary education: math, general science, physics, chemistry, biology, and earth science. Of the six proposed MRPs, earth science was the only area that was not approved by the Instruction Commission (IC) and the Interinstitutional Committee of Academic Officers (ICAO).¹⁴

Several factors have led the JAOG and the HECB to recommend Secondary Education – Earth Science for the development of an MRP:

1. There is a need to adjust the number of credits accepted in the degree from 90 to 100.
2. The quantitative skills and reasoning distribution area must be updated to indicate that pre-calculus or placement into calculus is required, thus increasing the total credits to 10-20.
3. At least one baccalaureate institution raised concerns about the level of math required in the AS-T, Track One pathway. Need to establish whether the AS-T, Track One is the appropriate degree on which to build the MRP.
4. Establish whether passing the West-B (Washington Educator's Skills Test – Basic), a skills test to establish basic proficiency in reading, mathematics, and writing skills, should be required as part of the associate degree. Previous discussions during the development of the Elementary Education MRP established that colleges and universities do not consider the test a critical component of the associate's degree.
5. The ICW schools were not involved during the initial discussions. The group must therefore create an agreement which includes all baccalaureate institutions in the state.

¹⁴ The IC is made up of the Vice Presidents of Instructions at the public community and technical colleges. The ICAO membership includes the Provosts at the state's public baccalaureate institutions.

The workgroup will be charged with reviewing, revising and clarifying the existing draft agreement, as appropriate, and working toward consistency in the degree requirements. The work is expected to be complete by January 2008.

Upper-Division Baccalaureate Program Capacity

Over the last two decades, the state has initiated a number of strategies to provide students the opportunity to move smoothly from community and technical colleges to baccalaureate institutions. This report describes a number of specific strategies to ensure students have the information they need to plan their studies, and to ensure that students who begin their studies at the community or technical college are able to access an appropriate curriculum so that they will be prepared to effectively enter and complete upper-division coursework at one of the state's baccalaureate institutions.

As strategies such as major related programs and web-based advising are implemented and gain success, it is important that sufficient space is available at the public baccalaureate institutions. In recent years, the state has faced significant constraints in providing access to qualified transfer applicants. While in general the pressure seems to have waned for the moment, some programs remain impacted. Furthermore, it is important to recognize that the ongoing work to encourage and enhance transfer and the increasing demand for higher levels of education generally, could quickly place us back into a crisis situation with regard to transfer capacity.

In 2004, Substitute House Bill 2382 became law. The statute stipulates that "The Higher Education Coordinating Board must conduct a gap analysis of upper-division capacity in the public higher education system to accommodate transfer students. The analysis must address the total number of enrollment slots, specific academic majors, and geographic location of demand and supply of upper division capacity."

The board is required to make recommendations on how to expand upper-division capacity in various locations across the state. The board is to examine the full range of options, including costs, to close the gap between demand and supply of upper division capacity. Options include expansion of main campuses, system campuses (formerly known as branch), off-campus education centers, distance learning, and other strategies.

This report draws on data from the 2005 State and Regional Needs Assessment, the State Mobility Report, Office of Financial Management (OFM), and State Board for Community and Technical Colleges data, and results of a survey of the baccalaureate institutions on transfer admission policies.

Statewide Enrollments

One of the key complexities in understanding the changes in enrollment over the past several years is the continuing impact of significant "over-enrollments" in the early part of this decade. A significant bump in enrollments at both the two- and four-year colleges from 2001 – 2004, placed

pressure on the system to accommodate students, in many cases well beyond funded capacity. While the two-year enrollments dropped in the 2004-05 academic year, the numbers of transfer applications did not slow until the next academic year. Thus far, the four-year colleges have been able to maintain continued enrollment growth.

