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College-to-University Transfer Arrangements and Undergraduate Education: Ontario in a National and International Context Research Notes

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Alberta

SYSTEM CONTEXT

Program Description

Alberta has two formal tiers of universities (six universities in all); two major institutes of technology; 12 community colleges; several smaller, not-for-profit, private but publicly supported universities; a significant arts and culture institution; and multiple formal pathways through the system.

Alberta has a well-developed transfer system supervised by the Alberta Council on Admissions and Transfer (ACAT), which maintains an inventory of transfer arrangements on a highly accessible website. Formally, ACAT can rule that a transfer arrangement must be put in place. In practice, while it may exhort, it does not usually have to force matters because transfer arrangements are such a well-understood feature of the Alberta system. Active transfer programs are operated at ten comprehensive community institutions. Transfer arrangements with other provinces are common, and B.C. institutions can and do belong as formal members of the Alberta transfer system.

The Alberta Transfer System is built upon collegial, collaborative relationships between post-secondary institutions. Articulation agreements are developed between sending and receiving institutions with priority given to existing student demand.

Articulation committees are viewed as integral mechanisms in enhancing the collaborative environment in Alberta. These committees see program heads, faculty members and Alberta Education representatives, in a given area of study, come together to exchange information and discuss issues related to admissions and transfer. To further expand the number of articulation committees ACAT established an Articulation Sub-committee to develop a new articulation committee model that would support the expansion of articulation committees and implement pilots of this new committee model. In September 2010, pilot articulation committees following the new model were launched in English and Aboriginal Education.

Alberta's transfer system is supported by an active quality assurance process that involves all universities. The Postsecondary Learning Act requires the minister to approve any new or expanded degree program at any new institution. It also authorizes the Campus Alberta Quality Council to review any degree proposal. CAQC has argued that the participation of all universities in this quality process has created a "quality culture" which facilitates transfer (Patterson, 2010).

Policy Purposes of Transfer

The publicly-stated purpose of Alberta's transfer system is to be "responsive to the needs of learners in the matters of admissions, transfer credit, and recognition of prior learning" (ACAT, 2011: 3). This purpose can be seen in ACAT's business goals, which include:

- Encouraging postsecondary institutions to clearly communicate their admission practices and policies
- Facilitating agreements among postsecondary institutions to acknowledge and recognize appropriate previous learning experience
- Ensuring that learners and other stakeholders have timely and accurate information about admission requirements, course and program transfer opportunities, and transfer policies

Alberta does not have an explicit policy of using some institutions as feeders for others. Nevertheless, ACAT members believe that the system allows some students who may not have been able to enter university either because of academic or social reasons to build success in a smaller and local college setting and then later transfer to another institution which may be larger and in an urban centre. It also facilitates the transfer of students from aboriginal colleges to university programs. Members also believe that it is very difficult for a

college to operate without the transfer system, because much of the Alberta college system is geared to funnel into the university system (ACAT, 2007).

Alberta's transfer policy operates in the context of the government's Roles and Mandates Framework, introduced in 2007. All of the following institutions are members of ACAT.

Category	Institutions
Comprehensive Academic and Research	Athabasca University, University of Alberta, University of Calgary, University of Lethbridge
Baccalaureate and Applied Studies	Grant MacEwan, Mount Royal
Comprehensive Community	Bow Valley, Grande Prairie, Keyano, Lakeland, Lethbridge, Medicine Hat, NorQuest, Northern Lakes, Olds, Portage, Red Deer
Polytechnical	NAIT, SAIT
Independent Academic	Ambrose, Canadian, Concordia, St. Mary's, Taylor, King's
Specialized Arts and Culture	ACAD, The Banff Centre
First Nations	Blue Quills, Maskwachees, Red Crow, Yellowhead
Other Private	DeVry, Prairie Bible, Rocky Mountain

Student Perspective

The large majority (91%) of transfer graduates were satisfied with the transfer credits received. Satisfaction was higher among those who received full credit (95%) compared to those who received partial credit (81%).

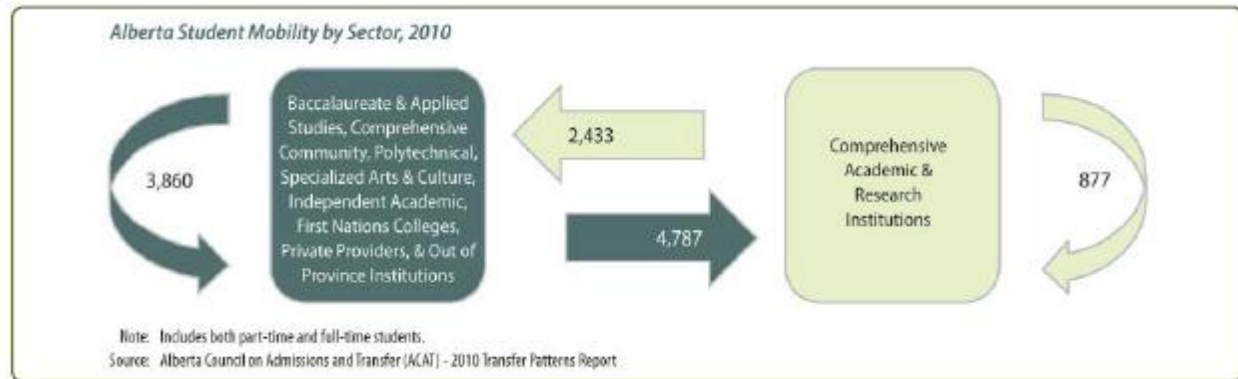
Almost three-quarters of transfer graduates received full credit from their institution, while the remainder received partial credit. For the majority (91%), this was exactly as they had expected.

The most common reason given for not receiving the expected credit was that all courses were transferable but some were not needed for graduation (13%). The requirements were not always clear to graduates: 8 per cent indicated misunderstanding the requirements or finding them unclear. An additional one in ten graduates said they received unclear advice either from the sending institution (5%), the receiving institution (4%), or from other sources (1%) (Harris Decima, 2010: 16-17).

Number of Transfers

In September 2010, 12,328 students who had previously attended another Alberta postsecondary institution were admitted to Alberta institutions, and another 6985 students transferred into the Alberta system from outside higher education institutions (ACAT, 2010).

In 2010, the four comprehensive universities accepted 4787 transfers from other types of institutions. There was also a flow of 2433 students in the opposite direction.



SOURCE: Alberta Advanced Education and Technology, 2011: 45.

The comprehensive community colleges generated 1709 transfers to the research universities and 544 to the baccalaureate universities. In addition, 2216 students from Mount Royal and Grant MacEwan moved to comprehensive universities (ACAT, 2010: 11-12).

Student Transfer Patterns - Alberta, 2010

		TRANSFERRING FROM								
		Comprehensive Academic & Research	Baccalaureate & Applied Studies	Comprehensive Community	Polytechnical	Independent Academic	Specialized Arts & Culture	Aboriginal Colleges	Other Private Institutions	TOTAL
TRANSFERRING TO	Comprehensive Academic & Research	877 (7.3%)	2,216 (18.5%)	1,709 (14.3%)	653 (5.5%)	154 (1.3%)	26 (0.2%)	13 (0.1%)	16 (0.1%)	5,728 (47.9%)
	Baccalaureate & Applied Studies	1,159 (9.7%)	86 (0.7%)	544 (4.5%)	462 (3.9%)	134 (1.1%)	11 (0.1%)	—	9 (0.1%)	2,409 (20.1%)
	Comprehensive Community	444 (3.7%)	345 (2.9%)	552 (4.6%)	261 (2.2%)	30 (0.3%)	6 (0.1%)	29 (0.2%)	10 (0.1%)	1,677 (14.0%)
	Polytechnical	708 (5.9%)	635 (5.3%)	360 (3.0%)	76 (0.6%)	54 (0.5%)	24 (0.2%)	—	26 (0.2%)	1,883 (15.7%)
	Independent Academic	97 (0.8%)	60 (0.5%)	17 (0.1%)	17 (0.1%)	9 (0.1%)	—	—	—	203 (1.7%)
	Specialized Arts & Culture	22 (0.2%)	33 (0.3%)	23 (0.2%)	14 (0.1%)	—	—	—	—	95 (0.8%)
	Aboriginal Colleges	—	—	10 (0.1%)	—	—	—	—	—	16 (0.1%)
	Private Institutions	—	—	5 (0.0%)	—	—	—	—	—	10 (0.1%)
	TOTAL	3,310 (27.7%)	3,377 (28.2%)	3,220 (26.9%)	1,533 (12.8%)	384 (3.2%)	67 (0.6%)	49 (0.4%)		11,957 (100%)

Notes: Values less than five have been suppressed and indicated by (—).
Percentages represent the proportion of total transfer and may not total due to rounding.
Aboriginal Colleges include Blue Quills First Nations College and Yellowhead Tribal College.
Other private institutions include Rocky Mountain College and Prairie Bible College.

Source: Alberta Advanced Education and Technology - Alberta Council on Admissions and Transfer (ACAT)

SOURCE: Alberta CAPRI, 46.

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

Alberta does not directly track these data. As a proxy, the number of students transferring from comprehensive colleges to universities in 2010 (2253) equals 14 per cent of the number of baccalaureate degrees awarded in that year (16,183) (Alberta Advanced Education and Technology, 2011: 29).

Number of Transfer-eligible College Students Relative to Total College Enrolments

Alberta's approach to transfer does not define a specific class of students as being "transfer-eligible." As a proxy, the number of students transferring from comprehensive colleges to universities in 2010 (2253) equals 7.6 per cent of total FTE college enrolment in 2009-2010 (29,781 FTEs). It also equals 30.5 per cent of the credentials awarded by comprehensive colleges in 2009-2010 (7,365 credentials); this latter figure does not include students who complete a university transfer program.

Number of College Students Expressing an Intent to Transfer, Relative to Total College Enrolments

Data not available.

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

Data from the University of Lethbridge show that students transferring from other Alberta postsecondary institutions (of any type) have a seven-year graduation rate that is modestly higher than that for direct-entry students.

Graduation Rate	Entry Semester				
	Fall 1997	Fall 1998	Fall 1999	Fall 2000	Fall 2001
Full-time, first-year undergraduates	482	538	633	644	618
Number of students above who graduated 7 years after entry	346	356	436	458	455
Graduation rate	71.8%	66.2%	68.9%	71.1%	73.6%
Full-time, New Transfer undergraduates	688	780	945	1057	991
Number of students above who graduated 7 years after entry	525	594	728	827	762
Graduation rate	76.3%	76.2%	77.0%	78.2%	76.9%
Full-time, new undergraduate students	1170	1318	1578	1701	1609
Number of students above who graduated 7 years after entry	871	950	1164	1285	1217
Graduation Rate	74.4%	72.1%	73.8%	75.5%	75.6%

SOURCE: University of Lethbridge <http://www.uleth.ca/analysis/portrait/what-the-media-tells-us>

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

Data from the University of Calgary show that students transferring from Alberta colleges and institutes of technology have GPAs similar to those for direct-entry students. Of the 1019 new transfer students who transferred from colleges:

- 199 (20%) entered first year. 68 per cent of these students achieved a GPA equal to or greater than 2.5 compared to 66 per cent of first year University of Calgary students.
- 303 (30%) entered second year. 65 per cent of these students achieved a GPA equal to or greater than 2.5 compared to 77 per cent of second year University of Calgary students.
- 514 (50%) entered third year. 82 per cent of these students achieved a GPA equal to or greater than 2.5 compared to 84 per cent of third year University of Calgary students.
- 1016 (99.7%) entered years 1 to 3. 74 per cent of these students achieved a GPA equal to or greater than 2.5 compared to 76 per cent of University of Calgary students in years 1 to 3.

3.9 per cent of new transfer entrants in 2005 were required to withdraw the following year due to low marks.

78 per cent of the new transfer students from colleges had a high school average of 70 per cent or higher. Most of these students would have been eligible for direct entry to the University of Calgary (although not necessarily to their program of choice). The lowest entry cut-off for admission to some programs at University of Calgary was 72 per cent (University of Calgary, 2006).

These data for the University of Calgary include transfers from Mount Royal and Grant MacEwan, which at the time of the survey were community colleges.

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

Alberta reports the employment earnings of transfer students, but does not break this down by type of institution. A transfer graduate may have started at any type of institution and transferred to any other institution.

Transfer graduates were, however, somewhat more likely than non-transfer graduates to be employed (88% vs. 85% among non-transfer) and somewhat less likely to have returned to school to be a student again (7% vs. 9%) (Harris Decima, 2010).

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

Transfer graduates tended to report a slightly higher average annual income than non-transfer graduates, by \$1350. Half of transfer graduates (49%) reported annual incomes of \$55,000 or more (compared to 43% among non-transfer). The firm conducting this survey suggests that the results may be related to age, given that transfer graduates tended to have been older upon graduation than non-transfer students, and the average income went up by age (Harris Decima, 2010).

COST INDICATORS

Per-student Operating Expenditure, per Academic Year, Compared with Traditional Students

Data not available.

Per-student Operating Revenue, per Academic Year, Compared with Traditional Students

Alberta's operating grant to institutions provides base funding rather than a per-student amount adjusted annually by enrolment changes. However, periodic reviews of these base-funding amounts have taken enrolment levels into consideration.

The base grant per FTE student provided to colleges for the delivery of the first two years of baccalaureate study is slightly more than that provided to universities due to the issues of reduced economies of scale and delivery in remote locations. While release time for faculty to conduct scholarly studies is not supported at colleges, class sizes are significantly smaller and delivery costs per student higher in most colleges. As a result, the delivery of university transfer courses by colleges, while increasing geographic access, typically does not save the taxpayer money (Madder, 2010).

Studies documenting the institutional costs and benefits of developing and maintaining transfer agreements have not been conducted (Madder, 2010).

A student who studies for two years at a college followed by two years at a university will typically save about \$2600 in tuition compared to a four-year university student. College tuition varies but is typically about \$3900 for two semesters, while tuition at the University of Alberta or University of Calgary is about \$5250 for most programs.

Percentage of Students Receiving Student Assistance and Average Assistance Provided, per Year, Compared with Traditional Students

Alberta reports the employment earnings of transfer students, but does not break this down by type of institution. A transfer graduate may have started at any type of institution and transferred to any other institution.

Transfer graduates were significantly more likely than non-transfer graduates to have received government-sponsored loans (47% vs. 38% of non-transfer graduates). The average loan amount received by transfer graduates was also higher than that received by non-transfer graduates (\$21,017 vs. \$17,863) (Harris Decima).

Any Special Costs or Government Grants Received Related to Program Start-up

None. Member institutions have noted that assisting transfer student imposes many costs for which the government provides no specific funding (ACAT, 2007).

CONTACTS

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British Columbia

SYSTEM CONTEXT

The B.C. Transfer System

The B.C. Transfer System is composed of 25 public postsecondary institutions, 11 B.C. privates, and two public, out-of-province institutions. This system allows students to move from one institution to another and to get credit for previous coursework.

Students can transfer any number of credits on a course-by-course basis, as long as there is a transfer agreement between the sending and receiving institution. Students transferring to research universities typically transfer with a minimum number of previous credits to gain admission as a “transfer student” (15 credits at UNBC and 30 at the other research universities). Students usually transfer with one to two years’ worth of credit. They can also transfer a block of courses in certain disciplines (a certificate, diploma, or associate degree). Research universities generally have ‘residency requirements’ that need to be satisfied in order to have a degree granted from that institution.

Credit Transfer Options

- **Individual courses:** Course and program equivalencies that have been articulated (i.e., assessed for equivalence and awarded credit through a formal inter-institutional request process) are recorded as transfer agreements in the B.C. Transfer Guide. In addition to those courses listed in the B.C. Transfer Guide, Adult Basic Education courses are generally transferable. The International Baccalaureate and Advanced Placement programs allow students to earn postsecondary credits in an enriched secondary school program, subject to grades. Non-articulated courses are assessed and credit is awarded on a case-by-case basis.
- **Block Transfer:** At the close of the year 2010, 886 Block Transfer Agreements for diploma and certificate programs between 25 B.C. public post-secondary institutions and 5 privates were listed in the Block Transfer Guide (<http://bctransferguide.ca/block/>). Forms of block transfer also exist for graduates of associate degree programs (ten receiving institutions) and for students transferring into third year of a major bachelor’s degree program. Block transfer is always subject to students meeting certain conditions, as specified in the guide. Completion of a specified credential (diploma, certificate or associate degree), or defined set of courses in the case of a flexible pre-major, is a necessary condition for block transfer. However, there are often other conditions as well, such as meeting minimum academic standards (GPA), completing pre-requisite courses, auditions or “individual assessment.” Receiving institutions assess each admission application according to the agreement in place and its conditions and make decisions regarding whether to award block transfer or to assess the request on another basis (e.g., course by course transfer).

Programs of Study Available

Most transfer occurs in arts and sciences programs. Students enrolled in Engineering, Electrical and Electronics in fall 2007 were the most likely to transfer to research universities (49% of eligible¹ students transferred) (Heslop, 2009). The comparable figure for arts and sciences was 28 and 7 per cent of eligible transfer students from Business and Management transferred to a research university. Lower rates of transfer may suggest that these students are finishing their credential at their home institution. Of those who

¹ Eligible transfer students are defined as students with 24 or more academic credits and a GPA ≥ 2.0 .

transferred to university, 64 per cent remained in the same program area. This statistic breaks down as follows by program:

- Nursing – 98%
- Engineering – 83%
- Arts and Sciences – 71%
- Business and Management – 40%

Another study (Lambert-Maberly, 2010) shows the degrees awarded to transfer students who enrolled in B.C. research universities in 2003-2004 or 2004-2005. In order of number of degrees awarded, the findings are summarized below:

- Bachelor of Arts (5193)
- Bachelor of Business Administration/Commerce (1151)
- Bachelor of Science (1089)
- Bachelor of Nursing (840)
- Bachelor of Applied Science/Engineering (341)

Key Players in the B.C. Transfer System

- B.C. Council on Admissions and Transfer, established in 1989. The B.C. Council on Admissions & Transfer (BCCAT) oversees the B.C. Transfer System, enabling important links between the B.C. postsecondary institutions, the education ministries, and the public and private education sectors.
 - BCCAT facilitates admission, articulation, and transfer arrangements among B.C. postsecondary institutions for the benefit of students.
 - This involves: providing coordination and support for transfer and articulation in the B.C. system, promoting student mobility through system-wide collaboration and extensive research on student movement and credit transfer, and developing and managing online resources (BCTransferGuide.ca and EducationPlanner.ca) to assist students in their education planning.
- Ministry of Advanced Education
- Institutions in the B.C. Transfer System (see Appendix 1).

Policy Purposes of Transfer

One of the main goals of the original transfer system was to accommodate student demand and increase geographic access, as there were only three research universities offering bachelor's degrees. Currently, all types of public postsecondary institutions in B.C. are enabled to offer degrees, so more students are staying at the same institution to complete degrees.

The original goal of increasing access has been broadened. BCCAT's website provides the following quote regarding the purpose of the transfer system (<http://www.bccat.ca/system/principles/>):

"Credit transfer provides efficient, cost-effective access to post-secondary education and limits geographical barriers for students. The BC Transfer System includes public and recognized private and out-of-province institutions, facilitates student mobility, supports system quality and ensures the portability and applicability of credit by providing dependable, accurate resources to students and institutions. Key system values are those of transparency, fairness, autonomy, predictability and accountability, built upon trust between system partners."

Student Perspective

An annual survey of former students (*Diploma, Associate Degree, and Certificate Student Outcomes (DACSO) Survey*) identifies those who continued their studies at a different institution in the B.C. public postsecondary system. According to the 2011 survey, of those who continued, 79 per cent expected to transfer credits to their new institution and 86 per cent reported receiving all of their expected credits (BC Stats, 2012). About 1 per cent indicated that they were unable to transfer any of their courses. Six per cent were unable to transfer one or two courses; 3 per cent were unable to transfer between three and five courses; and 1 per cent were unable to transfer six or more courses.