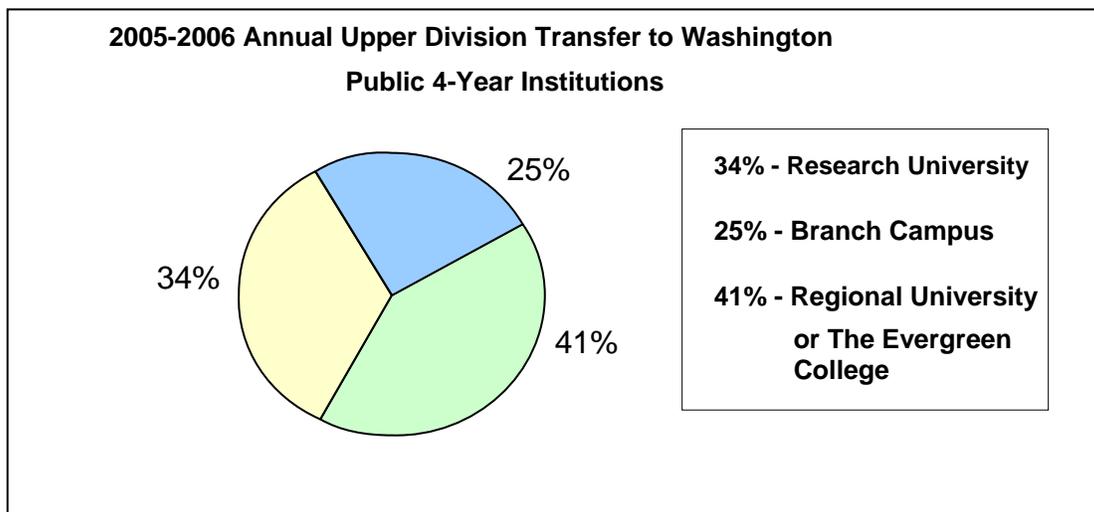
Through this period of pressure for transfer capacity, we have seen continued growth in the number of students who transfer annually, including growth in the number of transfers to the public baccalaureate institutions. The transfer, however, rate has declined over recent years, and the public baccalaureates are enrolling a smaller proportion of transfer students.

Current Upper-Division Capacity

Estimates of upper division capacity are complicated by a number of factors. Institutions must plan for their continuing students as well as the addition of transfer students from all sources. The vast majority of transfers in Washington come from the community and technical colleges. In fall 2005, just over 108,000 students (headcount) were enrolled in the state’s public baccalaureate institutions. Of those, about 49,000 students (45 percent of total enrollments) were at the junior and senior level and thus constitute the total number of “upper division” enrollments.

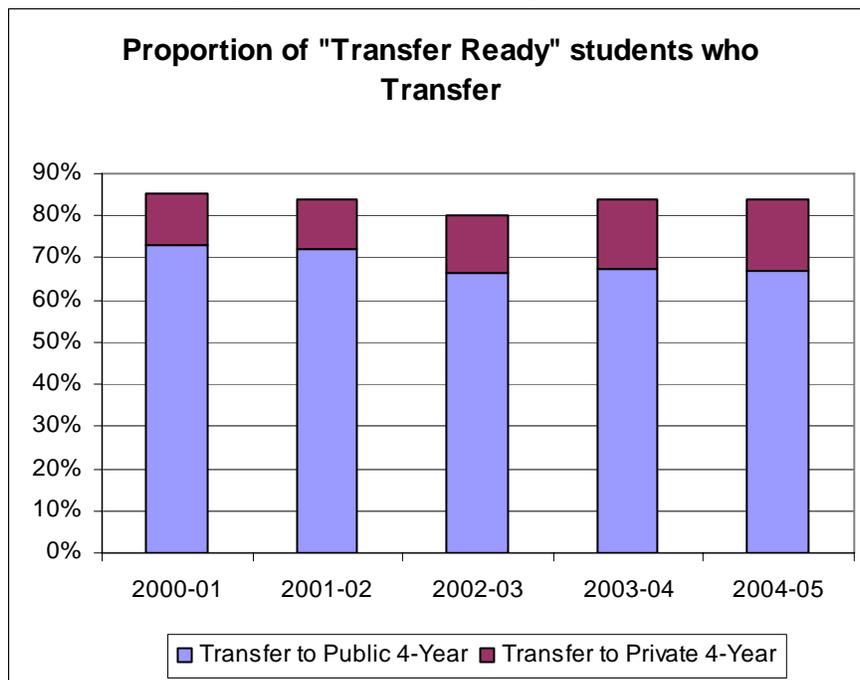
Transfer admission includes a somewhat broader group than would be included in an examination of upper-division enrollments. In general, a transfer student is any student who has completed at least 40 quarter credits (27 semester credits) of study prior to admission. Transfer students come from all sectors of higher education both in- and out of state. Focusing just on those students transferring from Washington community and technical colleges, we find that a high proportion of “transfer ready” students (those students with at least 40 credits and specific general education requirements) do transfer. Figure 4.1 examines the subset of transfer students who have completed at least 90 credits transfer as juniors or seniors to illustrate where these students enroll.