There is a high degree of flexibility in the system because students can transfer among all different types of institutions, not just from colleges to research universities. Research shows that there is significant movement of students among all types of institutions. Transfer to research universities is usually subject to a minimum average or GPA and it may occur on a course-by-course or block transfer basis.

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

With the exception of research universities, all other types of public postsecondary institutions in B.C. do not distinguish between transfer students and other students in their administrative data. BCCAT is currently working with colleges, institutes and teaching-intensive universities to encourage the collection and reporting of this information to the Ministry of Advanced Education's Central Data Warehouse. When this information is available, it will be a relatively simple process to calculate the above statistic.

Lambert-Maberly (2010) provides a related statistic in his study of transfer students in B.C. research-intensive universities. He shows the number of transfer students relative to the number of direct-entry students at each research university in B.C.. Overall, transfer students compose 38 per cent of the total, and this proportion varies from a high of 46 per cent at SFU to a low of 29 per cent at UBC.

Number of Transfer-eligible College Students Relative to Total College Enrolments

Looking at students enrolled in the fall of 2007, BCCAT conducted a study that followed students into the 2008 calendar year to identify those who transferred to a B.C. research-intensive university (Heslop, 2009). The study defines the transfer eligible population as those students with at least 24 credits and with a GPA ≥ 2.00 (N=24,000).

Total college, institute and teaching-intensive university enrolments in fall of 2007 were 125,615.

Therefore, the ratio of transfer eligible to college enrolments is calculated as: $24,000/125,615 = 19$ per cent.

This study also finds that the number of eligible transfer students has increased by 2 per cent since 2003. However, over the same period, there has been a drop in the number of actual transfers to research universities of 12.2 per cent. Part of this trend is explained by the increased tendency of eligible transfer students to remain at their original institution. Recent changes in the B.C. public postsecondary system, including the creation of teaching-intensive universities, mean that there are more options available to students for degree completion. Four teaching-intensive universities, for instance, retained more than half of their eligible transfer students in calendar year 2008. The tendency for transfer-eligible students to remain at other large B.C. institutions has also been increasing.

The notion of 'transfer-eligible' in the Heslop (2009) study uses the traditional approach of looking to the college and institute sector for students eligible to transfer to research universities. In actual fact, there is a significant amount of movement between B.C. public postsecondary institutions, including flows from research universities to colleges, institutes and teaching-intensive universities. All institution types acted as both

senders and receivers of students between 2007-2008 and 2008-2009 (Heslop, 2011). For example, while 4000 students moved from colleges and institutes to research universities, a slightly smaller number (3300) moved in the opposite direction, from research universities to colleges. A similar exchange of students occurred between teaching-intensive universities and colleges and institutes, with 2400 flowing one way and 2300 flowing the other. Significant mobility also occurs within a single sector, with 3800 switching institutions within the college and institute sector, 1500 moving among teaching-intensive universities, and 1300 moving within the research university sector.

Unfortunately, the proportion of movers who transferred credits is only known for those students who moved from colleges or institutes to research-intensive universities (2700/4000=67.5%) and from teaching-intensive universities to research-intensive universities (1400/2400=58.3%).

Table 1: Student Mobility in the BC Public Post-Secondary System, 2007-2008 to 2008-2009

Senders	Destinations		
	BC Colleges and Institutes	Teaching Intensive Universities	Research Intensive Universities
BC Colleges and Institutes	3800	2300	4000 (2,700 transferred credits)
Teaching-Intensive Universities	2400	1500	2400 (1,400 transferred credits)
Research-Intensive Universities	3300	1500	1300

Source: Heslop, 2011.

Number of College Students Expressing an Intent to Transfer, Relative to Total College Enrolments

The Ministry of Advanced Education conducts an annual survey of former college, institute and teaching-intensive university program completers or near completers – the Diploma, Associate Degree, and Certificate Student Outcomes (DACSO) Survey. This survey asks students whether they have gone on to further studies, and if so, if they expected to transfer credits to their new program. The study based on the 2011 results (BC Stats, 2012) found that 44 per cent of the 14,697 respondents were continuing their studies at the time of the interview, six to nine months after leaving their original program. Just over half (55%) of those who continued in the public postsecondary system did so at a different institution and, of those, 79 per cent expected to receive transfer credits.

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

A study was conducted that looked at transfer student who entered B.C. research universities in 2003-2004 or 2004-2005. This study examined whether these transfer students had graduated by 2007-2008. The graduation rates are shown by research university as a graph in Lambert-Maberly (2010, Figure E). The rates vary across the five research universities from about 73 per cent for UBC to 58 per cent for UNBC, with the average being about 68 per cent. Differences between institutions in graduation rates are attributed to variations in the amount initial credit awarded, the applicability of these credits to the university program (may have been unassigned credit that could not be used toward the degree), full-time/part-time variations and academic abilities. No comparison is made with direct-entry students in this study.

Another study shows the graduation rate for direct-entry high school students to research-intensive universities (Heslop, 2010). This study looked at grade 12 students who registered in a research-intensive university in 2002-2003 and 2004-2005. Forty-two per cent of these students completed a postsecondary credential within five years of enrolling in postsecondary education and 58 per cent within seven years.

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

BCCAT has commissioned a number of studies that profile transfer students who entered research universities in B.C. between 1992-1993 and 1996-1997, and between 2003-2004 and 2007-2008. Students were included in the study if they transferred to the research-intensive university and were admitted on the basis of college grades with a minimum of 24 credits. The studies were summarized by Lambert-Maberly (2010).

After admission, grades for both groups of students (transfer and direct-entry) dropped. However, grades for both cohorts increased over time from the first session to completion. By graduation, transfer students' grades are on average higher than their admission average and only slightly below direct entrants' grades. Lambert-Maberly (2010) argues that this finding demonstrates "that the transfer system works: it provides access for students who will ultimately achieve success."

Table 2: Academic Performance of Transfer Students at Four BC Research Universities, 2003-2004 to 2007-2008

Academic Performance at:	UBC		UVIC		SFU		UNBC	
	Trans-fer	Direct-Entry	Trans-fer	Direct-Entry	Trans-fer	Direct-Entry	Trans-fer	Direct-Entry
Admission	74.98%	87.36%	5.79	5.54	2.91	3.59	3.03	3.51
End of 1st Session	70.53%	69.33%	5.44	4.71	2.53	2.59	2.84	2.51
End of 2nd Session	71.82%	71.10%	n/a	n/a	2.81	2.81	2.92	2.72
End of Last Session	73.07%	73.28%	6.14	6.38	2.94	3.10	3.14	3.35

Sources: Lambert-Maberly, 2010.

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

The results of the B.C. Graduate Outcomes Survey are tabulated separately for transfer and direct-entry students for the Class of 2000, surveyed five years after graduation. The report compares the outcomes for those students who were admitted to SFU, UBC, UNBC, and UVic as B.C. direct-entry (high school entrants) with those admitted as B.C. college transfer students.

The labour market outcome findings are summarized below.

Table 3: Labour Market Outcomes of Research Universities' Class of 2000 Graduates, by Transfer Status

	Class of 2000, Surveyed in 2005			
	Direct-entry		Transfer	
	%	#	%	#
In Labour Force	86%	1,389	91%	1,330
Employment status of those in LF	97%	1,348	96%	1,281
Employment type				
- Paid worker	87%	1,173	88%	1,126
- Self-employed	8%	112	7%	96
- Both	5%	63	5%	58
Gross Annual Income Main Job				
Less than \$20,000	6%	79	6%	66
\$20,000-\$39,999	23%	278	22%	262
\$40,000-\$59,999	43%	524	47%	553
\$60,000-\$79,999	19%	531	18%	207
\$80,000-\$99,999	5%	62	5%	61
\$100,000 or Above	4%	52	3%	31
Total		1,226		1,180
Median Annual Income Main Job (full-time)		\$50,000		\$50,000
Average Annual Income Main Job (full-time)		\$54,406		\$53,627

Source: Research Universities Council of British Columbia, 2007.

COST INDICATORS

Table 4 shows operating revenue from government and tuition per FTE students at B.C. universities and colleges.

TABLE 4: Education and Related Spending Per FTE Student at Public Institutions, B.C., 2009-2010 (\$)

	Colleges	Universities
Government Cost	8324	13,901*
Student Tuition	2662	4706
Total	10,986	18,607
<i>Memo: Share of public enrolments (by headcount)</i>	56% (colleges and institutes)	20% (research universities) 24% (teaching-intensive universities)

*2008-2009

SOURCE: College data from Colleges Ontario, personal communication. University tuition from Statistics Canada, *The Daily*, September 16, 2010. University operating grant from Statistics Canada, published in CAUT, *2011 Almanac*.

These data are based on per-student averages for each type of institution and so may vary by program type and student type. In particular, the university figures may be distorted by high-cost graduate and professional programs.

Based on the data in Table 4, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 5.

TABLE 5: Education and Related Spending Per Four-Year Student at Public Institutions, B.C., 2009-2010

	Direct Entry 4 years at university	Transfer from College 2 years at college, 2 years at university	Savings Due to Transfer
Government cost	55,604	44,450	11,154
Student Tuition	18,824	14,736	4088
Total	74,428	59,186	15,242 (21.5%)

SOURCE: Author's calculations.

Table 4 suggests that there is a significant financial benefit for the student in starting his/her education at a college and then transferring to a university. There is also a benefit to the government compared to the student who spends four years at a university.

Percentage of Students Receiving Student Assistance and Average Assistance Provided, per Year, Compared with Traditional Students

The results of the B.C. Graduate Outcomes Survey are tabulated separately for transfer and direct-entry students for the Class of 2000, surveyed five years after graduation.

Table 6: Student Debt of Research Universities' Class of 2000 Graduates, by Transfer Status

	Class of 2000, Surveyed in 2005			
	Direct-entry		Transfer	
	\$	#	\$	#
Median Financial Debt	\$15,000	625	\$21,000	799
Median Govt-Sponsored Student Loan Debt	\$15,000	554	\$20,000	709
Outstanding Govt-Sponsored Loan Debt Amt	\$3500	535	\$8000	691

Source: Research Universities Council of British Columbia, 2007.

COMMENTS

The B.C. case demonstrates the potential for introducing a transfer system in a jurisdiction where the university and college systems were generally separate and where universities have a high level of autonomy.

The available data show that transfer students fare as well or better than direct-entry students in their final year grades, graduation rates, employment rates, and post-graduation incomes.

The cost to the student of a degree earned by articulation is lower than that for a degree earned by direct entry to university, assuming the student attends four years of full-time study. The cost to the government may also be lower, although this depends on the student's choice of institution and program.

Transfer students provide a large share of B.C.'s university graduates. The number of transfer students is affected by the availability of degree opportunities. In particular, the conversion of several colleges to teaching-oriented universities has reduced the number of students transferring from those institutions to research-oriented universities.

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Appendix 1: Institutions that form the B.C. Transfer System

Several different institutions participate in the B.C. Transfer System. At its core, are the 25 institutions that make up the B.C. public postsecondary system. In addition to these institutions, some private institutions and out-of-province public institutions form part of the system.

B.C. Public Postsecondary System

The B.C. public postsecondary system is composed of colleges, teaching-intensive universities, institutes, and research universities, as outlined below.

B.C. Public Colleges

B.C. colleges offer programs in trades/apprenticeship vocational, career, technical, and academic studies. They also offer developmental programs, such as Adult Basic Education and Adult Special Education. The colleges offer a variety of credentials, including certificates, diplomas, associate degrees, and applied undergraduate bachelor's degrees.

1. Camosun College
2. College of New Caledonia
3. College of the Rockies
4. Douglas College
5. Langara College
6. North Island College
7. Northern Lights College
8. Northwest Community College
9. Okanagan College
10. Selkirk College
11. Vancouver Community College

Teaching-intensive Universities

There are seven teaching-intensive universities that offer a number of degree programs at the undergraduate and master's levels. Some also offer the same type of programming available at colleges – trades/apprenticeship, vocational, career, technical, academic/university transfer, and developmental programs. Credentials include certificates, diplomas, associate degrees and degrees.

1. Capilano University
2. Emily Carr University of Art and Design
3. Kwantlen Polytechnic University
4. Royal Roads University
5. Thompson Rivers University
6. University of the Fraser Valley
7. Vancouver Island University

Institutes

The three institutions in this category provide specialized programs and have a provincial mandate. BCIT focuses on trades and technology, JIBC on public safety, and NVIT on Aboriginal education. Credentials include: certificates, diplomas, associate degrees, applied bachelor's degrees. Some also offer master's degrees.

1. British Columbia Institute of Technology (BCIT)

2. Justice Institute of BC (JIBC)
3. Nicola Valley Institute of Technology (NVIT)

Research-intensive Universities

These four institutions offer a wide range of undergraduate and graduate degrees at the master's and doctoral levels.

1. Simon Fraser University
2. University of British Columbia
3. University of Northern British Columbia
4. University of Victoria

B.C. Private Institutions

The following private institutions have been through a provincial degree quality assessment process and are part of the B.C. Transfer System.

1. Alexander College
2. Art Institute of Vancouver
3. Columbia College
4. Coquitlam College
5. Corpus Christi College
6. Fairleigh Dickinson University
7. Fraser International College
8. Quest University
9. Sprott-Shaw Degree College
10. Trinity Western University
11. University Canada West

Out-of-Province Institutions

The following out-of-province offer transferable courses to and from B.C. institutions.

Athabasca University (Alberta)
Yukon College (Yukon)

Source: www.bccat.ca/system/psec/

California

SYSTEM CONTEXT

Program Description

California's public higher education system is designed to ensure that large numbers of students can enter the California Community College (CCC) system and, after two years of study, proceed to the third year of a four-year degree program at the California State University (CSU) or University of California (UC). Entry to university is not guaranteed, but legislation requires universities to give qualified college transfer students priority over new first-year students.

Transfer is a large mission for colleges that is distinct from colleges' career-oriented mission. Courses are designed specifically for university transfer. Meeting the general education requirements for transfer occupies 39 of the 60 credit-hours that a full-time student would earn in two years of college. Meeting pre-major requirements occupies additional credits.

Eligibility Requirements

A CCC student who would not have been admissible to UC on leaving high school is eligible for admission to UC if he/she completes (1) 60 credit-hours of transferable college credit with a GPA of at least 2.4, and (2) a specific course pattern (that includes English, mathematics, arts and humanities, and sciences) with a grade of C or better in each course.

A CCC student is eligible for admission to CSU if he/she completes 60 credit-hours of transferable college courses, completes certain general education courses (such as in mathematics, written communication, and critical thinking), and earns a GPA of at least 2.0 in all transferable coursework.

General Education Course Requirements

UC and CSU require all students to complete certain general education course as part of their degree programs. A CCC student's chances of transferring are improved if most of these courses have been taken at CCC. The CSU's general education requirements are the same for all CSU campuses: 39 credit-hours in five areas: (1) Communication in the English Language and Critical Thinking, (2) Physical Universe and Its Life Forms, (3) Arts, Literature, Philosophy, and Foreign Language, (4) Social, Political, and Economic Institutions, and (5) Lifelong Understanding and Self-Development. UC's general education requirements differ by campus and by program.

The Legislature in 1988 mandated a common set of general education requirements (known as the Intersegmental General Education Transfer Curriculum, or IGETC). However, UC campuses and programs continue to impose their own requirements. The articulation of community college courses for IGETC is done on a system-wide basis, through the offices of the presidents/chancellors of the CCC, CSU and UC systems, and the list of approved courses is updated annually.

Pre-major Course Requirements

All majors at UC and most majors at CSU require the completion of some pre-major courses at the lower-division level. Given the selectivity for admission to certain majors and the importance of completing pre-major course requirements, prospective transfer students who decide on a major early on in their studies at the community colleges have an advantage.

Unlike general education courses, articulation of pre-major courses takes place on a campus-to-campus basis: one campus agrees in writing to accept specific courses or groups of courses from another campus

that meet its own requirements. Generally, articulation officers at each university campus review requests from individual community college campuses for a particular course to be articulated. The UC's criteria and the CSU Academic Senate document, "Considerations Involved in Determining What Constitutes a Baccalaureate Level Course," are guidelines in making this determination (California Intersegmental Articulation Council, 2009, Appendices E and G).

Community college counselors and students can retrieve information on articulated courses through the Articulation System Stimulating Inter-institutional Student Transfer (ASSIST), which is administered by UC. The goal of ASSIST is to allow students to identify all community college courses that satisfy IGETC, UC's, and CSU's own general education requirements, as well as specific requirements relating to certain majors and specialized programs.

Transfer Outside of the Recognized Articulation System

In addition to students who transfer through this articulated 2+2 system, a large number of students who have attended CCC but have not followed the articulated pathway described here are accepted at UC, CSU, or a private or out-of-state institution on a case-by-case basis. Of the cohort of students who entered CCC in 2000-2001, 20,600 students eventually transferred to a four-year institution through the recognized articulation process, and another 41,000 transferred to UC or CSU without following this process.

Policy Purposes of Transfer

California's 1960 Master Plan envisioned transfer pathways as a way of balancing competing goals:

- A high-quality (i.e., selective) university system where entering students were well-prepared for university-level programming.
- An accessible postsecondary system, with universal access to colleges and clear pathways to university for college students who demonstrated an ability to succeed in university-level courses, and with universities that made room for transfer students by devoting 60 per cent of undergraduate spaces to third- and fourth-year students.
- A system that was affordable for students, with lower-division coursework available at colleges for little or no tuition.

California law says that the transfer function is to be "a central institutional priority of all segments [i.e., CCC, CSU and UC]..., and the segments shall have as a fundamental policy and practice the maintenance of an effective transfer system" (California Education Code, sections 66720-66722).

Number of College Students Expressing an Intent to Transfer, Relative to Total College Enrolments

Horn and Lew (2007a) found that only about half of entering CCC students say that they intend to complete a credential of any type. About one-third of incoming students say they want to transfer. Students' intentions appear to be a poor indicator: for example, about 16 per cent of students who were undecided about their goal when they first enrolled in the 2000-2001 cohort eventually transferred to a four-year institution.

Number of Transfer-eligible College Students Relative to Total College Enrolments

Many recent studies have found that the number of students who transfer to university is low relative to the number who appear to intend to transfer, but these studies differ in their methodologies and findings. Horn and Lew (2007a) provide an extensive analysis. Their findings are:

- About 70 per cent of CCC students in the cohort entering in 2001 completed at least one course that is transferable.
- About 40 per cent of the cohort completed at least 12 transferable credits (where 30 credits = 1 full year of study).
- 28 per cent of the cohort completed at least 15 transferable credits.

- 29 per cent of the cohort completed at least 12 credits and attempted a transferable English or math course.
- 15 per cent of the cohort completed a math course required for transfer. Horn and Lew note that completion of a transferable math course was a significant hurdle for those wishing to transfer.
- 6 per cent of the cohort became “transfer-ready”, i.e., they completed the minimum requirements to be eligible to transfer to UC or CSU (completed 60 transfer units with a grade of C or better and completed a transfer math and English course).
- Of the transfer-ready students, 67 per cent actually transfer within six years: 16 per cent to UC, 45 per cent to CSU, 4 per cent to a California private institution, and 3 per cent out-of-state.
- In actual numbers: 512,000 students entered CCC in 2000-2001. 31,000 became transfer-ready within six years, and 20,600 actually transferred through the recognized articulation process.
- There was a steady increase in transfer rates from the 1993 cohort to the 2001 cohort, possibly because a growing share of students entered CCC directly from high school in this period.

In addition to the 20,600 students who transferred through the recognized articulation process, another 67,200 transferred to a university within six years without completing the “transfer-ready” requirements. Horn and Lew label the latter group “bridge” transfers. 41,000 bridge transfers attended either CSU or UC, and the others attended a private or out-of-state institution.

- Bridge transfers are a heterogeneous group: some may be a few credits short of meeting the formal definition of “transfer-ready”, some may simply have wanted to improve their basic skills such as math or English at CCC, some may have taken CCC courses for personal reasons that did not relate to attending university.
- Bridge transfers took fewer courses than the transfer-ready group, and they often only took one course per term.
- Their propensity to attend for-profit private or out-of-state institutions suggests they are less price-sensitive than the transfer-ready students (Horn and Lew, 2007b).

Adding together the “transfer-ready” and “bridge” students, 87,700 students actually transferred to a four-year institution within six years, compared to approximately 170,000 who expressed a goal of transferring when they entered CCC.

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction’s Total Number of Baccalaureate Graduates

Almost half of the baccalaureate degrees awarded by California’s public universities go to students who transferred from the CCC system. In 2008, 55 per cent of baccalaureate degrees at CSU and 30 per cent of baccalaureate degrees at UC went to CCC transfer students. The share of degrees going to transfer students has declined somewhat in recent years; this change is attributed to the reduction in state operating grants, which has caused some universities to reduce the number of seats available for transfer students. Data for 2001 through 2008 are shown in Table 1.

TABLE 1: Baccalaureate Degrees Awarded by University of California and California State University, 2001 to 2008

	California State University			University of California			Total CSU and UC		
	CCC transfer students	total		CCC transfer students	total		CCC transfer students	total	
2001	33,785	56,983	59.3%	9,463	33,067	28.6%	43,248	90,050	48.0%
2002	35,785	61,463	58.2%	9,851	34,716	28.4%	45,636	96,179	47.4%
2003	35,300	61,712	57.2%	10,510	37,125	28.3%	45,810	98,837	46.3%
2004	37,316	65,741	56.8%	11,377	38,579	29.5%	48,693	104,320	46.7%
2005	37,303	66,768	55.9%	12,123	40,862	29.7%	49,426	107,630	45.9%
2006	38,329	69,350	55.3%	12,054	41,640	28.9%	50,383	110,990	45.4%
2007	38,798	70,887	54.7%	11,925	41,587	28.7%	50,723	112,474	45.1%
2008	40,317	73,132	55.1%	12,562	42,416	29.6%	52,879	115,548	45.8%

SOURCE: California Postsecondary Education Commission (2012).

The prominence of transfer students means that CSU and UC have more students in third and fourth year than in first and second year. In fall 2011, 23 per cent of CSU undergraduate FTEs were in first year, 14 per cent in second year, 27 per cent in third year, and 36 per cent in fourth year (California State University Analytic Studies, 2012).

QUALITY INDICATORS

California State University

CCC students who transfer to CSU are more likely to graduate than students who start their studies at CSU. Table 2 shows the status, six year after starting postsecondary education, of CSU freshman compared to CSU transfer students. To provide a fair basis for comparison, CSU freshman who dropped out in the first two years of study are excluded.

The table shows that, for the cohort entering in fall 2003, 69.9 per cent of CSU freshman graduated within six years, compared with 71.2 per cent of transfer students from CCC. This positive gap for transfer students has been observed in every year since 1989. More detailed data (not shown here) show that this positive gap holds true for both male and female students. It is especially pronounced for students who are classed as Black, Hispanic and Non-resident Aliens. The gap is smaller, but still positive, for students classed as Asian. The gap is negative for students classed as White, i.e., they are more likely to graduate if they started at CSU as freshman. Separately, Handel (2005) has calculated that more minority students enter UC as transfers than as first-year students.

The CSU data also show that freshmen who start at CSU are more likely to be continuing after six years than are the CCC transfer students. Nine per cent of CSU freshman are continuing their studies after six years, compared with 1.9 per cent of transfer students.

Total persistence (i.e., the sum of graduates plus those continuing their studies) is higher for CSU freshmen than for transfer students. After six years, 78.9 per cent of the freshmen cohort were persisters, compared with 73.1 per cent of the transfer students. This gap holds true for all gender and racial groups except Non-resident Aliens, and it is especially pronounced among White and Asian students.

TABLE 2: Graduation Rates and Persistence Rates for California State University Students, Six Years after Initial Enrolment in Higher Education

Entering Cohort (Fall)	Adjusted Freshmen headcount*	Freshmen within 6 years		CCC Transfers within 6 years		Difference		Total Persistence within 6 years		
		Graduated	Continuing	Graduated	Continuing	Graduated	Continuing	Freshmen	Transfers	Difference
1977	12,422	0.584	0.090	0.487	0.028	0.097	0.062	0.674	0.515	0.159
1978	13,170	0.584	0.099	0.502	0.026	0.082	0.073	0.683	0.528	0.155
1979	14,389	0.580	0.101	0.513	0.030	0.067	0.071	0.681	0.543	0.138
1980	14,541	0.592	0.111	0.514	0.032	0.078	0.079	0.703	0.546	0.157
1981	14,139	0.573	0.127	0.522	0.034	0.051	0.093	0.700	0.556	0.144
1982	14,536	0.584	0.128	0.525	0.033	0.059	0.095	0.712	0.558	0.154
1983	14,329	0.573	0.129	0.519	0.036	0.054	0.093	0.702	0.555	0.147
1984	14,353	0.583	0.125	0.519	0.038	0.064	0.087	0.708	0.557	0.151
1985	15,471	0.572	0.127	0.526	0.039	0.046	0.088	0.699	0.565	0.134
1986	15,753	0.586	0.128	0.545	0.037	0.041	0.091	0.714	0.582	0.132
1987	17,197	0.599	0.127	0.545	0.037	0.054	0.090	0.726	0.582	0.144
1988	18,376	0.582	0.132	0.569	0.033	0.013	0.099	0.714	0.602	0.112
1989	17,978	0.583	0.137	0.586	0.033	(0.003)	0.104	0.720	0.619	0.101
1990	16,761	0.570	0.143	0.588	0.033	(0.018)	0.110	0.713	0.621	0.092
1991	15,469	0.562	0.151	0.611	0.029	(0.049)	0.122	0.713	0.640	0.073
1992	13,859	0.578	0.138	0.623	0.029	(0.045)	0.109	0.716	0.652	0.064
1993	13,338	0.580	0.137	0.631	0.027	(0.051)	0.110	0.717	0.658	0.059
1994	14,893	0.573	0.142	0.626	0.026	(0.053)	0.116	0.715	0.652	0.063
1995	16,638	0.585	0.136	0.629	0.026	(0.044)	0.110	0.721	0.655	0.066
1996	18,482	0.607	0.132	0.638	0.027	(0.031)	0.105	0.739	0.665	0.074
1997	19,301	0.624	0.123	0.661	0.024	(0.037)	0.099	0.747	0.685	0.062
1998	19,787	0.646	0.114	0.680	0.021	(0.034)	0.093	0.760	0.701	0.059
1999	22,022	0.657	0.113	0.690	0.020	(0.033)	0.093	0.770	0.710	0.060
2000	23,766	0.667	0.105	0.698	0.021	(0.031)	0.084	0.772	0.719	0.053
2001	25,533	0.666	0.109	0.695	0.021	(0.029)	0.088	0.775	0.716	0.059
2002	26,665	0.678	0.101	0.701	0.020	(0.023)	0.081	0.779	0.721	0.058
2003	27,448	0.699	0.090	0.712	0.019	(0.013)	0.071	0.789	0.731	0.058

*Headcounts have been adjusted to reflect freshmen still enrolled after two years.

SOURCE: California State University Analytic Studies (2012).

University of California

Graduation rates for upper-division community college transfer students at UC are similar to those for entering freshmen – in 2005-2006, 52 per cent of CCC transfers graduated in two years, 81 per cent in three years and 86 per cent in four years. More than 80 per cent of students in the 2001-2002 entering cohort of UC freshmen graduated in six years. Unlike the data for CSU, these UC data are not adjusted to account for freshmen who drop out in first or second year (University of California, 2010: 46-48).

A more extensive analysis of UC transfer students (now somewhat dated) found that:

- CCC students who applied and were admitted to UC in 1999-2000 had strong college performance. Over 50 per cent transferred with GPAs in excess of 3.30.
- CCC students who transferred to UC in 1993 (and who earned a degree) had an average GPA of 3.12 at UC.
- CCC transfers who entered in 1994 and 1995 enrolled in a variety of majors, including those considered most rigorous. For example, in 1995, over a quarter of the entering transfers majored in a physical or life science (compared to 33 percent of students entering as freshmen). Another 38 percent majored in the humanities or social sciences (compared to 32 percent of students entering as freshmen).
- CCC transfer students need more time to complete their degrees than native UC students, while enrolled at UC. On average, CCC students graduate in 2.4 years following their transfer to UC, while native UC students stayed at UC for 4.2 years or 13 quarters. These figures exclude the time transfer

students spent at CCC, which was estimated at anywhere from 2 to 4.5 years prior to transfer.
(University of California Office of the President, 2001: 10-11).

COST INDICATORS

Table 3 shows spending on education and related costs (primarily administration per FTE students at each type of California public institution).

TABLE 3: Education and Related Spending Per FTE Student at Public Institutions, California, 2008 (US\$)

	Colleges	Master's-level Universities*	Research Universities**
Government Cost	8342	7894	14,835
Student Cost	929	4632	7654
Total	9271	12,516	22,489
<i>Memo: Share of public enrolments</i>	68%	18%	11%
*CSU campuses, except San Diego State University			
**UC campuses plus San Diego State University			

SOURCE: Delta Cost Project (2008).

Based on the data in Table 3, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 4.

TABLE 4: Education and Related Spending Per Four-Year Student at Public Institutions, California, 2008 (US\$)

	CSU system			UC system		
	Direct Entry	Transfer from College	Savings Due to Transfer	Direct Entry	Transfer from College	Savings Due to Transfer
	4 years at CSU	2 years at CCC, 2 years at CSU		4 years at UC	2 years at CCC, 2 years at UC	
Government Cost	31,576	32,472	(896)	59,340	46,354	12,986
Student Cost	18,528	11,122	7406	30,616	17,166	13,450
Total	50,104	43,594	6510 (13.0%)	89,956	63,520	26,436 (29.4%)

SOURCE: Author's calculations.

Table 4 suggests that there is a significant financial benefit for the student in starting his/her education at a college and then transferring to a university. There is also a benefit to the government compared to the student who spends four years at UC (although not compared with the four-year CSU student). Shulock and Moore (2005: 436) have noted that the disparity between UC and CCC funding is exceptionally large compared to the premium paid to research universities by other states.

A number of qualifications to this analysis should be noted:

- The data are based on per-student averages for each type of institution and so may vary by program type and student type. In particular, the university figures may be distorted by high-cost graduate and professional programs.
- We have no data on the cost of student aid, which may differ for each type of student.

- It might be argued that an adjustment should be made for students who drop out before completing a baccalaureate. A high share of CCC students who appear to intend to attain a degree do not in fact transfer to a degree program, and there is also attrition among students who enter UC or CSU directly. There are two methodological impediments to making this adjustment: (1) there is no widely-accepted way of deciding which CCC students “intend” to transfer to university, and (2) there is no accepted way of deciding what percentage of the money spent on students who do not complete a degree was actually “wasted.”
- The analysis assumes an ideal case of a student who completes a four-year program in four years. Few CCC students follow this ideal transfer path to the baccalaureate. Moore, Shulock and Jensen (2009: 2) cite a CSU study showed that transfer students graduated with an average of 141 semester units (compared with 120 required). UC has also found that students graduate with excess credits, for reasons that include exploring various fields, changing majors, poor advising, and preparing for multiple universities with different admission requirements. Some students who enter UC or CSU directly also take more than 120 credit units before graduating.

COMMENTS

The California case demonstrates that a 2+2 articulation arrangement is possible in a large PSE system with a variety of institutional types. All universities, including the most prestigious, accept a significant number of CCC transfer students. Transfer has been especially successful in creating a route to university for students from racial minorities.

The overall quality of education of CCC students who transfer to CSU or UC is similar to that of students entering CSU or UC directly, based on the available information on graduation rates and GPAs.

The cost to the student of a degree earned by articulation is lower than that for a degree earned by direct entry to university, assuming the student attends four years of full-time study. The cost to the government may also be lower, although this depends on the student’s choice of institution and program.

Relying on lower-cost colleges to provide a large share of California’s university-level education is widely seen as making it possible to fund a system of internationally-competitive research universities. Six of the UC’s nine campuses with undergraduate students rank among the U.S. News’s top 50 universities (public or private) in the U.S. Five of them rank among the Times Higher Education top 50 universities in the world.

To the extent that California’s articulation system is successful, the success has required continuing pressure from the state government. Over time the state legislature has mandated academic measures to facilitate transfer, including a common course numbering system and common general education requirements. These measures suggest the willingness of the state government to reduce barriers to transfer.

They have nevertheless had mixed success. The evidence shows a number of challenges:

- The number of students who transfer using the 2+2 articulation arrangement is small relative to total college enrolments. Only about 4 per cent of students entering CCC transfer using the formal transfer articulation arrangement. On average these students take more credits than the formal arrangement strictly requires. The state Legislative Analyst’s Office has attributed much of this inefficiency to the inability of universities to agree on common general education requirements and common major requirements: a student who wishes to apply to several universities may find it impossible to meet multiple entry requirements in two years of college study (California Legislative Analyst’s Office, 2006). This is one example of the more general problem of institutional and faculty autonomy. UC system has constitutional autonomy and so need not respond to state legislation. Colleges have some latitude in their curriculum, and university departments often view their programs as unique, so standardization is difficult (Moore, Shulock and Jensen, 2009). Interviews with transfer experts

suggest that institutional autonomy and faculty autonomy have impeded transfer (Kisko, Cohen and Wagoner, 2010).

- Having a recognized articulation system does not eliminate the need for customized admissions procedures for students who wish to transfer outside this system. About 6 per cent of students entering CCC transfer without using the formal transfer articulation arrangement. No data are available about how many credits these students expected to receive and how many they actually receive.

California's policy since 1960 has been to have an open-access college system and a selective university system. A large number of high school graduates are denied direct entry to university, and so there is strong student demand for college-university transfer.

This model has worked for many students. However, relative to other U.S. states, California has experienced a decline in the share of young people who complete a university degree: California ranks 42nd among states in the share of high school graduates who earn a baccalaureate within six years (NCHEMS, 2009). The causes of this decline are found throughout the education system, rather than simply in the transfer arrangements:

- Many students are under-prepared when they arrive at college. In a study of students in Los Angeles County, Melguizo et al. (2008) found that "despite the relatively low tuition and fee costs of community colleges in California, the real costs for transfer students may be defined in time spent specifically enrolled in less than college level courses. On average, students with deep developmental needs spent five years at the community college before transferring, and transferred only one year's worth of college-level courses." They speculate that this inefficiency is due to poor instruction, inadequate academic advising, limited course availability, and students' pursuing other priorities.
- Budget constraints have led many universities to restrict enrolments. Specific majors, or in some case entire campuses, impose higher admissions requirements in order to allocate scarce seats. A student who completes the minimum requirements for transfer is guaranteed a place somewhere in the CSU or UC systems, but not necessarily at a location or in a program that is the student's choice.

Overall, California's Master Plan sets high aspirations that are being partly fulfilled. Faculty and institutional autonomy, weaknesses in the K-12 system, and the state's dysfunctional budget process pose significant challenges to fully meeting these aspirations.

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Colorado

SYSTEM CONTEXT

Program Description

Colorado's postsecondary education system consists of over 470 institutions educating approximately 400,000 students. The 28 publicly-supported institutions can be divided into three groups: research universities, four-year state colleges, and community and local district colleges. The public system serves about 258,000 students. In addition, there are 103 private accredited and religious (profit and not-for-profit) institutions serving about 138,000 students, three area technical schools serving 1500 students, and 335 private occupational institutions serving about 35,000 students.

The 28 public postsecondary institutions in Colorado's are listed below.

Five public research universities: University of Colorado at Denver, University of Colorado at Boulder, Colorado School of Mines, Colorado State University, University of Northern Colorado

Seven comprehensive, four-year baccalaureate universities: Adams State College, University of Colorado at Colorado Springs, Fort Lewis College, Colorado Mesa University, Metropolitan State College of Denver, Colorado State University-Pueblo, Western State College of Colorado

Two district colleges: Aims Community College, Colorado Mountain College

14 community colleges: Arapahoe Community College, Colorado Northwestern Community College, Community College of Aurora, Community College of Denver, Front Range Community College, Lamar Community College, Morgan Community College, Northeastern Junior College, Otero Junior College, Pikes Peak Community College, Pueblo Community College, Red Rocks Community College, Trinidad State Junior College

Colorado's public postsecondary system has grown organically around a complex system of governing board structures. The state's 2010 strategic plan recognizes that the system of decentralized decision-making allows for insufficient statewide coordination (Department of Higher Education, 2010). Colorado's workforce ranks fifth among states in terms of educational attainment; about 45 per cent of Colorado residents age 25 to 64 have at least an associate degree. However, this is due in large part to in-migration. Colorado ranks 46th among states in the rate of high school completion. Large disparities exist among races in the rate of high school graduation: White (82%), Asian (84%), Black (66%), Native American (59%) and Hispanic (57%). Colorado colleges also report high rates of students taking remedial education. For example, in 2010-2011, 31.8 per cent of recent high school graduates were placed in at least one remedial education class. Most students required remediation in mathematics, followed by writing and reading (Colorado Department of Higher Education, 2010b).

Eligibility Requirements

Transfer with an Associate Degree

The options for students seeking transfer among Colorado's public postsecondary institutions are described below.

Associate of Arts (AA) or Associate of Science (AS): Since 1988, Colorado has had an operating two-plus-two transfer agreement that ensures that students who complete AA or AS degrees with a grade of "C" or higher in all courses will be granted "junior" standing at a four-year institution (60 credits).

This two-year program focuses on meeting the common lower division general education requirements and preparation for the major with 90 quarter credits (60 semester) in the various general education categories. All liberal arts and sciences degrees are designed to be completed in 120 credits, so a transfer student can theoretically complete a four-year degree in the same amount of time as a direct-entry student.

Transfer of General Education (gtPathways): Colorado's state-guaranteed general education curriculum is organized into five categories: communication (6 credits), mathematics (3 credits), arts and humanities, history & behavioural sciences (15 credits), and natural and physical sciences (7 credits). Students are required to complete up to 31 semester credit hours and earn a grade of C or higher in each course to complete the requirements. The transfer system is designed so that students can begin their general education requirements at one Colorado public postsecondary institution and then transfer to another without losing general education credits. Upon transfer, the completed general education credits may be applied to the student's major or to the general education degree requirements, whichever option is in the student's best interest. Over 1000 lower division general education courses are approved for the guaranteed transfer program. Certain majors may prescribe specific prerequisite courses as part of the Associate degree for admission to that degree program.

Statewide Articulation Agreements: Several statewide articulation agreements are in place. These agreements pertain to all Colorado public postsecondary institutions and degree programs that require specific course requirements. The purpose is to identify the courses that a student must complete as part of an associate degree to be guaranteed to be able to complete a bachelor's degree program in 120 credits. A state law introduced in 2010 requires that transfer agreements for 14 degree programs be in place by July 1, 2016 (Anas, 2010). On average, the transfer agreements take between six and nine months to complete, with some disciplines, such as sciences, taking longer. As of 2012, statewide articulation agreements were in place for 11 degree programs (Colorado Department of Higher Education, 2012).

Institutional Transfer Guides: These are institution-specific agreements that detail course requirements or prerequisites that must be completed as part of an associate degree for certain majors. The Transfer Guides must be designed so that students can ultimately complete a bachelor's degree in no more than 120 credit hours. The guides serve as a "60+60" plan for students (60 lower-division + 60 upper division credits = bachelor's degree in specified major). The transfer guide defines the 29 lower division credit hours required to complete the bachelor's degree beyond the 31 guaranteed general education credits. Agreements are published so that students, faculty and academic advisors are fully informed of the terms of the agreement.

Vocational Schools: Students may transfer eligible and relevant postsecondary course credits among area vocational schools, and from vocational schools to the rest of the public postsecondary system, subject to articulation. If the credits earned at a vocational school are in courses carrying the guaranteed statewide transfer designation, the credits are guaranteed for transfer (assuming the student is accepted to the school and they have obtained a grade of C or higher in each course).