Figure 4.1 Transfer Destinations



The proportion of transfer-ready students who transferred dipped in 2002-03¹⁵ (Figure 4.2). This corresponds to a period of high enrollment at the community and technical colleges that created pressure on the transfer system. In response to ongoing pressure, the admissions process for transfer students became more competitive, most notably at the University of Washington. As a result, some students were denied access to upper-division programs. While the portion of students who transfer has rebounded from its 2002-2003 low, this has been due to an increasing number of students entering private higher education institutions. The portion of students transferring to public institutions remained flat between 2002-2003 and 2004-2005, initial data for 2005-2006 seems to indicate some recovery for the public institutions¹⁶.

Figure 4.2 “Transfer Ready” Students



In 1992, the public baccalaureate institutions established proportionality goals to provide assurance that students from the community and technical colleges wishing to transfer would be accommodated. The HECB continues to monitor the proportionality agreements established by the institutions and compare actual transfer numbers with the goals established in the 1992 agreement. Goals are specific to each institution. The ratio of transfer students to total admits ranges from 27 to 32 percent.

Between 2001 and 2005, all of the public baccalaureate institutions exceeded their proportionality goals – meaning that transfer students made up a greater portion of their entering class. In recent years transfer students have made up a substantially larger portion of the class than the

¹⁵ The Analysis in Figure 4.2 is the total number of transfers divided by the “Transfer Ready” population. The total number of transfers would include some students who would not meet the definition of “transfer ready”.

¹⁶ Private enrollments were not available at the time of this report so the data for 2005-2006 are not included in the figure.

proportionality goals of the regional universities and the Evergreen State College. In 2004-05, transfer students made up 44 percent of the entering class at Central Washington University, including enrollments at their centers. At The Evergreen State College, 49 percent of the entering class was transfer students from the community and technical college system.

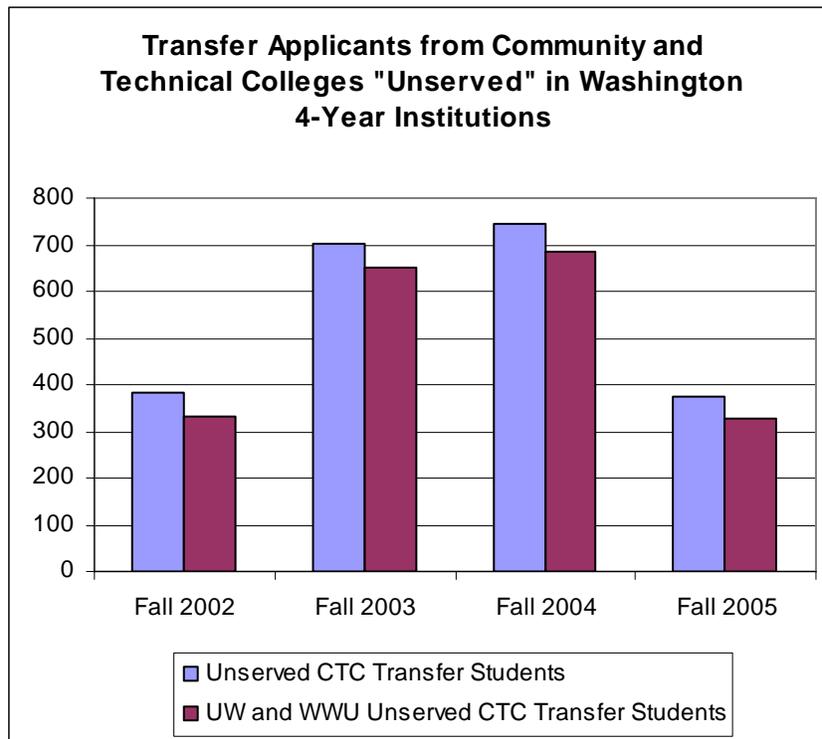
Table 4.1

Institution	Goal	2001-02	2002-03	2003-04	2004-05
CWU	30%	32%	44%	44%	42%
EWU	29%	34%	29%	34%	31%
TESC	29%	45%	45%	45%	49%
WWU	32%	33%	35%	35%	34%
UW Seattle	30%	31%	31%	32%	36%
WSU Pullman	27%	29%	33%	30%	29%

Even though transfer students represented a larger share of the entering class, some transfer students were denied access to baccalaureate programs. The OFM Applications Match Study found that over the last four years, significant numbers of qualified transfer applicants were not offered admission to an institution within Washington.