To transfer successfully, students must follow the agreements without deviation and must meet the grade requirements. Agreements do not guarantee admission to a program of study. If a student changes his or her major, he or she cannot expect to complete the bachelor's degree in 120 credits (Colorado Department of Higher Education, 2010b).

The Colorado Commission on Higher Education facilitates disagreements between receiving institutions and students regarding the transferability of credits.

Programs of Study Available

Transfer is available in academic arts and sciences programs.

Statewide transfer agreements have been negotiated for the following specific degree programs.

- Business
- Economics
- History
- Mathematics
- Political Science
- Psychology (B.A. and B.Sc.)
- Sociology
- Spanish
- Early Childhood Education
- Elementary Teacher Education
- Engineering

Policy Purposes of Transfer

The Colorado Commission on Higher Education (CCHE), established in 1965 by the legislature, is the state's central policy and coordinating board for higher education. The CCHE:

- Coordinates with Governing Boards to implement statewide policies established by the legislature
- Coordinates with Governing Boards to prepare annual budget requests
- Allocates state revenues pursuant to direction from the legislature
- Prepares the Statewide Master Plan

Colorado has a statewide transfer policy governing the transfer of course credits among institutions within the Colorado public higher education system (Colorado Department of Higher Education, 2007). The policy applies to all state public education undergraduate programs and focuses on movement from two-year to four-year institutions, transfers among four-year institutions, transfer from four-year institutions to two-year institutions, and transfer within four-year institutions. The goal of Colorado's Statewide Transfer Policy is to ensure access to undergraduate degree programs and to facilitate completion of degree requirements.

The Colorado Department of Higher Education's (2010a) strategic plan for the state's postsecondary system identifies flexible pathways to completion of degrees and certificates as a strategy to ensure access. This is seen as a way to reduce regional, income and ethnic gaps in college admission, retention and completion.

The Colorado Community College System (CCCS) has also identified improved transfer as a top priority. Community colleges are a natural entry point for many students because of their relatively affordable tuition rates and small class sizes, and it is important to ensure that students have the option to transfer to a four-year institution without losing credits. To achieve this goal, CCCS works with all public four-year institutions and the Department of Higher Education on the development of statewide articulation agreements. In addition to the legislatively mandated articulation agreements, CCCS has established 17 system-wide articulation agreements with private regionally accredited institutions. Individual community colleges have over 500 institution-to-institution articulation agreements in place (Colorado Department of Higher Education, 2011).

Retention

Colorado is dealing with a range of higher education issues. Many students require remedial education before they can begin college-level work, and many do not complete their certificates or degrees or take a long time to do so. For example, 70 per cent of grade nine students in Colorado will ultimately graduate from high school. Less than half (44%) will enter college and 29 per cent will require remediation. The percentage requiring remediation is higher for Black, Native American and Hispanic students. Just over one-in-five (22%) students in a typical grade 9 class can expect to ultimately graduate from college within six years of starting postsecondary studies (Department of Higher Education, 2010).

Number of College Students Expressing an Intention to Transfer, Relative to Total College Enrolments

Number of Transfer-eligible College Students Relative to Total College Enrolments

Colorado does not report data showing the number of college enrolments by transfer intention. Table 1 shows the number of transfers for the year 2007-2008 from the college system to other two-year institutions and to four-year institutions in the public and private systems. About 15 per cent of total college enrolments in 2007 were registered at a four-year institution in 2008. This percentage varied across sending institutions from 25 to 9 per cent.

The vast majority (91.8%) of transfer students moved to a four-year institution and 86.8 per cent remained in the public system. About one-third of all those who transferred had declared they wanted to earn an AA or AS degree. Another one-third were identified as non-degree seeking or undeclared before transferring. Only 505 of the 10,407 students who transferred in 2008 had obtained a credential prior to transferring. Of these, 60 per cent obtained an associate degree and one quarter obtained a certificate. The Metropolitan State University received over one-quarter of all transfers (26.4%), followed by the Colorado State University with 10.8 per cent (Colorado Community College System, 2010).

Table 1: Transfers by Source and Type of Destination Institution, 2007-2008

Originating College	Within State Transfers (to public and private institutions) Fall 2007 to Fall 2008			2007 College Enrolments (residents only)	Transfer to 4- Year Inst. as % of Total Enrolments
	Transfer to 2 yr	Transfer to 4 year	Total		
Arapahoe CC	58	824	882	6179	13.3%
CC of Aurora	29	616	645	4626	13.3%
CC of Denver	82	1913	1995	7561	25.3%
Colorado Northwestern CC	46	203	249	1252	16.2%
Fort Range CC	239	2342	2581	14,187	16.5%
Lamar CC	30	141	171	742	19.0%
Morgan CC	31	254	285	1699	14.9%
Northeastern Junior C	36	322	358	2,611	12.3%
Otero Junior C	17	195	212	1464	13.3%
Pueblo CC	42	448	490	4929	9.1%
Pikes Peak CC	160	1156	1316	9490	12.2%
Red Rocks CC	72	963	1035	6713	14.3%
Trinidad State Junior C	16	172	188	1504	11.4%
Total	858	9549	10,407	62,957	15.2%

1. Based on attendance at a two- or four-year college in the following fall, as reported by the National Student Clearinghouse, which includes all public and most private postsecondary institutions in Colorado.
2. Source for transfer information: Colorado Community College System (2010).
3. Source for enrolment information: Colorado Department of Higher Education, i3 Interactive Institutional Information: <http://highered.colorado.gov/i3/search.aspx>

Table 2 shows that all colleges experienced positive growth in the number of transfers to four-year institutions between 2006-2007 and 2008-2009. Overall, the number of transfers grew by 24.1 per cent during this period. Of those students enrolled in public community colleges in 2004, 23.8 per cent had transferred to a four-year institution by 2008.

Table 2: Growth in Transfers from Two-Year Institutions to Four-Year Institutions, 2006-2007 to 2008-2009

Originating College	Within State Transfers to Public and Private 4-Year Institutions				%of 2004 cohort that transferred by 2008
	2006-07	2007-08	2008-09	% Change 2006-07-2008-09	
Arapahoe CC	767	824	849	10.7%	23.7%
CC of Aurora	550	616	655	19.1%	21.2%
CC of Denver	1833	1913	2013	9.8%	24.5%
Colorado Northwestern CC	155	203	202	30.3%	25.0%
Fort Range CC	1918	2342	2551	33.0%	31.5%
Lamar CC	145	141	170	17.2%	13.0%
Morgan CC	237	254	248	4.6%	8.5%
Northeastern Junior C	243	322	318	30.9%	26.7%
Otero Junior C	154	195	170	10.4%	28.8%
Pueblo CC	368	448	506	37.5%	15.5%
Pikes Peak CC	956	1156	1286	34.5%	15.7%
Red Rocks CC	753	963	1024	36.0%	22.4%
Trinidad State Junior C	149	172	219	47.0%	20.6%
Total	8228	9549	10,211	24.1%	23.8%

1. 2004 cohort includes resident first-time, full-time and part-time students.
2. Based on attendance at a two- or four-year college in the following fall, as reported by the National Student Clearinghouse, which includes all public and most private postsecondary institutions in Colorado.
3. Source: State Board for Community Colleges and Occupational Education (2011).

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

No information available.

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

System level information is not available regarding graduation rates of college transfer vs. traditional students. Information from the Colorado State University suggests that the four-year graduation rate for students who transferred from two-year colleges is similar to the six-year graduation rate for direct-entry students.

Table 3: Graduation Rates for Direct-Entry and Transfer Students

	6-Year Graduation Rate for Direct-Entry	4-Year Grad Rate – All Transfer Students	4-Year Grad Rate – Transfers from 2-Year Colleges	4-Year Grad Rate – Transfers from 4-Year Colleges
2000	62.6%	66.6%	64.5%	68.6%
2001	62.7%	65.7%	63.7%	67.5%
2002	61.3%	65.8%	62.6%	68.7%
2003	62.3%	66.5%	65.3%	67.4%
2004	62.2%	66.2%	64.7%	67.8%
2005	62.4%	66.9%	66.1%	67.9%

1. Direct-entry includes students who entered public four-year institutions as freshmen and did not stop studying for more than six months.
2. Source: Colorado State University (2011).

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

There is no information regarding the academic performance of transfer students vs. direct-entry students.

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

No information available.

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

No information available.

COST INDICATORS

Table 4 shows spending on education and related costs (primarily administration) per FTE students at each type of Colorado public institution.

Table 4: Education and Related Spending Per FTE Student at Public Institutions, Colorado, 2009 (US\$)

	Colleges	Comprehensive Universities	Master's Universities	Research Universities
Government Cost	\$4002	\$2271	\$2579	\$4460
Student Cost	\$5708	\$6509	\$8266	\$11,512
Total	\$9710	\$8780	\$10,845	\$15,972

Colleges include the 15 public colleges in Colorado, **Comprehensive Universities include:** Fort Lewis College, Mesa St. College, Metropolitan St. College of Denver, Colorado St. U.-Pueblo, Western St. College of Colorado; **Master's Universities include:** Adams St. College, U. of Colorado at Colorado Springs **Research Universities include:** : U. of Colorado Denver, U. of Colorado at Boulder, Colorado School of Mines, Colorado St. U., U. of Northern Colorado
SOURCE: Delta Cost Project (2009).

Based on the data in Table 4, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 5.

Table 5: Education and Related Spending Per Four-Year Student at Public Institutions, Colorado, 2009 (US\$)

	Comprehensive University			Research University		
	Direct Entry	Transfer from College	Savings Due to Transfer	Direct Entry	Transfer from College	Savings Due to Transfer
	4 years at State University	2 years at CCC, 2 years at CSU		4 years at UC	2 years at CCC, 2 years at UC	
Government Cost	\$9084	\$12,546	-\$3462	\$17,840	\$16,924	\$916
Student Cost	\$26,036	\$24,434	\$1602	\$46,048	\$34,440	\$11,608
Total	\$35,120	\$36,980	-\$1860 5.3% more	\$63,888	\$51,364	\$12,524 20% less

SOURCE: Author's calculations.

Table 5 suggests that there is a significant financial benefit for the student in starting his/her education at a college and then transferring to a research university, as compared with doing all four years at a research university (tuition savings = \$11,608 over four years). There is also a slight savings to the government when students complete their lower division studies at a community college and then transfer to a research university as compared with doing all four years at a research university (government savings = \$916 over four years).

When students transfer from community colleges to comprehensive universities, the cost to government actually increase by \$3462, compared with the costs if they had done all of their studies at a comprehensive university. Students save about \$1602 in tuition costs over four years in the same scenario.

Affordability

State funding for higher education has declined significantly over the last decade in Colorado. Since the fiscal year 1989-3090, state support for higher education has decreased from 20.3 to 9 per cent of the state general fund. In 2000-2001, it is estimated that tuition at a research university as a percentage of the median income in Colorado was 6.5 per cent, while in 2010-2011 it had risen to 13.7 per cent (Colorado Commission on Higher Education, 2012).

COMMENTS

The transfer system in Colorado is important to ensuring access to postsecondary education in a state that is currently relying on in-migration to supply skilled labour to its economy. To facilitate transfer, Colorado has a statewide transfer system in place and several statewide articulation agreements focusing on specific degrees. Colorado has not conducted any formal studies regarding transfer student performance or outcomes. Beth Bean, Director of Research and Information for the Colorado Department of Higher Education, explains that, "We have been limited in our transfer reporting because we are still trying to improve upon our collection and reporting of transfer students, partially due to timing of reporting and the responsibility of the student to report their transfer information in a timely manner to the institutions" (email conversation, May 8, 2012).

The cost to the student of a degree earned by articulation is lower than that of a degree earned by direct entry to university, assuming the student attends four years of full-time study. The cost to the government may also be lower, although this depends on the student's choice of institution and program.

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Florida

SYSTEM CONTEXT

Program Description

Florida's public higher education system is designed to ensure that large numbers of students can enter the Florida College System (FCS) and, after two years of study, earn an Associate of Arts degree and proceed to the third year of a four-year degree program at one of the Florida state universities. Entry to university is guaranteed for AA-holders, but not necessarily to first choice of university or program.

The State University System of Florida (SUSF) includes 11 universities governed by a Board of Governors (BOG) appointed by the Governor. Each university is administered by a Board of Trustees, with members appointed by the Governor and the BOG. The BOG establishes the powers and duties of the institutional boards. Total undergraduate enrolment is about 245,000 (170,000 FTE), and the system awards just under 50,000 bachelor's degrees annually.

The FCS includes 28 colleges governed by the state's Board of Education (which also governs the K-12 system). Each open-access college is governed by a Board of Trustees subject to the rules of the Board of Education, with members appointed by the Governor. System enrolment is about 900,000 (about 410,000 FTE, not including students in adult education/GED programs). The system awards about 40,000 AA degrees, 12,000 AS/AAS degrees and 21,000 certificates annually, along with about 1,000 bachelor's degrees. Fourteen institutions in the Florida College System have been authorized to offer their own baccalaureate degrees, targeted toward areas of labor shortages such as nursing and education.

Transfer Arrangement

Florida's transfer system has these components:

- A two-year college credential that guarantees admission to third year of university.
- A block of general education credits, normally taken within the two-year college credential, that are guaranteed to satisfy university general education requirements.
- A process for determining common prerequisites that are accepted at any of the state universities, so that college students can take these prerequisites to satisfy pre-major requirements at any state university.
- A state-wide course numbering system used by all colleges and universities.
- A website linked to student academic records that allows each student to assess his or her progress in meeting transfer requirements.

Two-year Associate in Arts Credential

Florida's comprehensive statewide articulation agreement guarantees admission to students who earn Associate in Arts (AA) degrees to one of the eleven public state universities or one of the baccalaureate degree-granting FCS institutions for upper division work to earn a baccalaureate degree. Legislation in 1971 established the associate degree as a transfer degree; all public universities and many private institutions recognize the degree.

Any AA degree guarantees admission to a public university (but not a specific campus or major), with junior standing for registration purposes. Admission to limited access degree programs is based on meeting competitive entrance requirements.

The AA degree is not intended to be a terminal degree; rather, it is to be a step toward earning a baccalaureate degree. Over 260,000 students participated in AA degree programs during the 2007-2008 academic year.

The Board of Governors' Regulation 6.0045 states that AA graduates shall receive priority admission over out-of-state students. The rule, however, also allows for admissions restrictions where curriculum, space and fiscal limitations exist. These restrictions may include minimum grade point averages or grades on specified courses, but may not include additional courses.

General Education and Pre-major Requirements

The AA degree includes 36 GE units and 24 elective units (where 30 units = one academic year). Students are strongly encouraged to complete pre-major requirements, and the degree is offered in concentrations that parallel baccalaureate programs at public universities. Most or all colleges offer the prerequisites for the most popular baccalaureate degrees, including Elementary Education, Nursing, Psychology, Biology, History, Sociology and English (OPPAGA, 2008: 7). Students who transfer with an Associate in Arts or Associate in Science degree, or who have completed their block of 36 general education hours, do not have to meet the receiving institution's general education program requirements. If a student does not complete the general education core curriculum prior to transfer, each course taken at the initial institution will be reviewed individually to determine if it meets the general education requirements of the new institution (Florida Department of Education, 2010).

The state has established a common prerequisites policy to facilitate articulation for students transferring from Florida colleges to universities. The State Board of Education and the universities' Board of Governors established the Articulation Coordinating Committee to serve as an advisory body for developing and implementing statewide articulation policies. Appointed by the Commissioner of Education, the committee includes representatives from state universities, community colleges, private colleges and universities, career technical centers and school districts. The committee serves as a board to resolve any articulation issues reported by students or institutions. Discipline-based committees composed of faculty from colleges and universities are responsible for developing and recommending suggested prerequisites. These committees forward their recommendations to the Articulation Coordinating Committee for evaluation and approval. Common prerequisites have been established for 215 programs as of 2008. This policy establishes common courses needed for admission to upper division programs at any of the state's universities. An audit in 2008 found that some universities were not recognizing the common prerequisites or were requiring AA students to take additional courses (OPPAGA, 2008). Since then, the prerequisites have been revised and updated, universities have changed their practices, and the Florida Board of Education has strengthened its oversight to improve compliance. An online form has been created to permit students or colleges to report compliance issues to the Board of Education (<https://app1.fldoe.org/DFCPrerequisiteIssues/>) (OPPAGA, 2010c).

Faculty teaching courses for baccalaureate transfer must hold a doctorate or master's degree in the teaching discipline or master's degree with a concentration in the teaching discipline (minimum 18 credit hours in the teaching discipline) (Florida Department of Education, 2010).

Common Course Numbering

The Statewide Course Numbering System (SCNS), initiated in the 1960s, is used at all public institutions. This system may be especially helpful for college students who wish to transfer prior to completing an AA. Public institutions are required by law to accept transfer credit for courses listed in the Statewide Course Numbering System if they offer equivalent courses. This system has been found to be effective in helping college students select courses that are transfer-eligible, and the public universities generally award appropriate credit (OPPAGA, 2009).

Website

Florida's Advising, Counseling, and Tracking for Students (FACTS) website includes transfer requirements, articulation information and a degree audit system to compare transcript to degree requirements. The FACTS.org website provides a central location for information and resources relating to articulation and

postsecondary advising for both students and counselors. Students can assess how well their coursework meets degree requirements at other public institutions in Florida by comparing their academic record against the requirements of the degree/program.

Florida College System students can assess how their degrees will transfer to a university program by comparing the courses they have taken to state university requirements. The Florida Center for Advising and Academic Support within the Department of Education is responsible for managing, developing, maintaining and operating FACTS. Over the past 14 years, the Legislature has appropriated approximately \$49.6 million to support FACTS, of which approximately \$23 million was distributed to institutions to link their systems with FACTS (OPPAGA, 2010b: 1-2).

Policy Purposes of Transfer

The transfer system was created to provide adequate spaces for students seeking a baccalaureate degree. Rapid expansion of the university and community college systems in the 1960s and 1970s made articulation between the two public systems essential. Initially, four universities were opened without lower divisions and the other five universities had severe restrictions on enrolments of freshman and sophomores. This resulted in the majority of baccalaureate degree students entering the system through Florida colleges. FCS transfer students account for approximately half of baccalaureate degree recipients within the state university system (Florida Department of Education, 2010). In recent years, Florida has taken additional steps to make spaces for degree students by expanding the universities and authorizing some colleges to offer selected baccalaureate programs of their own.

Number of College Students Expressing Intent to Transfer, Relative to Total College Enrolments

25.6 per cent of full-time students who entered in 2004 seeking an AA completed the degree within four years. By comparison, 77.4 per cent of students who entered university directly were still enrolled at the start of their junior year (Complete College America, 2011).

AA completion is somewhat higher than average (28.4 per cent) for those entering directly from high school. For part-time students, the four-year AA completion rate was 8.8 per cent (Complete College America, 2011).

69 per cent of students who completed an AA between 2002-2003 and 2006-2007 successfully transferred to a baccalaureate program. Of the 33,674 AA recipients in 2007-2008, 59 per cent transferred to a Florida public university, 5 per cent to a Florida private university, and 2 per cent to a baccalaureate program at a Florida college by 2009.

Most students who did not transfer did not apply for admission to a state university. Students reported a lack of information about transfer policies as a primary reason for not applying to universities (OPPAGA, 2010a). Of the 34 per cent of 2007-2008 graduates who did not transfer, 13 per cent were taking additional courses at a Florida college, and 21 per cent were not enrolled at any Florida institution. Most (78%) of the AA degree recipients who did not transfer never applied to the state university system. AA graduates who do not transfer also do not report improved labour force outcomes compared to prior to attending college, as measured by employment rate and median income. Among AA students who said they did not intend to transfer, 48 per cent of the responding students indicated that they did not know about the articulation policy, while 31 per cent mistakenly thought that the policy guaranteed that they would be automatically admitted to the state university they applied to after they earned an AA degree (OPPAGA, 2010a).