As Figure 4.3 demonstrates, transfer pressure was greatest during 2003 and 2004, with more than 700 students turned away each year. Transfer applicants represented over 40 percent of the total unserved undergraduate applicants in 2003 and 2004. Nearly all community and technical college transfer students who were denied admission were applicants to either UW or WWU. More than 500 transfer applicants to the University of Washington were turned away in fall 2003 and fall 2004. In fall 2005, the University of Washington turned away 142 community college transfer applicants while Western Washington University turned away 187 transfer applicants. Together these represent nearly 88 percent of the transfer applicants turned away in fall 2005. The Application Match Study is consistent with responses to the HECB survey of institutions on transfer admission policy. Of the respondents, only UW and WWU indicated that they were unable to accommodate all qualified transfer applicants who met a minimum GPA requirement.

4.3 "Unserved" Transfer Applicants



Regional Differences in Upper Division Participation

The Applications Match data demonstrates that the greatest pressure on enrollment is in the greater Puget Sound region. In the HECB’s *2005 State and Regional Needs Assessment*, three regions were identified as high-growth areas in which significant increases in access would be required to meet additional demand due to population growth. These three regions account for 57 percent of the total growth required to meet demand at the upper division level due to population growth alone. To meet HECB degree goals and to provide for increased participation in the baccalaureate sector even more investments would be needed.

Two of these regions, King County and the Snohomish, Island, Skagit County region (SIS), are served in large part by the University of Washington and Western Washington University. Over 72 percent of students from King County and 68 percent of students from SIS enrolling in a public baccalaureate institution attend either UW or WWU. Enrollment demand in the third region, Southwest Washington, is driven in large part by a need for growth at the lower division, but significant growth is required at the upper division as well. About 25 percent of students from Southwest Washington attending a baccalaureate institution are enrolled at WSU Vancouver.

State and Regional Needs Assessment			
Upper Division Enrollment Growth to Keep Pace with Population Growth			
	2003-04	2010-11	Change
Statewide Upper Division FTE (est.)	37,628	42,821	5,193
King County	12,664	14,360	1,697
Snohomish, Island, Skagit (SIS)	4,567	5,374	807
Snohomish (included in SIS estimate)	3,590	4,276	685
Southwest Washington	2,230	2,684	454
Pacific Mountain	2,795	3,242	447
NW Washington (partially included in SIS)	2,540	2,933	392
Pierce	3,776	4,164	389
Spokane	3,805	4,140	334
Olympic	1,766	2,025	259
North Central Washington	1,605	1,842	237
Benton Franklin	1,436	1,618	182
Eastern Washington	1,421	1,538	117

Programmatic Capacity Issues

A key question in the examination of transfer is the degree to which access is limited by competitive majors rather than (or in addition to) capacity constraints by region or sector. An examination of the degree of competitiveness for entry into specific majors reveals that several programs are impacted throughout the state, including Business and Nursing programs. However, it is also important to note that in many cases institutions and/or programs serve statewide demand.

Responses to a HECB survey of the institutions reveal that while there is some overlap in competitive programs across institutions, the short list of the most competitive programs is somewhat different from one institution to the next. For example, when asked to indicate which programs were “most impacted”, WWU listed Industrial Design and Special Education, CWU included Construction Management and Law and Justice, WSU listed Pharmacy and Communications, and UW included Computer Science and Engineering.

While The Evergreen State College does not offer majors, they do track student interest on their admission application and provide students with an opportunity to design a curriculum that often will provide fairly specific preparation for certain types of careers and/or graduate study. Students at TESC most often listed Business, Education, Arts, Psychology, Sociology, or Allied Health at the time of application.