Number of Transfer-eligible College Students Relative to Total College Enrolments

In 2008, Florida colleges awarded 37,219 associate degrees, compared to 34,830 certificates (Complete College America, 2011).

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

The acceptance rate in 2009 for AA holders was 76 per cent, compared to 54 per cent for non-AA holders. In 2009, 30,767 students from FCS applied to transfer to public universities; 23,419 (76.1 per cent) were admitted. These figures include AA degree students and non-AA degree students. By comparison, 84,837 applied for direct entry to public universities; 45,473 (53.6 per cent) were accepted.

The number of university entrants from FCS has grown from 22,163 in 2003, but the number of direct-entry students has grown more quickly. Admission rates for FCS students have ranged from 73 to 80 per cent (FCS, 2011: 2).

14 per cent of AA holders did not receive an offer of admission (the offer is guaranteed only if the students applies to every university). Of those offered admission, 89 per cent of AA holders are admitted to their university of first choice, and 9 per cent to second choice (FCS, 2011: 4).

51.4 per cent of upper-division students at public universities are FCS transfer students. This includes 39.3 per cent who hold an AA, 1.4 per cent who hold an AS, and 10.6 per cent who transferred without an associate degree (FCS, 2011: 5). The share of transfer students was higher in the late 1990s (58 per cent in 1999), but has declined as Florida has expanded its university system.

Transfer rates vary widely between institutions in the Florida College System, ranging from 47 to 77 per cent. These differences are due in part to geographic proximity between the AA degree-granting institutions and state universities. Many Florida colleges develop relationships and institutional partnerships with nearby state universities. These relationships play a strong role in fostering high transfer rates (OPPAGA, 2010a).

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

The four-year graduation rate for full-time AA transfer students has been 2 to 3 percentage points less than that for direct-entry students. For 2003 entrants, the rate was 77.9 per cent, compared with 80.7 per cent for direct entrants. The gap is larger if both full- and part-time students are included: 69.9 per cent compared with 79.7 per cent (FCS, 2011: 10-11).

AA transfers take slightly fewer hours, approximately one less course per academic year. AA transfers took an average of 9.0 hours per term, compared with 10.5 for direct-entry students (FCS, 2011: 8). AA students required an average of 138.1 hours to complete a degree, compared with 135.9 hours for a direct-entry student – a difference of about one course (FCS, 2011: 9).

A study of 2612 juniors who attended three Florida universities between 2001 and 2006 also found that students who transferred from colleges achieved their degree more efficiently, i.e., they graduated with fewer lower level courses in upper division and fewer cumulative credit hours than direct-entry students. A greater percentage of transfers dropped out prior to graduation: 77 per cent of the direct-entry students graduated, compared to 63 per cent of college graduates who entered as juniors. This study did not distinguish between full-time and part-time students (Garcia Falconetti, 2009).

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

The average cumulative GPA for upper-division university students was 2.95 for transfer students holding an AA in 2009-2010, compared with 3.12 for direct-entry students (FCS, 2011: 7).

A study of 2612 juniors who attended three Florida universities between 2001 and 2006 found that community college transfer students performed just as well academically as direct-entry students. There were no appreciable differences in the final grade point averages of student graduates (Garcia Falconetti, 2009).

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

No data found.

COST INDICATORS

Table 3 shows spending on education and related costs (primarily administration) per FTE students at each type of Florida public institution.

TABLE 3: Education and Related Spending Per FTE Student at Public Institutions, Florida, 2008 (US\$)

	Colleges	Research Universities
Government Cost	7025	7183
Student Cost	2894	4785
Total	9919	11,968
<i>Memo: Share of public enrolments</i>	58%	43%*

**Includes two universities classed as Master's universities, with 4% of total enrolments.*

SOURCE: Delta Cost Project (2008).

Based on the data in Table 3, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 4.

TABLE 4: Education and Related Spending Per Four-Year Student at Public Institutions, Florida, 2008 (US\$)

	Direct Entry	Transfer from College	Savings Due to Transfer
	4 years at university	2 years at college, 2 years at university	
Government Cost	28,732	28,416	316
Student Cost	19,140	15,385	3755
Total	47,872	43,801	4,071 (8.5%)

SOURCE: Author's calculations.

Table 4 suggests that there is some financial benefit for the student in starting his/her education at a college and then transferring to a university. There is almost no benefit to the government compared to the student who spends four years at university.

A number of qualifications to this analysis should be noted:

- The data are based on per-student averages for each type of institution and so may vary by program type and student type. In particular, the university figures may be distorted by high-cost graduate and professional programs.
- We have no data on the cost of student aid, which may differ for each type of student.
- It might be argued that an adjustment should be made for students who drop out before completing a baccalaureate.

- The analysis assumes an ideal case of a student who completes a four-year program in four years. Few FCS students follow this ideal transfer path to the baccalaureate. On average, full-time AA graduates take 3.3 years to complete the two-year program, and part-time AA graduates take 5.5 years (Complete College America, 2011).

COMMENTS

The Florida case demonstrates that a 2+2 articulation arrangement is possible in a large PSE system. Preparation of transfer-eligible students accounts for about half of the activity in the FCS system. Transfer students account for about 40 per cent of new entrants to university baccalaureate programs. All universities, including the most prestigious, accept a significant number of FCS transfer students.

The overall performance of FCS students who transfer to university is similar to, or very slightly lower than, that of students entering university directly, based on the available information on graduation rates, GPAs and number of credits required for a degree.

The cost to the student of a degree earned by articulation is lower than that for a degree earned by direct entry to university, assuming the student attends four years of full-time study. The cost to the government is about the same on average, although this depends on the student's choice of institution and program.

To the extent that Florida's articulation system is successful, the success has required continuing pressure from the state government. Over time, the state legislature has mandated academic measures to facilitate transfer, including a common course numbering system and common general education requirements. These measures suggest the willingness of the state government to reduce barriers to transfer.

The primary weakness in the Florida system's performance has been the high attrition rate among students entering AA programs. Over the past decade, Florida has been introducing other policies to increase baccalaureate completion rates at an affordable cost, including more direct-entry spaces at universities, four-year degrees at college, and greater differentiation between research flagships and other universities.

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Kentucky

Kentucky is of special interest because of its approach to “completer degrees” – i.e., university completion degrees for students with a two-year college credential in a vocational field. This note is divided into two parts: general information on transfer in Kentucky, and information on completer degrees.

SYSTEM CONTEXT

Kentucky has an estimated population of 4,314,113. The state has 257,583 students enrolled in higher education. According to the *Chronicle of Higher Education's* Almanac, Kentucky awarded 10,148 associate degrees and 19,639 baccalaureate degrees in the 2009-2010 school year. The state has eight public four-year institutions and 16 public two-year institutions, along with 27 non-profit and 49 for-profit institutions.

Kentucky set a target in 1997 to raise the educational attainment to the national average by 2020. Reporting on progress towards this goal is one of the functions of the Kentucky Council on Postsecondary Education (CPE).

State law requires key transfer developments to ease student transfer between institutions, including:

- Transferability of general education – Guarantees that general education courses will be accepted for transfer and degree credit, whether earned as individual courses or within multi-course blocks of general education.
- Junior-level standing – Guarantees that graduates of an approved associate degree program will be admitted to junior-level standing at all public four-year institutions.
- Priority admission – Guarantees graduates of an approved associate degree priority admission to a state public university over out-of-state students if they meet the same admission criteria.
- Transparency of transfer decisions – Provides a website to view and monitor course equivalencies and find information (KnowHow2Transfer.org).
- Credit outside the classroom – Identifies courses and standard scores for awarding credit for Advanced Placement exams and College-Level Examination Program exams (College Board program to offer credit-by-examination for courses normally taken in the first two years of university). Credit is awarded based on the Kentucky Standard Acceptable Scores for National Exams Table.
- Appeals process – Establishes an appeals process regarding the transfer and acceptance of credits earned at another institution.
- Degree pathways – Outlines semester-by-semester maps of courses that show the most efficient path to the major.
- Common course numbering – Establishes a new statewide course numbering system for general education at two-year colleges and a common catalog.
- Checks and balances – Requires institutions to notify the CPE of any changes in programs or learning outcomes that will affect transferability.
- Reduction of degree requirements – Encourages institutions to lower most degree requirements to 60 credit hours for an associate degree and 120 for a baccalaureate.

The General Education Transfer Policy facilitates the transfer of credits earned in general education and twelve hours of course work in a major for students moving from one Kentucky public college or university to another Kentucky public college or university. The general education core transfer component reflects the distribution of discipline areas universally included in university-wide lower division general education requirements for the baccalaureate degree. A student may satisfy the general education discipline requirements at their current college and have that requirement completion accepted at the university or college to which they may transfer.

In addition, the Baccalaureate Program Transfer Frameworks identify 12 hours of course work in a major which may be successfully transferred. Each framework represents a specific guide to the exact courses a student needs.

A cumulative GPA of 2.0 or better is normally required to transfer.

Policy Purposes of Transfer

The Postsecondary Education Improvement Act of 1997 created the Council on Postsecondary Education to provide direction and oversight to all Kentucky postsecondary institutions. This groundbreaking legislation set Kentucky on the path to improve the quality of life of its citizens to at least the national average by the year 2020. State leaders recognized that to increase quality of life, Kentucky must increase the educational attainment of its citizens, and therefore mandated that by the year 2020, the Commonwealth would have:

- A seamless, integrated system of postsecondary education strategically planned and adequately funded to enhance economic development and quality of life.
- A major comprehensive research institution ranked nationally in the top 20 public universities at the University of Kentucky.
- A premier, nationally recognized metropolitan research university at the University of Louisville.
- Regional universities, with at least one nationally recognized program of distinction or one nationally recognized applied research program, working cooperatively with other postsecondary institutions to assure statewide access to baccalaureate and master's degrees of a quality at or above the national average.
- A comprehensive community and technical college system with a mission that assures, in conjunction with other postsecondary institutions, access throughout the Commonwealth to a two-year course of general studies designed for transfer to a baccalaureate program, the training necessary to develop a workforce with the skills to meet the needs of new and existing industries, and remedial and continuing education to improve the employability of citizens.
- An efficient, responsive, and coordinated system of providers that delivers educational services to all adult citizens in quantities and of a quality that is comparable to the national average or above and significantly elevates the level of education of the adults of the Commonwealth.

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

Not available. Transfer students from two-year public colleges accounted for 12.0 per cent of new undergraduate degree-seeking students at Kentucky four-year public institutions (and 10.4 per cent of those at private universities).

Number of Transfer-eligible College Students Relative to Total College Enrolments

CPE has found that the college-to-university transfer rate is 22.2 per cent, calculated as follows:

- 17,506 entered the two-year public college system in 2001.
- 11,727 of these students completed at least ten credit-hours at college.
- 2607 of these students completed at least ten hours of credits at a single four-year institution by 2008-2009.

A review of students who were attending college in 2005-2006 and who entered a public university in fall 2006 found that most college courses were accepted as transfer credits, even among college students who did not complete a two-year credential.

- For the 547 transfer students who earned an associate degree from a college during 2005-2006, on average 75.7 of their 81.3 hours or 93.1 percent of their credits were accepted.

- For the 56 transfer students who earned a certificate or diploma from a college, on average 60.9 of their 67.5 hours or 90.2 percent were accepted.
- Out of the 1892 transfer students who were enrolled at KCTCS in 2005-2006 and had not completed a degree or credential of any type, on average 50.3 of their 55 hours or 91.5 percent of their hours were accepted.
- Data was missing for 219 other transfer students (Kentucky Council on Postsecondary Education 2008).

A separate survey of college students who transferred, conducted by CPE in January 2010, found that 37 percent of transfer students surveyed reported that all transfer credits transferred toward their degree. Twenty-four per cent said they expected that not all of their credits would transfer. Another 17 percent were not sure how much credit was transferred, and 22 percent said some credits did not transfer.

Number of College Students Expressing an Intent to Transfer, Relative to Total College Enrolments
Not available.

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

Students who hold a two-year degree from a college and then transfer to receive a four-year university degree have a somewhat higher graduation students than do direct-entry university students who stay enrolled for a minimum of three years, as shown in the following table. There is some variation by receiving institution.

Table 1
Graduation Rates of Transfer vs Native Students
2007-08
Kentucky Public Institutions

	# Transfer Students	Transfer Student	# Native Students	Native Student
EKU	96	56.3%	408	51.7%
KSU	5	40.0%	64	37.5%
MoSU	50	38.0%	224	55.4%
MuSU	172	64.0%	170	54.7%
UK	88	53.4%	646	43.3%
UL	95	31.6%	726	38.8%
WKU	83	56.6%	401	50.4%
NKU	7	71.4%	346	57.2%
Public	596	53.9%	2985	47.8%

Note: Three year Bachelor degree graduation rate of KCTCS transfer students entering in Summer/Fall 2005 and who earned an Associate's degree, compared with 3 year Bachelor's degree graduation rate of native students who entered 3 years prior & were still enrolled in Fall 2005

SOURCE: Kentucky Council on Postsecondary Education, May 2009.

Academic performance of college transfer students compared with traditional students (defined as fourth-year Grade Point Average or similar).

After-graduation Employment/unemployment Rate of College Transfer Students Compared with Traditional Students

Not available.

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

Not available.

COST INDICATORS

Per-student Operating Revenue, per Academic Year, Compared with Traditional Students

Table 2 shows spending on education and related costs (primarily administration per FTE students at each type of California public institution).

TABLE 2: Education and Related Spending Per FTE Student at Public Institutions, California, 2008 (US\$)

	Colleges	Master's-level Universities*	Research Universities**
Government Cost	6175	4990	8928
Student Cost	1599	6394	8565
Total	7774	11,383	17,493
<i>Memo: Share of public enrolments</i>	43%	33%	22%

*Eastern Kentucky, Morehouse, Murray State, Northern Kentucky and Western Kentucky

**University of Kentucky and University of Louisville

SOURCE: Delta Cost Project, 2008.

Based on the data in Table 2, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 4.

TABLE 3: Education and Related Spending Per Four-Year Student at Public Institutions, Kentucky, 2008 (US\$)

	Masters-level University			Research University		
	Direct Entry	Transfer from College	Savings Due to Transfer	Direct Entry	Transfer from College	Savings Due to Transfer
	4 years at university	2 years at college, 2 years at university		4 years at university	2 years at college, 2 years at university	
Government Cost	19,960	22,330	(2370)	35,712	30,206	5506
Student Cost	25,576	15,986	9590	34,060	20,328	13,732
Total	45,536	38,316	7220 (16%)	69,772	50,534	19,238 (28%)

SOURCE: Author's calculations

Table 4 suggests that there is a significant financial benefit for the student in starting his/her education at a college and then transferring to a university. There is also a benefit to the government compared to the

student who spends four years at a research university (although not compared with the four-year master's university student).

A number of qualifications to this analysis should be noted:

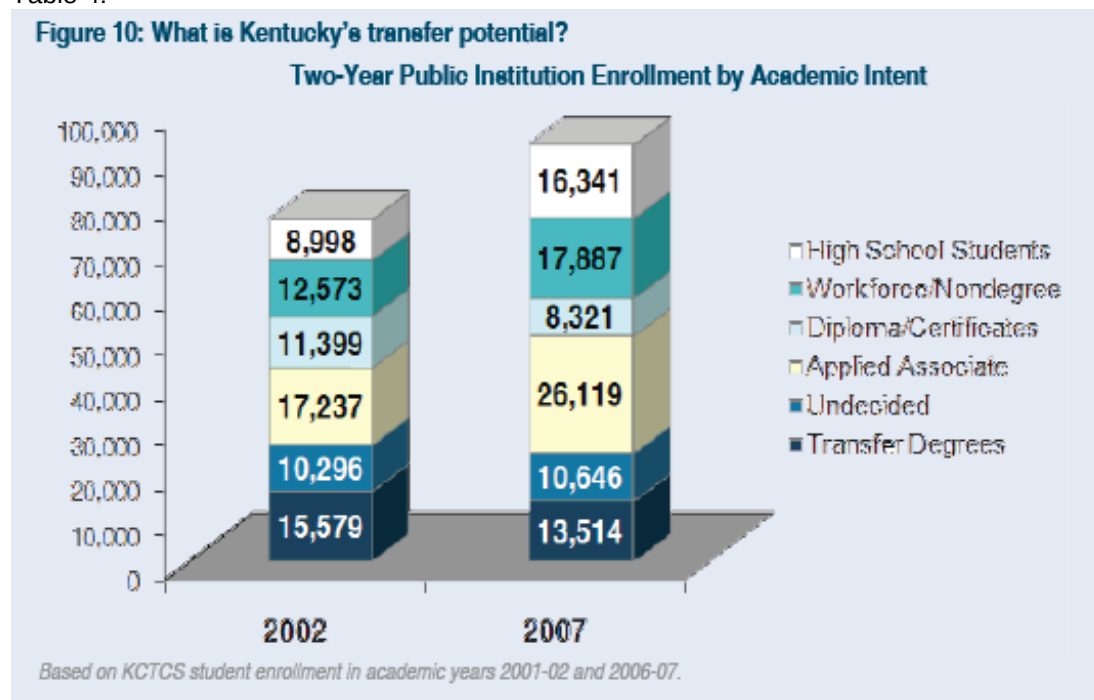
- The data are based on per-student averages for each type of institution and so may vary by program type and student type. In particular, the university figures may be distorted by high-cost graduate and professional programs.
- We have no data on the cost of student aid, which may differ for each type of student.
- It might be argued that an adjustment should be made for students who drop out before completing a baccalaureate, although the evidence presented above suggests that, once a college student transfers, graduation rates are higher than for direct-entry university students.
- The analysis assumes an ideal case of a student who completes a four-year program in four years. In fact, CPE has found that all types of students take more than the minimum number of credits (120) needed for their degree. Direct-entry university students take an average of 137.7 credits; transfer students without a two-year degree take 143.7 credits; and transfer students who hold a two-year credential take 146.7 credits. The latter figures do not include credits earned at college that were not accepted for university transfer (4.7 credits for those who did not complete a two-year degree, and 6.1 credits for those who did). The CPE attributes the excess credits to program-switching and inadequate advising (Kentucky Council on Postsecondary Education, 2008).

COMPLETER DEGREES

To encourage more students in technical (vocational) college programs to transfer, CPE required all public universities to develop a completer degree in 2004. A completer degree allows students with any associate degree to complete a bachelor's degree within approximately the normal hours required for a bachelor's degree. It is different from a transfer degree, which normally teaches general arts and introductory university courses and so is not vocationally oriented.

The policy purpose of completer degrees is to raise baccalaureate attainment rates, recognizing that students in two-year applied associate programs, which are in a technical (vocational) field of study, compose the largest group of college students, as shown in Table 4.

Table 4:



Completer degrees allow students who complete applied associate degree to transfer credits to a bachelor's degree program at a public university in Kentucky and to complete the program in close to the same number of credit hours as a student who began at the university.

A completer degree is a specially-created degree that requires the student to pursue an "area of emphasis" but not to complete all of the courses that a student in another degree program (such as Bachelor of Arts or Bachelor of Science) might be required to take. In other words, the degree is not as specialized as a B.A. or a B.Sc. These completer degrees have been created:

- Eastern Kentucky University – Bachelor in General Studies
- Kentucky State University – Bachelor in Liberal Studies
- Morehead State University – Bachelor of University Studies
- Murray State University – Bachelor in Integrated Studies
- Northern Kentucky University – Bachelor in Organizational Leadership
- University of Louisville – Bachelor of Science in Workforce Leadership
- Western Kentucky University – Bachelor of Interdisciplinary Studies

Some examples of completer degrees:

- Western Kentucky University offers its completer degree, a Bachelor of Interdisciplinary Studies (BIS) within its University College, a wing of the university designed to focus on non-traditional students and educational plans. The BIS degree requires an "area of emphasis" of 36 credit hours which includes a capstone course, 30 credit hours of upper division coursework, 44 credit hours in general education, and enough electives to reach 120 undergraduate credits. A transfer student's college credits count towards these totals. The student chooses from 10 areas of emphasis: Arts, Business, Education, Health, Organizational & Communication of Ideas, Science, Social and Behavioral Science, Social Justice and Equity Studies, and Technology. The program requires that 25 per cent

of the credits (and one-third of the emphasis hours) are earned in residence, and the rest of the program is available online. BIS enrolment was 526 in 2009-2010, and 202 BIS degrees were conferred, equal to about 8 per cent of all baccalaureate degrees conferred.