The survey also asked about the second choice major for those who were not accepted to their first choice. In most cases, the second choice was in the same broad area or college; however, in some cases, institutions reported students who were denied access to their major of choice would seek the same program elsewhere, even within the same system. For example, more students enter the University of Washington, Bothell from the Seattle Campus than from any other institution.

Findings

Transfer associate degrees provide a highly specified pathway to an associate degree and transfer into a baccalaureate institution. Analysis of the Associate of Science – Transfer indicates that students are not only taking the degree, but that doing so increases the likelihood that they will transfer and go on to earn a bachelor’s degree. That said, the total number of students taking the AS-T represents only 4 percent of all degrees awarded. Thus, the degree to which the AS-T can improve the overall transfer rate and total number of students who successfully transfer is limited.

Preliminary data from analysis of the AS-T indicates that transfer associate degrees do improve outcomes for students. Thus, work to create more transfer associate degrees, in areas for which a good match between lower-division preparation and upper-division majors doesn’t exist, will continue for 2007.

Enrollments at the upper division are not easily segregated from enrollments in general. Proportionality agreements are a useful tool to ensure a minimum level of access for transfer students; however, flexibility is important in the admission process. As we saw in recent years, institutions admitted many more transfer applicants than required under the proportionality agreements during years of high demand for transfer admission. Enrollment pressure is not limited to transfer enrollment. In several regions, population growth is putting pressure on enrollment at all levels. Therefore, enrollment funding at all levels would need to increase, especially in regions experiencing significant pressure on enrollments due to population growth. To address access for transfer students, especially in light of policies to encourage more students to transfer, a review of proportionality agreements would be a timely and important step to ensure that qualified transfer applicants are afforded an opportunity to enroll in upper-division coursework.

In addition, continued support for “high demand” enrollment funding, which tends to support the upper division portion of specific majors, is an important strategy to provide access for transfer students. The high demand program has helped increase enrollments in health care, education, and technology-related fields. It is important that future allocations of high-demand funding are made with close attention to student demand for majors as well as employer demand for graduates. In addition, alignment of high demand programs across the two- and four-year sectors could improve continuity of student progress and ensure that capacity would be available for students to continue on in their studies. Programs that articulate well within the Direct Transfer Agreement or a Major Related Program should receive priority in consideration for high-demand funding.

Enrollment pressure, due to population growth, as well as increased transfer efficiency impacts certain regions of the state more than others. As a result, competition for admission into certain schools (especially in the Puget Sound), is more fierce than in other areas of the state. Thus, students must be able to explore transfer options at multiple schools across the state to ensure that they are able to continue their studies.

Recommendations

Continue to develop new transfer associate degrees: The HECB, in collaboration with COP, SBCTC, and JAOG, as well as the public and private institutions in the state, should convene workgroups to develop new transfer associate degrees. The degrees should work toward making admission requirements as similar as possible across baccalaureate institutions. Work to create new pathways should continue until no new degrees are necessary, or data collected from existing transfer associate degrees indicates that the degrees are not effective in increasing transfer efficiency.

Re-examine existing proportionality agreements: The HECB, in collaboration with institutions, COP, and SBCTC should re-examine the existing proportionality agreements to ensure they adequately reflect the goals for transfer within the state's system of higher education, and provide community and technical college students' opportunities to continue their studies and progress toward a bachelor's degree. In addition, HECB will establish a regular schedule for future review of proportionality goals.

Provide for general enrollment growth: Based upon current enrollments, roughly 45 percent of public baccalaureate enrollments would serve junior and senior level students. The HECB budget recommendations for 2007-2009, call for the addition of up to 6,789 undergraduate FTE at a cost of \$51,219,000. This growth would make substantial progress in meeting enrollment needs of transfer students as well as direct entry students. Priority should be given to institutions serving the greater Puget Sound region. Enrollment capacity should be expanded through multiple approaches including growth of the UW Seattle and Western Washington University. In addition, enrollments should be expanded at the UW campuses in Bothell and Tacoma and WSU Vancouver. Finally, growth at higher education centers located in the central and north Puget Sound region may be an effective strategy to respond to student demand for specific majors.

Continued support for High Demand Enrollments: The HECB has recommended 926 FTE in high-demand enrollments at the public baccalaureate institutions and an additional 2,000 FTE at the community and technical colleges. Combined cost for these requests is \$46,732,000. Appropriately distributing this funding could significantly reduce the programmatic capacity constraints that currently limit access to specific majors. In addition, coordination of the awards to ensure continuity and access for students preparing to transfer in a specific program area could improve overall transfer access and efficiency.