- Morehead State University offers a Bachelor of University Studies (BUS). This degree is offered solely online, and targets students “who have earned an AAS degree... and do not want to enter into a [Morehead] baccalaureate program that has an articulated degree transfer program agreement.” Students who wish to complete this degree must acquire 128 credits, 43 of these at the 300 level and above. The option specifically designed for AAS students requires a “planned field of study,” a concentration requiring 18-30 credits. The AAS degree makes up 64 credits of this 128 credit plan. BUS enrolment was 265 in 2007-2008, and 151 BUS degrees were conferred, equal to about 16 per cent of all baccalaureate degrees conferred.
 - One of the fields of study offered is Professional Studies. The student takes 27 credit hours from a selection of business-related programs such as Communication and Leadership, Human Resource Management, International Management, and Industrial Psychology. The student also takes 12 credit-hours of upper-level electives and a capstone course.
 - Morehead also offers a Bachelor of Science in Technology Management for students who receive an AAS degree in a technology field. This degree is intended to “meet the expanding need for challenging jobs in technology and engineering management” and specifically targets AAS degree holders looking for a completer option with a more specialized focus. Students in the Technology Management program are required to complete 15 management courses, two math courses, one physics course, and two electives, on top of the transferred associate degree. The program had 33 students in 2007-2008.
- Eastern Kentucky University offers a General Studies degree. According to the university, “The Bachelor of General Studies degree is intended to establish the foundation for a lifetime of continual learning and offer flexibly scheduled highly individualized curricula. Through individualized advising, the program will help students define their educational goals and design interdisciplinary curricula drawing on a variety of course offerings. The program is also intended to allow a student who has completed most of the requirements of a major but has not yet completed the major of an approved program to complete a baccalaureate degree in a timely manner.” The university has set out these student outcomes:
 - “Develop a positive sense of closure in completing a baccalaureate degree to allow career advancement or continued education
 - “Establish the foundation for a lifetime of continual learning
 - “Apply for marketable post-graduation opportunities
 - “Foster a positive alumni relationship with the University” (presumably by providing a flexible route to degree completion). (Eastern Kentucky University, General Studies Degree Proposal for Eastern Kentucky University – Revised February 17, 2005).

The University of Kentucky, the state’s flagship research university, has not introduced a completer degree. The university has cited “concerns about accreditation impacts, potential incompatibility with UK’s legislated goal of becoming a Top 20 public institution, our history of very limited success with ‘general studies’ kinds of programs, and the absence of interest from any [UK] colleges in administering such a degree. Perhaps most challenging is the relationship of this issue to faculty governance at UK. ... [U]niversity regulations very explicitly give control and responsibility for curriculum and degree program approval to faculty and not administration” (Letter to Kentucky Council on Postsecondary Education from Scott Smith, Interim Provost, UK, February 20, 2006).

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New York

SYSTEM CONTEXT

New York's governance structure is segmental, with most responsibility for planning, policy, data collection, and oversight residing in the two public governing boards – the State University of New York (SUNY) and the City University of New York (CUNY) – and statewide coordination by the New York State Board of Regents.

Table 1: Public Higher Education Institutions in New York State

	SUNY	CUNY
Four-year institutions	32	13
Two-year institutions	29	6
Total undergraduate enrolment (for-credit headcount)	427,000	272,000
Of which: Community college enrolment	247,000	98,000

Constitutionally, all public and private higher education institutions are deemed to be part of the “University of the State of New York,” which is overseen by the Board of Regents. In addition to SUNY and CUNY, New York has 182 private institutions with 320,000 four-year students and 28,000 two-year students.

The SUNY and CUNY governing boards are responsible for statewide oversight for the community colleges within their respective jurisdictions. The Board of Regents performs a largely coordinating function, although it exercises degree review and approval authority and is the only state accrediting agency in the United States. The New York State Education Department is the administrative arm of the Board of Regents. The Board of Regents has no budget authority for higher education; budgets are negotiated individually between SUNY and CUNY with the governor's office and the state legislature.

Operationally, SUNY's campuses are divided into four sectors by mission: Doctoral-Degree Granting Institutions (including four that are designated as University Centers), Comprehensive Colleges, Colleges of Technology, and Community Colleges.

CUNY's colleges are organized as follows: senior colleges, community colleges, the Graduate School and University Center, the School of Law, the School of Journalism, the William E. Macaulay Honors College, the School of Professional Studies, and the Sophie Davis School of Biomedical Education at City College.

Program Description

New York does not have a transfer policy mandated in legislation. SUNY and CUNY have full discretion to determine their respective policies. Neither system has a core curriculum nor do they use common course numbering.

The main device to promote transfer is the associate degree. New York State's community colleges grant about 35,000 associate degrees each year (approximately 27,500 in SUNY and 7500 in CUNY). Most associate degrees are academically oriented (Associate of Arts or Associate of Sciences), but a small number are vocationally oriented (Associate in Applied Science and Associate in Occupational Science).

Associate of Arts or Associate of Sciences Degrees

Both CUNY and SUNY have comprehensive policies guaranteeing transfer those completing the Associate of Arts or Associate of Sciences degree and governing the transfer of credits completed as a part of the general education curriculum. Students are not guaranteed their first choice of campus or program, and SUNY in

particular has faced pressures when students seek to enrol in high-demand programs or at campuses where low attrition rates mean that few third- and fourth-year seats are vacant.

CUNY has an online system-wide transfer guide (TIPPS – Transfer Information and Program Planning System). Individual SUNY campuses have their own guides.

Both systems guarantee transfer of credits to completers of the AA and AS degrees.

- CUNY grants all degree completers a minimum of 60 credits toward a baccalaureate degree and guarantees associate degree recipients at least nine credits toward a parallel major.
- SUNY policy states that AA/AS graduates "when accepted in parallel programs at baccalaureate campuses of the University, shall be accorded full junior status and be given the opportunity to complete the requirements for a bachelor's degree within four additional semesters of fulltime work."

The two systems take different approaches to the articulation of general education requirements:

- Under CUNY policy, AA and AS degree completers are deemed to have automatically fulfilled all lower-division liberal arts and science distribution requirements for the baccalaureate degree. CUNY colleges may require students to complete courses to meet senior college distribution, or foreign language proficiency, requirements that were not part of the student's associate degree program, but credit is granted toward the total required for the baccalaureate.
- SUNY follows a 30-credit general education requirement for all baccalaureate programs. Each baccalaureate degree-granting college has a general education program addressing ten learning outcomes and two competencies. Associate degree programs have not been held to this standard, but colleges have committed to meeting at least seven of the ten learning outcomes in transfer degree programs, with the remainder to be completed at the baccalaureate institution. Transferability of earned general education credits is guaranteed for any campus within the system.

SUNY's credit transfer policy, adopted in 2009, allows a SUNY institution or student to appeal if another SUNY institution does not recognize a credit for transfer.

- A SUNY institution may appeal another SUNY institution's refusal to award credit for one or more of its courses. The appeal is reviewed by a faculty-led committee. Unless conclusive evidence demonstrates otherwise, first- and second-year undergraduate courses are expected to transfer with full credit. The committee makes a recommendation to the Provost of the State University, who makes the final decision in the appeal process. Final decisions that support acceptance of credits for courses successfully completed result in such courses being added to the SUNY-wide database of equivalent courses.
- If student does not agree with a SUNY college's decision on the granting or placement of credit earned at a prior SUNY institution, the student has the right to submit an appeal to the campus transfer representative. Once all of the required information is received, the expectation is that the transfer appeal representative will provide a written response within 15 business days. If the decision finds merit to change the course to meet a major requirement, the representative will notify the student, the chairperson and/or program coordinator, and will see that the change is made to the student record. The student may make a further appeal to the SUNY System Provost by submitting a Student Transfer Appeal Form along with requested materials. The SUNY Provost will respond within five business days from receipt of the completed appeal application. If the decision finds in the student's favour, the receiving institution will be notified to take appropriate action.

Vocationally-oriented Associate Degrees

Colleges offer Associate in Applied Science and Associate in Occupational Science (AAS/AOS) degree programs. These are applied or occupationally-oriented, designed to prepare graduates for the workforce. Success in these programs is defined primarily in terms of postgraduate employment rather than transfer.

CUNY guarantees AAS completers admission to a baccalaureate program in the system:

- A student who is granted transfer to a “parallel professional program” is granted a minimum of 60 credits toward a baccalaureate degree and is required to complete only the difference between the 60 credits granted and the total credits normally required for the degree.
- A student who is granted transfer to a “liberal arts curriculum or related professional program in the same field as the associate degree program” is granted a minimum of 60 credits toward a baccalaureate degree and then follows a prepared course of study that will lead to a baccalaureate degree within 60 to 72 credits

SUNY’s policies do not address programs not designed to transfer, such as AAS and AOS degree programs.

Policy Purposes of Transfer

Transfer has two purposes: to meet the needs of two-year students who wish to pursue a four-year degree, and to provide a pathway to four-year degrees in regions where there is no four-year public institution.

Unlike many other jurisdictions, the New York State government has not played an active role in recent years in setting targets for baccalaureate attainment or in promoting transfer. The last state-wide review of higher education was commissioned by the Governor in 2007, but transfer issues were not mentioned in the commission’s mandate and they formed only a brief part of the commission’s report (New York State Commission on Higher Education, 2007).

Number of College Students Expressing an Intention to Transfer, Relative to Total College Enrolments

Not available.

Number of Transfer-eligible College Students Relative to Total College Enrolments

A 2007 report found that 34.8 per cent of college entrants earned an associate degree (i.e., became transfer-eligible) within ten years of entry. Two-thirds of these became transfer-eligible within three years of entry.

- Another 12.3 per cent transferred and earned a baccalaureate degree without earning an associate degree.
- These figures include students attending public or private institutions in New York, but not students who may have transferred out of state and earned a degree (New York State Education Department Office of Higher Education Office of Research and Information Systems, 2009).

There is significant attrition among associate degree students between first and second year. 61 to 63 per cent of full-time associate degree students at SUNY and CUNY return for second year.

- Of 44,249 entering full-time students at SUNY in 2006, 22.6 per cent earned an associate degree within three years, and another 6.1 per cent were still enrolled.
- Of 17,309 entering full-time students at CUNY in 2006, 10.0 per cent earned an associate degree within three years, and another 24.3 per cent were still enrolled (New York State Education Department Office of Higher Education Office of Research and Information Systems, 2009).

Between one-third and one-half of students entering two-year institutions eventually transfer to a four-year institution (public or private):

- 35 per cent of a cohort of students entering two-year SUNY institutions transferred to a four-year institution in 2007 (14% with an associate degree, 21% without). 47 per cent of a cohort of students at two-year CUNY institutions transferred to a four-year institution in 2007 (12% with an associate degree, 35% without) (New York State Education Department Office of Higher Education Office of Research and Information Systems, 2009).
- Of those who transferred with a two-year degree, 61 to 64 per cent were admitted to third year, compared with only 28 to 32 per cent of those who did not complete a two-year degree.

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

Not available.

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

Graduation rates of transfer students are similar to those for direct-entry students at SUNY and somewhat higher at CUNY, as show in the following table. These figures are not adjusted for college students who dropped out before transferring.

Table 2: Graduation Rates of Students Entering Four-year Baccalaureates in 2003

	Number	Baccalaureate Graduation Rate after Six Years	Still Enroled after Six Years
New Full-time Transfer Entrants			
SUNY	13,812	63.8%	0.7%
CUNY	7112	54.5%	3.5%
New Direct-entry Students			
SUNY	24,588	63.2%	1.2%
CUNY	9930	43.3%	7.0%

New York State Education Department, Office of Research and Information Systems (ORIS), July 29, 2011 tabulation

A series of reports (now discontinued) found that full-time transfer students entering SUNY were about as likely to continue to a second year of study as were full-time direct-entry students, with little variation by receiving institution. For both types of student, the persistence rate to a second year of study was about 80 per cent (SUNY Office of Institutional Research, 2005).

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

Not available.

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

Not available.

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

Not available.

COST INDICATORS

Table 3 shows spending on education and related costs (primarily administration) per FTE students at each type of New York public institution.

Table 3L Education and Related Spending Per FTE Student at Public Institutions, New York, 2009 (US\$)

	Colleges	Bachelor's Universities	Master's Universities	Research Universities
Government cost	6548	9377	8231	14,933
Student cost	4187	5507	5720	6099
Total	10,735	14,884	13,951	21,032
<i>Memo: share of public enrolments</i>	44%	10%	32%	14%

Public Research universities: SUNY at Albany, SUNY at Binghamton, U. at Buffalo, Stony Brook U., SUNY College of Environmental Science and Forestry, CUNY Graduate School and U. Center Public **Public**

Master's: CUNY Bernard M Baruch College, CUNY Brooklyn College, CUNY College of Staten Island, CUNY City College, CUNY Hunter College, CUNY John Jay College Criminal Justice, CUNY Lehman College, CUNY Queens College, SUNY Institute of Technology at Utica-Rome, SUNY College at Brockport, SUNY College at Buffalo, SUNY College at Cortland, SUNY at Fredonia, SUNY at Geneseo, SUNY College at New Paltz, SUNY College at Oneonta, SUNY College at Oswego, SUNY College at Potsdam, SUNY College at Plattsburgh, SUNY Empire St. College, CUNY Medgar Evers College

Public Bachelor's: CUNY NYC College of Tech., CUNY York College, Fashion Institute of Technology, SUNY College of Tech. at Alfred, SUNY College of Tech. at Delhi, SUNY College of Agriculture and Tech. at Cobleskill, Farmingdale St. College, SUNY at Purchase College, SUNY College at Old Westbury

Community Colleges: Adirondack, Broome, Cayuga Co., Clinton, Columbia- Greene, Corning, CUNY Borough of Manhattan, CUNY Bronx, CUNY Hostos, CUNY Kingsborough, CUNY LaGuardia, CUNY Queensborough, Dutchess, Erie, Finger Lakes, Fulton-Montgomery, Genesee, Herkimer Co., Hudson Valley, Jamestown, Jefferson, Mohawk Valley -Utica Branch, Monroe, Nassau, Niagara Co., North Country, Onondaga, Orange Co., Rockland, Schenectady Co., Sullivan Co., SUNY College of Tech. at Canton, Morrisville St. College, Tompkins-Cortland, Ulster Co., SUNY Westchester, Suffolk Co.
SOURCE: Delta Cost Project (2009)

Based on the data in Table 3, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 4.

Table 4 Education and Related Spending Per Four-Year Student at Public Institutions, New York, 2009 (US\$)

	Master's University			Research University		
	Direct Entry	Transfer from College	Savings Due to Transfer	Direct Entry	Transfer from College	Savings Due to Transfer
	4 years at university	2 years at college, 2 years at university		4 years at university	2 years at college, 2 years at university	
Government Cost	32,924	29,558	3366	59,732	42,962	16,770
Student Cost	22,880	19,814	3066	24,396	20,572	3824
Total	55,804	49,372	6432 (12.5%)	84,128	63,534	20,594 (24.5%)

SOURCE: Author's calculations.

Table 4 suggests that there is a significant financial benefit for the student and the government in starting his/her education at a college and then transferring to a university.

A number of qualifications to this analysis should be noted:

- The data are based on per-student averages for each type of institution and so may vary by program type and student type. In particular, the university figures may be distorted by high-cost graduate and professional programs.
- We have no data on the cost of student aid, which may differ for each type of student.
- It might be argued that an adjustment should be made for students who drop out before completing a baccalaureate. As noted above, a high share of students who begin the associate degree program do not graduate, and many graduates do not transfer to a four-year program.
- The analysis assumes an ideal case of a student who completes a four-year program in four years.

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Ohio

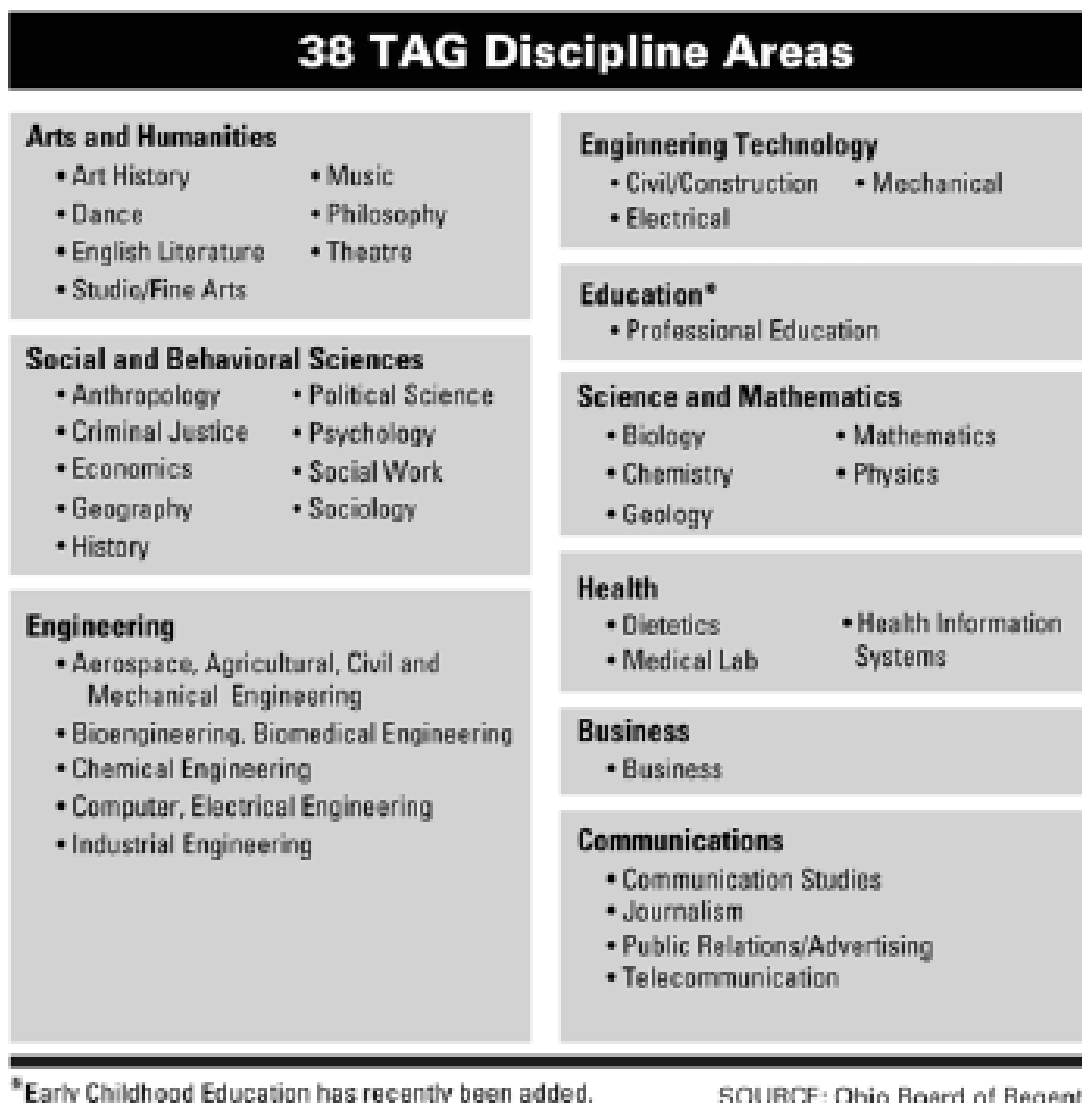
SYSTEM CONTEXT

Program Description

The University System of Ohio includes 14 universities with 24 regional branch campuses, and 23 community colleges. The Ohio Board of Regents is the statewide coordinating body. The system was created by legislation in 2007 to bring together autonomous public universities and the state's community colleges.

Ohio has developed a system-wide approach to transfer with three main components:

- **Ohio Transfer Module (OTM):** This module is composed of 36 to 40 semester hours of general education that is fully transferable to all institutions. The General Education hours are in the fields of (1) English and communication, (2) mathematics, (3) arts and humanities, (4) social and behavioral sciences, (5) natural and physical sciences, and (6) optional interdisciplinary coursework. Each public college and university submits its General Education Transfer Module to the Regents for review by faculty panels according to the specific criteria in each of the specified disciplines. Upon review and approval, the institution is in compliance with the Articulation and Transfer Policy and can guarantee that it will transfer to every public institution and will meet their general education requirements.
- **Transfer Assurance Guides (TAGs):** The guides specify the equivalency of lower-level courses in specific disciplines across the USO. Panels composed of faculty from two-year colleges and universities designed the TAGs. They developed outcomes for each course, focusing on quality and the level of competency required. Once campuses agreed to the outcomes, they could submit their courses to disciplinary faculty panels for review and approval. The match must meet 70 percent of the outcomes – including the outcomes deemed essential. (In some disciplines, a 100 per cent match is required. TAGs are in place for 38 disciplines, as shown in the table on the following page. As of 2009, 73 per cent of undergraduates were enrolled in majors for which a TAG was available (or in Nursing, which has a separate arrangement).
- **Admission Assurance:** Subject to grade restrictions, associate degree holders with a completed OTM are guaranteed admission to a USO institution.



SOURCE: Tafel, 2010.

The development of this transfer arrangement began in 1988, when the Ohio General Assembly directed the Ohio Board of Regents to develop a statewide mechanism to allow students to transfer credits when they move from state-assisted technical and community colleges to state-assisted universities. Working in concert with colleges and universities, the Ohio Board of Regents established an agreed upon General Education core in 1990. This arrangement was expanded in 2000 to allow students to transfer individual General Education courses, recognizing that many two-year technical programs at colleges do not allow time for the full General Education curriculum. The development of TAGs also began in 2000.

The universal course equivalency classification system promotes mobility by allowing students to plan degree programs and make institutional choices with certainty. These arrangements are supplemented by many bilateral agreements and regional compacts.

Policy Purposes of Transfer

The Board of Regents assesses the system against three purposes:

- More graduates: Higher transfer rates are intended to lead more students to complete a four-year degree.
- Lower costs: Students take courses at less expensive community colleges and transfer credits to expensive four-year universities.
- Higher quality: The process of reforming curricula is seen as having enhanced the quality of the system (Mustafa, Glenn, and Compton, 2010).

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

Not available. In 2009, 9774 students transferred from two-year institutions to four-year institutions. This number equals about one-seventh of the total third-year enrolment of Ohio's public universities.

Number of Transfer-eligible College Students Relative to Total College Enrolments

Not available. In 2009, 9774 students transferred from two-year institutions to four-year institutions. This number equals about 7 per cent of total upper-year college enrolments (headcount).

Transfers from two-year to four-year institutions accounted for about one-quarter of the 36,295 students who transferred between institutions in that year, as shown in the following table.

Table 1: Transfers between Segments of the University System of Ohio, 2009 Academic Year

	To all Institutions	To Two-Year Colleges	To Four-Year Universities	To Four-Year Regional Campuses
From Two-Year Colleges	13,777	4003	8284	1490
From Four-Year Universities	13,910	8163	3358	2389
From Four-Year Regional Campuses	8608	2248	4933	1427
From All Institutions in the USO	36,295	14,414	16,575	5,306

SOURCE: Mustafa, Glenn, and Compton, 2010.

These data show a high level of transfer among institutions, of which college-to-university transfer is only a part. 23.2 per cent of freshmen in 2001 transferred to another institution within six years. Of those moving from four-year to two-year colleges, 38.9 per cent had previously attended a USO two-year college. Of those moving from two-year to four-year colleges, 36.5 per cent had previously attended a four-year USO college. Between 2002 and 2009, the number of students transferring grew by 3 per cent per year. Transfer students are more likely to be older (25 or above), members of a racial minority, and less affluent than the overall student population. The study also showed that more than 60 per cent of two-year college transfers move to institutions within 36 miles (Mustafa, Glenn, and Compton, 2010).

Number of College Students Expressing an Intent to Transfer, Relative to Total College Enrolments

Using data on first-time Ohio freshmen who entered higher education in 1998, prior to the full introduction of the current transfer arrangement, Long and Kurlaendar (2009: 34) found that in fall 1998, 60 per cent of first-time community college students indicated on their college academic form that they intended to obtain bachelor's degrees or transfer to four-year colleges with or without associate's degrees. A subset of this group actually wrote the ACT test, another indicator of degree intention.

There is nevertheless evidence that many students who say that they intend to transfer and who write the ACT test fail to transfer. Long and Kurlaendar found that:

Among community college students with the demonstrated intention to get 4-year degrees, only 26% obtained bachelor's degrees within 9 years of starting. Meanwhile, nearly 2 and 3 times as many students who began at nonselective (50%) and selective (73%) 4-year institutions did so. However, these comparisons do not account for differences between the students at each type of institution and should not be interpreted as causal effects (Long and Kurlaendar, 2009: 37).

After controlling for differences in students' academic preparedness, the authors found a smaller but non-negligible gap:

Our conservative estimates suggest that these students [who intend to transfer from community college] are 14.5% less likely to complete baccalaureate degrees within 9 years [than direct-entry university students]. This has significant consequences, especially for low-income and minority students, who disproportionately rely on community colleges as the primary portal for postsecondary entry. Because of the "penalty" experienced by community college students, caution should be exercised when designing policies that might shift enrolment patterns more toward 2-year colleges. On the other hand, because community colleges are less expensive, it is worth comparing the size of the penalty to the difference in costs between 2-year and 4-year institutions. In addition, greater focus is warranted on institutional policies and programs that support community college students and help them transfer to 4-year institutions to reach their intended goal of obtaining baccalaureate degrees (47).

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

Among full-time transfer students (two-year to four-year), the cumulative six-year graduation rate was 63.8 per cent for the 2004 entering cohort (Mustafa, Glenn, and Compton, 2010). For the university system as a whole (including non-transfer and transfer students), the six-year baccalaureate completion rate for students who entered as full-time students was 61 per cent, with another 11 per cent still enrolled (Ohio Board of Regents, 2011: 1). These students entered prior to the full introduction of the current transfer arrangement.

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

Not available.

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

Not available.

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

Not available.

COST INDICATORS

The Ohio Board of Regents has calculated that transfer activities help save the government \$20 million per year; \$7 million of the savings are in TAG-approved courses. In 2008, 7893 community college students completed an aggregate 154,384 semester credit hours before transferring to four-year universities in 2009.

On average, the transferred credits cost \$130 per hour more at four-year universities. An additional \$20 million ($\$130 \times 154,384$) would be needed if students were to complete those hours at four-year universities instead (Shoumi, Glenn, and Compton, 2010). Calculated differently, the savings to government were \$2542 for each student who transferred.

Table 3 shows spending on education and related costs (primarily administration per FTE students at each type of Ohio public institution.

TABLE 3: Education and Related Spending Per FTE Student at Public Institutions, Ohio, 2009 (US\$)

	Colleges	Bachelor's-level Universities*	Research Universities**
Government Cost	4114	4705	9947
Student Cost	5156	5393	5908
Total	9270	10,098	15,855
<i>Memo: Share of public enrolments</i>	42%	3%	52%

* Central St. U., Ohio U.- Chillicothe Campus, Ohio U.-Southern Campus, Ohio U.-Lancaster Campus, Ohio U.-Zanesville Campus, Shawnee St. U.

** U. of Akron Main Campus, Bowling Green St. U.-Main Campus, U. of Cincinnati-Main Campus, Cleveland St. U., Kent St. U. Kent Campus, Miami U.-Oxford, Ohio St. U.-Main Campus, Ohio U.-Main Campus, U. of Toledo, Wright St. U.-Main Campus Public
SOURCE: Delta Cost Project, 2009.

Based on the data in Table 3, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 4.

TABLE 4: Education and Related Spending Per Four-Year Student at Public Institutions, Ohio, 2009 (US\$)

	Bachelor's-level Universities			Research Universities		
	Direct Entry	Transfer from College	Savings Due to Transfer	Direct Entry	Transfer from College	Savings Due to Transfer
	4 years at university	2 years at community college, 2 years at university		4 years at university	2 years at community college, 2 years at university	
Government Cost	18,820	17,638	1782	39,788	28,122	11,666
Student Cost	21,572	21,098	474	23,632	22,128	1504
Total	40,392	38,736	1656 (4%)	63,410	50,250	13,170 (21%)

SOURCE: Author's calculations.

Table 4 suggests that, in Ohio, the financial benefits of transfer to baccalaureate universities are modest. The benefits are higher if the student transfers to a research university, and they accrue primarily to the government.

A number of qualifications to this analysis should be noted:

- The data are based on per-student averages for each type of institution and so may vary by program type and student type. In particular, the university figures may be distorted by high-cost graduate and

professional programs. The savings to government calculated from data from Shoumi, Glenn and Compton (2010) are \$2542 per student, as noted above.

- We have no data on the cost of student aid, which may differ for each type of student.
- It might be argued that an adjustment should be made for students who drop out before completing a baccalaureate. We have not found data for Ohio on attrition among transfer students.
- The analysis assumes an ideal case of a student who completes a four-year program in four years.

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Oregon

SYSTEM CONTEXT

Program Description

Oregon's postsecondary education system consists of:

The Oregon University System (OUS):

- Three public research universities (Oregon State University, University of Oregon, and Portland University)
- Three comprehensive, four-year baccalaureate universities (Eastern Oregon University, Western Oregon University and Southern Oregon University)
- One technical institute (Oregon Institute of Technology).

Public Community College System (CCs):

- 17 public community colleges, offering certificate programs and associate degrees

Independent System:

- 20 independent, private, liberal arts, non-profit universities and colleges, offering bachelor's and master's degrees

Eligibility Requirements

In recent years, OUS institutions and Oregon community colleges have been working together to make the transfer of credit between institutions easier (OUS, 2010a). The following programs are specifically designed to facilitate transfer from Oregon CCs to OUS institutions.

- The Oregon Transfer Module (OTM) is available to students who have completed a minimum of one year (45 credits) in an approved set of general education classes. This module transfers fully to any Oregon community college or public four-year institution. The OTM is not a certificate or a degree. It certifies that a student has met a subset of common general education requirements and qualifies the student for second-year standing. This transfer pathway was developed in recognition of the fact that a large number of students transfer before having obtained an associate degree from their community college (Moore et al., 2009). The OTM represents a defined transfer curriculum for students who choose to transfer after one year at a community college.
- The Associate of Arts/Oregon Transfer (AA-OT) degree is a two-year, 90-credit general education credential that meets the lower division general education requirements at any public university in Oregon. At least 58 of the 90 credits must conform to the general education and distribution requirements. This degree does not necessarily satisfy specific department or major requirements.
- Oregon is just beginning to pilot a "reverse transfer" program that allows students who transfer early to four-year institutions to earn an associate degree from their previous community college through "reverse transfer" when they have accumulated the credits needed to fulfill the two-year degree requirements (OUS, 2012b). The rationale for this program is that earning the associate degree will help motivate these students to continue to complete their bachelor's degree. Ultimately, graduates who take advantage of this program will have both a bachelor's and an associate degree on their resume.

- Many community colleges and OUS campuses have formed partnerships to enable students to enrol simultaneously in both lower division courses at a community college and upper division courses at an OUS institution. Dual enrolment and co-admission programs are intended to aid student mobility and enhance degree completion (OUS, 2010, Walker et al., 2004).

Many OSU institutions admit transfer students with a GPA of 2.00 (or Grade C) if they have earned an OTM or AA-OT (e.g., Oregon Institute of Technology, Portland State University, and Southern Oregon University). Students who do not earn an OTM or AA-OT can transfer credits on a course-by-course basis. General transfer requirements for students who do not have an OTM or AA-OT are slightly higher and vary little across OUS institutions.

Table 6: Transfer Student Admission Requirements by Institution, 2012-2013 Entering Class

	Minimum College Hours	GPA		Specified Course Requirements
		Residents	Non-Residents	
Eastern Oregon University	30	2.25	2.25	Yes
Oregon Institute of Tech.	36	2.25	2.25	Yes
Oregon State University	36	2.25	2.25	Yes
Portland State University	30	2.25	2.25	Yes
Southern Oregon University	36	2.25	2.25	Yes
University of Oregon	36	2.25	2.50	Yes
Western Oregon University	36	2.25	2.25	Yes

SOURCE: (OUS, 2012)

Students who have completed fewer than 12 transferable quarter credits at a community college are considered for admission based on their high school performance and must meet the freshman requirements. The OUS Academic Council endorses a policy to allow OUS institutions to transfer up to 124 lower division credits from Oregon community colleges, when those credits contribute to a bachelor's degree program. This represents an increase from 108, which is intended to allow students maximum potential to benefit from credits earned in community colleges. However, the policy does not alter institutional requirements for upper-division or graduation (Walker et al., 2004).

The online Atlas tool, available at www.transfer.org, facilitates transfer and course planning for students planning to transfer from a CC to an OUS institution. The system provides information regarding how and where completed courses transfer between postsecondary institutions and helps students make appropriate course selections.

Programs of Study Available

The top ten majors at OUS institutions chosen by the 1999-2000 cohort of community college transfers with associate degrees were as follows (OUS, 2002):

1. Business management/administrative services (22%)
2. Social sciences and history (12.7%)
3. Education (8.2%)

4. Psychology (8.0%)
5. Liberal arts and sciences/humanities (5.1%)
6. English language and literature (4.5%)
7. Computer and information science (3.8%)
8. Biology and life sciences (3.5%);
9. Visual and performing arts (3.1%)
10. Multi-interdisciplinary studies (3.0%)

Policy Purposes of Transfer

Oregon has an integrated, statewide approach to transfer policies, created and implemented by the Joint Boards Articulation Commission (JBAC). The JBAC was established in 1992 by the Oregon Board of Education and the Oregon Board of Higher Education. The JBAC's mandate encompasses the full public education system, including K-12, community colleges and OUS institutions. It is mandated to encourage active cooperation and collaboration among sectors and within systems. The Commission itself is comprised of representatives from the community college, university system, K-12 system, and independent college sectors. The JBAC monitors and reports transfer activity among all postsecondary institutions in the state, reviews transfer degree options and requirements, communicates and disseminates information and data across sectors, and consults on matters related to student transfer and articulation issues in the state.

Oregon is making an effort to develop education policies that comply with a P-16 framework— a coherent, flexible system of public education that encompasses pre-school through postsecondary (Walker et al., 2004). Examples of such legislation and policy include the Oregon laws establishing the JBAC, statutes that support articulation between high schools and community colleges, special programs designed for transfer (AA-OT and OTM), dual enrolment and co-admission between community colleges and OUS institutions, credit transfer and credit for prior learning, and an integrated P-16 data system (Walker et al., 2004)

Student Perspective

Number of College Students Expressing an Intention to Transfer, Relative to Total College Enrolments

Table 2 shows the number of students enrolled in courses that parallel the lower division offerings of four-year institutions. These students are on a path to transfer, but are not necessarily planning to transfer. In 2010-2011, students on a transfer path comprised half of all FTEs at community colleges, up from 48 per cent in 2009-2010.

Table 7: Community College FTEs by Program Area

	2009-2010	2010-2011
Career and Technical	34,599	35,425
<i>% of Total</i>	28%	28%
Transfer	58,118	62,006
<i>% of Total</i>	48%	50%
Developmental	23,885	22,725
<i>% of Total</i>	20%	18%
Home/Family/Other	5212	4833
<i>% of Total</i>	4%	4%
Total	121,815	124,988

Source: Oregon State Government, Community Colleges and Workforce Development, 2010a and 2011.

Number of Transfer-eligible College Students Relative to Total College Enrolments

One of the key performance indicators for Oregon Community Colleges is the percentage of students attending a community college one year who transfer to OUS the next year.²

The rate at which community college students in Oregon transfer to OUS institutions increased from 14.0 per cent in 2002-2003 to 17.7 per cent in 2008-2009. The transfer rate in 2008-2009 exceeded the statewide target mentioned in the key performance measure report of 15.2 per cent by more than two percentage points. The number of transfers to OUS institutions from CCs rose sharply in 2005-2006 and again in 2008-2009. These figures include “non-admitted” students, i.e., transfer students who enrol part-time in credit courses in a regular university program but who did not apply to be admitted to a degree program. For admitted students only, the transfer rate was 9.1 per cent in 2008-2009. Since then, the number of admitted transfer students has risen sharply. This increase is attributed to the increase in community college enrolments that started with the 2008 recession, and also to universities’ need for tuition revenue in the face of state budget cuts. (Graves 2011)

The steadily rising number of transfer students in the OUS system is contributing to a shift in the balance between “traditional” direct-entry students and “non-traditional” transfer students (OUS, 2010b). Institutional researchers in the OUS system expect this trend to continue, driven by a projected decline in the number of Oregon high school graduates combined with steady growth in community college enrolments. This shift in enrolment means that OUS institutions will grow relatively more in the upper-division levels as compared with lower-division, which could have financial implications for universities because upper-division classes and programs are more expensive to deliver (Graves, 2011).

Table 8: Distribution of Community College Transfers by Destination

	CC Transfer –Eligible Enrolment	Including Non-admitted Students		Admitted Students Only	
		Transfers to OUS	Transfer Rate	Transfers to OUS	Transfer Rate
2002-2003	50,138	7009	14.0%	4588	9.2%
2003-2004	50,926	7087	13.9%	4854	9.5%
2004-2005	52,696	7509	14.2%	5099	9.7%
2005-2006	54,836	8403	15.3%	5041	9.2%
2006-2007	53,518	8291	15.5%	4759	8.9%
2007-2008	52,153	8265	15.8%	4907	9.4%
2008-2009	52,898	9386	17.7%	4823	9.1%
2009-2010				5710	
2010-2011				6541	

SOURCE: Oregon State Government, Community Colleges and Workforce Development (2010b); Oregon University System (2011), 25.

² Note that this analysis is limited to students who have completed at least 12 college credits.

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

Not available.

QUALITY INDICATORS

For the next two indicators – graduation rates and average time to completion – the transfer analysis is limited to students who entered OUS institutions with the equivalent of junior standing (90-134 transfer credits).

Graduation Rate

Six-year OUS graduation rates for direct-entry students increased gradually over the period 2002 to 2009, from 55.5 to 58.9 per cent (Table 5). During the same period, four-year graduation rates for transfer students were consistently higher when compared with six-year direct-entry rates, but have been trending down, from 74.4 per cent in 2002 to 69.4 per cent in 2009 (OUS, 2010b).

Another graduation statistic for transfer students looks at the percentage of the 2004 cohort of transfer students who graduated from an OUS institution within different periods of time (OUS, 2011). Of this 2004 cohort, more than a third (35.4%) graduated within two years, two-thirds (66.1%) within three years, and more than three-quarters (77.8%) graduated within four years. From there, the graduation rate levels off, with 80.8 per cent graduating within five years and 82.2 per cent within six years.

Average Time to Completion

On average, transfer students take about two years and two terms to complete their degrees after they transfer to an OUS institution (Table 4). This is about two years less time than direct-entry students, which suggests the two groups are completing their studies at approximately the same pace.