Transfer Advising System: A key element in providing access for students at the upper division is timely and accurate information about transfer options. Given that some regions in the state face greater enrollment pressure, which increases the competition for admission into certain majors, students must be able to explore transfer to several institutions at the same time. A web-based advising system would provide students the opportunity to explore multiple majors at more than one institution, thus improving their ability efficiently transfer credits and continue making progress toward their degree goal. Cost to develop and implement the board's web-based advising system proposal is \$3,792,000. The board is currently working with the SBCTC to determine how a proposal for a CTC advising system anticipated to cost \$3,640,000 could be made to work with the board's proposal.

Appendix A**Bachelor of Applied Science Task Force**

Presidents

- David Borofsky, Bates Technical College
- Ken Minnaert, South Puget Sound Community College

Instruction

- Laurel Williamson, Lower Columbia College
- Mary Hale, Edmonds Community College

Student Services

- Terri McKenzie, Spokane Community College
- Tomas Ybarra, Yakima Valley Community College

Faculty

- Ruth Windhover, Washington Education Association
- Michael Shurgot, American Federation of Teachers, Washington

Business

- Carol Werner, Renton Technical College
- Laura Saunders, Highline Community College

Agencies

- Holly Zanville/Randy Spaulding, Higher Education Coordinating Board
- Ron Baker, Executive Vice President, NW Commission on Colleges and Universities
- Bryan Wilson, Associate Director, Workforce Training and Education Coordinating Board

State Board staff

- Jan Yoshiwara
- Loretta Seppanen
- Mary Alice Grobins
- Jim Crabbe

Appendix B**Summary Information on Baccalaureate of Applied Science Degrees****Bachelor of Science in Nursing – Olympic College**

The BSN program responds to a need for nurses trained at advanced levels in the local health care industry and offers students an opportunity to improve their skills and advance in their careers. With the implementation of the BSN program, Olympic College will be the only public college or university offering the BSN on the Olympic Peninsula. The program will be developed through a unique collaborative arrangement with the University of Washington Tacoma. Under the agreement, UWT will contract with Olympic College to offer the first year of the program. Students then will be offered the opportunity to continue their study at UWT in the second year of the program or continue at Olympic College to complete the degree requirements. In the first year, the program will accommodate 20 FTE (40 headcount) students. The program will grow to approximately 50 FTE (95 headcount) students by the fourth year. The department estimates the program could be as large as 34 FTE students in the first year and 62 FTE students by the fourth year.

Bachelor of Applied Science in Hospitality Management – South Seattle Community College

The BAS in Hospitality Management will prepare students for management, marketing, and human resources positions in the hospitality industry, including tourism, hotel operation, restaurant management, catering, cruise ships, casino operations, and travel. The program will be open to students who have completed the equivalent of an Associate of Applied Science-Transfer (AAS-T) degree in culinary arts or business. It will be open to 22 FTE students (35 headcount students), with many students attending part-time. Program planners anticipate 22 graduates at the end of the second year and in each year thereafter, contingent upon authorization and funding. The Hospitality Management program will be one of three similar programs in the state.

Bachelor of Science in Applied Management – Peninsula College

The Bachelor of Applied Science in Applied Management will provide a baccalaureate opportunity for graduates from a diverse range of associate-level programs. Students who meet prerequisite coursework requirements and have completed an Associate of Applied Science – Transfer (AAS-T), Associate of Applied Science (AAS), Associate of Arts (AA), or Associate of Science (AS), will be eligible for admission to the BAS program. AA and AS graduates will also be required to complete two years of work experience. Graduates will be prepared for positions in a range of management and supervisory occupations in the region. In the first year of instruction, the program will accommodate 20 FTE (35 headcount) students. The program will grow to approximately 40 FTE (70 headcount) students by the third year.

Bachelor of Applied Science in Radiation and Imaging Sciences – Bellevue Community College

The Radiation and Imaging Sciences program was developed in response to increasing complexity of the field, changing employer preferences, and a need for qualified managers. The BAS in Radiation and Imaging Sciences provides a baccalaureate level opportunity for students who have either (1) completed associate level training in radiation technology, diagnostic ultrasound, or radiation therapy, or (2) earned a certificate in nuclear medicine. Graduates will be prepared for management positions or certification in higher level diagnostic techniques. In the first year, the program will accommodate 20 FTE (40 headcount) students. The program will grow to approximately 50 FTE (95 headcount) students by the fourth year. The department estimates the program could be as large as 34 FTE students in the first year and could reasonably be expected to grow to 62 FTE students by the fourth year. With implementation of the RIS program, BCC will be the only institution in Washington to provide students who received initial training at the associate level, a pathway to the baccalaureate degree within the discipline.

Appendix C

Engineering Technology Major Related Program

Engineering Technology Work Group Participants

Community and Technical Colleges

Jim Bellotty, Spokane Falls Community College

Jill Davishahl, Edmonds Community College

Jim Hamm, Big Bend Community College

Chris Byrne, Cascadia Community College

Bob Maplestone, Highline Community College

John McKee, Clark College

Kim Manderbach, South Seattle Community College

Baccalaureate Institutions

Bill Bender, Central Washington University

Donald Richter, Eastern Washington University

Steve Dillman, Western Washington University

Bob Olson, Washington State University

Appendix D

Business Major Related Program

Business DTA/MRP Workgroup Participants

Community and Technical Colleges

Margaret Turcott, Bellevue
Janice Grayson, Bellevue
Preston Wilks, Big Bend
Deborah Meadows, Columbia Basin
Pat Sisneros, Everett
Frank Primiani, Green River
Allison Warner, Green River
Reagan Copeland, Highline
Tom Phelps, Pierce-Fort Steilacoom
Alice Melling, North Seattle
Mike Baran, South Puget Sound
Charlene Barker, Spokane Falls
Michael Choman, Wenatchee Valley

Baccalaureate Institutions

Jane Hession, Gonzaga University
Ruth Adams, Seattle Pacific University
Katie Grothe, Seattle University
Kris Plaehn & Deanna Steiner, PLU
Mary Conley Law, Saint Martin's University
Carolyn Denney, Walla Walla College
Karen Morley, Eastern Washington University
John Lasik, Central Washington University
Chris Paxson, Washington State University
Vikki Haag Day, University of Washington
Brian Burton, Western Washington University

Staff Support

Loretta Sepannen, SBCTC
Cindy Morana, COP
Vi Boyer, ICW
Andi Smith, HECB

Errata

The following corrections were made to the document following approval by the HECB:

- ◆ **Revision to Figure 4.2** to reflect correction in data table. Associated text was revised to reflect a flat trend since 2002-2003, rather than continued decline in the proportion of students transferring to the public baccalaureate institutions.
- ◆ **Table 4.1 updated** to include 2004-2005 data for CWU and to round figures for WWU and UW Seattle for the same year.

Gene J. Colin
Chair



James E. Sulton, Jr., Ph.D.
Executive Director

STATE OF WASHINGTON
HIGHER EDUCATION COORDINATING BOARD

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RESOLUTION NO. 06-40

WHEREAS, The Legislature enacted a statute in 2004 (RCW28B.76.240) that directed the Higher Education Coordinating Board to adopt statewide transfer and articulation policies that ensure efficient transfer of credits and courses across public two- and four-year institutions of higher education; and

WHEREAS, The Legislature also enacted a statute in 2004 (RCW28B.76.250) that directed the Higher Education Coordinating Board to convene workgroups to develop transfer associate degrees that will satisfy lower-division requirements at public four-year institutions of higher education for specific academic majors; and

WHEREAS, The Higher Education Coordinating Board was directed to report to the education committees of the legislature in December and January regarding the status of transfer and articulation policy, including transfer associate degrees and upper division capacity; and

WHEREAS, The workgroup participants and staff of the Higher Education Coordinating Board have fulfilled the terms of the legislation by developing transfer associate degrees, helping to ensure efficient transfer of courses, conducted an analysis of upper division capacity at the baccalaureate level, as well as submitting a progress report for the board's approval and submission to the legislature;

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board adopts the background, findings, and recommendation of the Progress Report on Transfer and Articulation as presented to the board on December 14, 2006.

Adopted:

December 14, 2006

Attest:

Gene Colin, Chairman

Jesus Hernandez, Secretary