Table 9: Graduation Rates and Average Time to Degree for Direct-Entry and Transfer Students

	2002	2003	2004	2005	2006	2007	2008	2009
Graduation Rate								
6-Year, Direct-entry	55.5%	57.0%	58.0%	58.7%	59.0%	59.7%	59.4%	58.9%
4-Year, Transfer	74.4%	74.4%	73.8%	74.3%	71.0%	68.9%	72.5%	69.4%
Average Time to Degree (yrs)								
Direct-entry	4.60	4.63	4.64	4.62	4.61	4.60	4.57	4.56
Transfer	2.60	2.59	2.63	2.60	2.58	2.60	2.65	2.61

3. Source: OUS (2010b).

Retention Rate

First-to-second year retention is considered by the OUS to be one of the best predictors of postsecondary degree completion (OUS, 2010b). OUS campuses have programs to monitor student progress and to proactively offer a personal connection to students who are falling behind. A performance indicator for the Oregon community college system is the percentage of community college lower division students who earned 12 or more credits at an Oregon public community college, who were then admitted to and enrolled in an OUS institution the next year, and who returned to the OUS system for a second year.

Retention rates for transfer students hovered in the high seventies during the period 2003-2004 through 2008-2009. Retention rates for freshmen during the same period were slightly higher, at about 80 per cent (OUS, 2010b).

Table 10: Percentage of Oregon Community College Students who Transfer to OUS and Return for Second Year

Enroled CC 2001-02, Enroled OUS 2002-03, Retained OUS 2003-04	5538	Enroled CC 2002-03, Enroled OUS 2003-04	7009	% OUS transfers retained 2003-04	79.0%
Enroled CC 2002-03, Enroled OUS 2003-04, Retained OUS 2004-05	5397	Enroled CC 2003-04, Enroled OUS 2004-05	7087	% OUS transfers retained 2004-05	76.2%
Enroled CC 2003-04, Enroled OUS 2004-05, Retained OUS 2005-06	6014	Enroled CC 2004-05, Enroled OUS 2005-06	7509	% OUS transfers retained 2005-06	80.1%
Enroled CC 2004-05, Enroled OUS 2005-06, Retained OUS 2006-07	6655	Enroled CC 2005-06, Enroled OUS 2006-07	8403	% OUS transfers retained 2006-07	79.2%
Enroled CC 2005-06, Enroled OUS 2006-07, Retained OUS 2007-08	6511	Enroled CC 2006-07, Enroled OUS 2007-08	8291	% OUS transfers retained 2007-08	78.5%
Enroled CC 2006-07, Enroled OUS 2007-08, Retained OUS 2008-09	6499	Enroled CC 2007-08, Enroled OUS 2008-09	8265	% OUS transfers retained 2008-09	78.6%

SOURCE: Oregon State Government, Community Colleges and Workforce Development (2010b).

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

Community college transfer students had a 2.99 GPA in 2002-2003, compared to OUS first-time freshman with an average GPA of 2.87 GPA (Oregon Department of Community Colleges and Workforce Development, 2005).

Satisfaction with the Transfer System

The class of 2005 was surveyed one year after graduation. Over 41 per cent of the respondents who transferred to their OUS institution said they were extremely satisfied with the transfer process and 76 per cent were somewhat or extremely satisfied (OUS, 2007).

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

No information available.

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

No information available.

COST INDICATORS

Oregon ranked 44th out of 50 states in terms of state higher education appropriations per FTE at public two-year and four-year institutions in 2009-2010 (OUS, 2011). Between 2005 and 2010, these appropriations declined by 9.9 per cent, compared to the national average of 3.2 per cent. Relatively more of the cost of education is born by the student in Oregon, as reflected in the fact that Oregon ranks 16th in terms of tuition and fee revenue per FTE at public four-year institutions in 2009-2010.

In terms of the average debt at graduation per borrower, for public four-year institutions, Class of 2010, Oregon was 13th highest in the country at \$23,675.

Table 6 shows spending on education and related costs (primarily administration) per FTE students at each type of Oregon public institution.

Table 11: Education and Related Spending Per FTE Student at Public Institutions, Oregon, 2009 (US\$)

	Colleges	Comprehensive Universities	Research Universities	Oregon Institute of Technology
Government Cost	\$9643	\$4984	\$3733	\$7576
Student Cost	\$3883	\$5391	\$8458	\$5152
Total	\$13,526	\$10,375	\$12,191	\$12,728
Share of Public Enrolments	52%, US Avg. 48%	8%, US Avg. 19%	38%, US Avg. 30%	2%, US Avg. 3%

Colleges include: 16 of Oregon's 17 public colleges (excludes Klamath)

Comprehensive Universities include: Eastern Oregon U., Southern Oregon U., Western Oregon U.;

Research Universities include: Oregon State U., University of Oregon, and Portland State U.

SOURCE: Delta Cost Project (2009).

Based on the data in Table 6, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 7.

Table 12: Education and Related Spending Per Four-Year Student at Public Institutions, Oregon, 2009 (US\$)

	Comprehensive University			Research University		
	Direct Entry	Transfer from College	Savings Due to Transfer	Direct Entry	Transfer from College	Savings Due to Transfer
	4 years at State University	2+2		4 years at UC	2 years at CCC, 2 years at UC	
Government Cost	\$19,936	\$29,254	\$-9318	\$14,932	\$26,752	\$-11,820
Student Cost	\$21,564	\$18,548	\$3016	\$33,832	\$24,682	\$9150
Total	\$41,500	\$47,802	\$-6302 (15% more expensive)	\$48,764	\$51,434	\$-2670 (5% more expensive)

SOURCE: Author's calculations.

Due to the relatively high government subsidy associated with community colleges in Oregon, the cost to the government is actually higher when students transfer to comprehensive universities or research universities from community colleges, as compared with the scenario where they do all four years at the four-year institution (Table 7). Students, on the other hand, save money if they follow a transfer path, because tuition rates in community colleges are lower than at comprehensive universities and research universities. Students transferring to comprehensive universities after two years at community college would save \$3016 in tuition over four years and students transferring to research universities would save \$9150.

Comments

Oregon takes a holistic approach to credit transfer and has introduced innovative mechanisms intended to facilitate student transitions from the K-12 system through to postsecondary studies. In terms of transfer, Oregon has developed several approaches that recognize observed transfer patterns. For example, the OTM program is a form of block transfer after one year of study and recognizes that many students choose to transfer at that point. The reverse transfer program ensures that those who transfer early still have an opportunity to earn an associate degree from their college. The available information regarding transfer student graduation rates and academic performance suggest that transfer students do relatively well in four-year institutions.

The cost to the student of a degree earned by articulation is lower than that for a degree earned by direct entry to university, assuming the student attends four years of full-time study. The cost to the government tends to be higher because the government subsidy to colleges is higher than to universities.

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Texas

SYSTEM CONTEXT

Program Description

In 2000, the Texas Higher Education Coordinating Board (THECB) adopted a 15-year plan to close educational gaps within Texas and between Texas and other leading states by focusing on student participation, graduation, program excellence and research. One of the state's goals is to increase the annual production of baccalaureate graduates from 77,000 in 2000 to 112,500 in 2015. Texas's transfer arrangements have been strengthened since 2000 to contribute to this goal.

Texas's higher education system includes 41 public four-year colleges and universities, 50 public community college districts, one public technical college system, and nine public health-related institutions. 87 per cent of students in degree programs in Texas attend public institutions.

The state's 41 public four-year institutions are divided into six multi-institution systems, each of which has one governing board, plus four single institutions, each of which has its own board (Finney et al., 2012).

Community colleges account for the majority (55%) of public enrolments in Texas. Each community college district is governed by a seven- or nine-member Board of Trustees or Board of Regents. Trustees are elected in nonpartisan elections for six-year staggered terms. The board of trustees of a community college district has the authority to levy a local property tax to support college operations. Municipal taxes provide about one-third of college funding, with state appropriations and student tuition each providing about one-quarter.

Texas is experiencing rapid enrolment growth, especially in the community college segment. From fall 2000 to fall 2009, community college enrolment increased 55.1 per cent, from 431,934 to 669,811 students. Student enrolment growth at Texas' public universities for the same period increased 28.4 per cent, from 414,626 to 532,226 students (<http://www.txhighereddata.org/Interactive/Accountability>).

Transfer Arrangement

Texas's transfer system has these components:

- Core curriculum requirements that are transferable as a block from one community college or university to another
- Field of study curricula that prepare community college students to enter third year of university in a specific field
- A state-wide course numbering system
- A two year associates degree that prepares college students for (but is not mandatory for) admission to third year of university

Texas's system does not offer any guarantee to transfer students or any special priority in the admissions process.

Core Curriculum

Students entering a university or community college degree program since 1999 have been required to take a core curriculum as part of their programs.

Each institution's core curriculum applies to all academic degrees. They range from 42 to 48 credit hours, depending on the college or university. Each core curriculum is divided into eight or nine categories that are common across the state. If a student takes the approved core natural science courses at institution A, the courses are annotated on the student's transcript with a core code by A and must be accepted as fulfilling that

portion of the core at institution B or any other Texas public institution. If a specific course is a core natural science at A and is not at B, it must still be accepted at B (<http://statecore.its.txstate.edu/>).

A university or college may refuse to accept these courses for transfer if a student's mark was less than a C.

Field of Study Curriculum

A Field of Study Curriculum (FOSC) is a set of courses that fulfill lower-division (freshman and sophomore) requirements for a specific major/degree plan, in addition to the core curriculum. Typically these total 21 to 24 semester credit hours (i.e., 7 to 8 half-courses). The courses may overlap with the core curriculum. FOSCs are established by the THECB based on faculty advisory committees.

FOSCs are guaranteed to transfer to any public college or university in Texas. Once a student has successfully completed the set of courses that makes up the FOSC, those courses are also guaranteed to apply to the appropriate bachelor's-level degree plans corresponding to the field of study. Receiving colleges and universities are not allowed to require incoming transfer students to repeat courses with the same content as FOSC courses to satisfy requirements for the academic major.

Field of Study Curricula have been approved for:

- Business
- Communication
- Computer Science
- Criminal Justice
- Educator Preparation: Grades 4-8 Certification
- Educator Preparation: Early Childhood Education
- Engineering
- Engineering Technology
- Mexican-American Studies
- Music
- Nursing

(<http://www.collegeforalltexans.com/index.cfm?ObjectID=CF0A68B2-0461-E7DD-E3196D8D140CAE2C>)

If the THECB determines that an institution inappropriately or unnecessarily required a student to retake a course that is substantially equivalent to a course already taken at another institution, formula funding for credit hours in the repeated course are deducted from the institution's appropriation. (Texas Administrative Code, Title 19, Part 1, Chapter 4, Subchapter B, Rule 4.26)

Common Course Numbering

The Texas Common Course Numbering System provides a common number for courses that have been identified as equivalent by the college or university that offers the course. A fully searchable resource, the TCCNS can help students understand how credit earned at one Texas public college or university will be counted in transfer at another Texas public college or university. Common course numbering began as a voluntary initiative by colleges and universities in the 1980s to facilitate the processing of transfer applications.

Other Supports

Survey evidence in 2009 found that many college students found the transfer process confusing and difficult to navigate (Mangan, 2009). Partly in response, the University of Texas system, in partnership with the Texas A&M University system and the Texas Association of Community Colleges, has set up a plain-language website, transfer101.org. In addition, many universities publish transfer information that is customized for college students in their immediate vicinity.

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

Nearly 35 per cent of the FY 2010 baccalaureate graduates completed 30 or more semester credit hours at a two-year institution (THECB Progress Report, 2011: 19).

Historically, only a small number of the community college students comprising the first-time full-time (FTFT) student cohort actually transfer (the State utilizes FTFT cohort data to track graduation rates). For example, of 115,602 students in the 2003 community college FTFT cohort, only 33,485, or 29 per cent, transferred within six years to a university. Of these transfer students, 15.5 per cent transferred with 43+ hours completed at a community college (Council of Public University Presidents and Chancellors, 2010).

Number of Transfer-eligible College Students Relative to Total College Enrolments

Number of College Students Expressing an Intent to Transfer, Relative to Total College Enrolments

About 40 per cent of college entrants say they want to transfer to four-year institutions, but only 19 per cent of them do (Mangan, 2009).

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

Among first-time full-time degree-seeking community college students comprising the 2001 cohort, 15.6 per cent had earned a bachelor's degree within six years (and 13.9 per cent of the 2002 cohort). By comparison, the statewide average for public university students earning a bachelor's degree in six years (or still enrolled after six years) is 69.4 per cent for the 2001 cohort and 69.8 per cent for the 2002 cohort (Council of Public University Presidents and Chancellors, 2010).

A comparison of third-year direct-entry students with community college transfer students shows that the direct-entry students have higher graduation rates, but there are substantial variations among institutions, for reasons that are not well understood.

- Statewide, 83 per cent of university direct-entry students who achieved junior status by earning a total of 60 SCH prior to the fall 2006 semester completed a bachelor's degree within the following four years (by summer 2010).
- The completion rate for community college transfer students was 67 per cent during the same four-year period, showing a completion rate for community college transfer students that lagged 16 per cent behind their university native student peers.
- For a similar cohort of native and transfer students who became juniors one year earlier, in 2005, and who completed a bachelor's degree during or before 2009, the difference was 18 per cent.
- At some institutions, there was a wide gap between direct-entry and transfer students, while at others there is little or no gap.
- Transfer students took more time to complete their degrees: an average of 7.45 years from the day they started higher education, compared with 5.37 years for direct-entry students. This difference appears to be due to attending part-time or taking semesters off: both groups graduate with approximately the same number of credits (146 for transfer students, 143 for direct-entry students).
- The survey data reveal a wide variety of practices to improve student retention and success. Universities with high retention and completion rates for community college transfer students are likely to require academic advising and/or orientation programs, tend to have good web resources available, and often have specific student success programs or student tracking systems for transfer students. But some of the universities with lower retention and completion rates also have these resources in place, suggesting that there is no definitive list of programs that guarantee transfer student success (THECB, 2011: 138-139).

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

The University of Texas reports that, for college transfer students who have completed the core curriculum, about one-quarter have a first-year university GPA of 3.5 or higher, and another one-quarter have a first-year GPA of 3.0 to 3.5. The proportions are similar for transfer students who have completed an associate degree (Ellis, 2011).

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

Not available.

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

Not available.

COST INDICATORS

Table 3 shows spending on education and related costs (primarily administration per FTE students at each type of Texas public institution.

TABLE 3: Education and Related Spending Per FTE Student at Public Institutions, Texas, 2008 (US\$)

	Colleges	Master's-level Universities*	Research Universities**
Government Cost	6404	6209	7148
Student Cost	2758	5579	5797
Total	9161	11,788	12,784
<i>Memo: Share of public enrolments</i>	55%	19%	25%
*22 universities ** U. of Houston, U. of North Texas, Texas A & M U., Texas A & M U.-Commerce, Texas A & M U.-Kingsville, The U. of Texas at Arlington, The U. of Texas at Austin, The U. of Texas at Dallas, The U. of Texas at El Paso, Texas Tech U., Texas Woman's U.			

SOURCE: Delta Cost Project (2008).

Based on the data in Table 3, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 4.

TABLE 4: Education and Related Spending Per Four-Year Student at Public Institutions, Texas, 2008 (US\$)

	Master's Universities			Research Universities		
	Direct Entry	Transfer from College	Savings Due to Transfer	Direct Entry	Transfer from College	Savings Due to Transfer
	4 years at university	2 years at CC, 2 years at university		4 years at university	2 years at CC, 2 years at university	
Government Cost	24,836	25,226	-390	28,592	27,104	1488
Student Cost	22,316	16,674	5642	23,188	17,110	6078
Total	47,152	41,900	5252 (11%)	51,780	44,214	7566 (15%)

SOURCE: Author's calculations.

Table 4 suggests that there is a significant financial benefit for the student in starting his/her education at a college and then transferring to a university. There is also a benefit to the government compared to the student who spends four years at a research university (although not compared with the four-year master's university student).

A number of qualifications to this analysis should be noted:

- The data are based on per-student averages for each type of institution and so may vary by program type and student type. In particular, the university figures may be distorted by high-cost graduate and professional programs.
- We have no data on the cost of student aid, which may differ for each type of student.
- It might be argued that an adjustment should be made for students who drop out before completing a baccalaureate.
- The analysis assumes an ideal case of a student who completes a four-year program in four years. The data presented above suggest that most students who complete a degree – whether by transfer or direct-entry – take almost five years' worth of credits.

COMMENTS

Texas has demonstrated success in developing a core curriculum of general education credits that can be transferred to any university or college, and also developing blocks of prerequisite courses for major fields of study. Texas's model allows each institution flexibility in its own course design, while requiring recognition of comparable courses from other institutions.

Based on this model, college students who transfer to university achieve reasonably high graduation rates (though lower than the graduation rates for direct-entry students). Evidence about their university grades is limited but suggests strong academic performance in university.

Texas's primary challenge is that so few college students who say they intend to transfer actually do so. Most of the commentary suggests that the reason is lack of information and support for the student while at college. The policy for structure in Texas is in some ways difficult to explain to students: for example, there is no guarantee of transfer to any student, and the two-year associate degree (although it is offered) does not provide any additional advantage to the student beyond what is available to any student who takes the core curriculum and the field of study curriculum. Current initiatives in Texas are focusing on providing better information to students and identifying student services that will encourage more college students to transfer to a university.

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Washington

SYSTEM CONTEXT

Program Description

Washington's postsecondary education system consists of:

- Two major public research universities (the University of Washington and Washington State University, with five branch campuses)
- Four "comprehensive," four-year baccalaureate universities
- 34 public community and technical colleges (CTCs) offering certificate programs, associate degrees and applied baccalaureate degrees
- ten independent, private, liberal arts, non-profit universities and colleges offering bachelor's and master's degrees
- 85 private career colleges

Washington's CTCs account for a higher percentage of overall public and private undergraduate student enrollments (49%) than in the United States in general (34%) (HECB, 2011a). One of the three missions of Washington's CTCs is to provide students with rigorous academic programs that comprise the first two years of college in preparation to transfer to baccalaureate institutions. The other two missions of community and technical colleges are job skills training and adult basic education.

The colleges and universities of Washington recognize the importance of facilitating travel for students moving from one institution to another in pursuit of their educational goals. A statewide transfer policy was introduced in 1984 to govern the transfer of students and their credits from CTCs to public universities in Washington State (HEBC, 1986). Although the provisions of the policy apply only to transfer from community colleges to public four-year institutions, it should be noted that independent institutions in Washington State also work to facilitate transfer from CTCs to the independent sector and there is also transfer between CTCs, between four-year institutions, and from four-year institutions to CTCs.

Eligibility Requirements

Background Regarding Degree Requirements

Bachelor's degrees generally require 180 quarter credits or 120 semester credits. About half of these credits are taken in the first two years. Bachelor's *and* associate degrees must include three different types of courses: 1) general education, 2) preparation for the major or major courses, and 3) electives.

- General education courses are intended to ensure that all bachelor's degree recipients have a breadth of background to provide valuable skills and knowledge regardless of their major. About one-third of bachelor's degree credits are general education and most of these are completed in the first two years.
- Major courses include the pre-requisite courses needed to prepare a student for upper division courses and courses in the major at the upper division level.
- Electives allow degree students to explore an area that is not required for the degree. Depending on the program, the number of electives varies.

Transfer with an Associate Degree

There are four associate degree programs offered by CTCs that are specifically designed for transfer to four-year institutions. These degrees are designed to provide students with the lower-division courses or competencies that satisfy general education requirements and to prepare students for their majors. The associate degree is intended to be equivalent to what a direct-entry student would typically complete in the first two years of study for the same program of study.

Many schools have a minimum cumulative GPA for admission, and a number of them require a certain grade, such as a GPA 2.0 (C) or higher, to transfer an individual course. Most four-year institutions accept as many as 90 to 105 quarter (60 to 73 semester) credits. However, it may not be possible to apply all transferred credits to the student's intended bachelor degree. Most four-year institutions have "senior residency" requirements, meaning a student needs to earn the last 45 quarter or 30 semester credits of a bachelor's degree program at that institution.

Completing any one of the four associate degree programs with an acceptable GPA gives students 90 transferable quarter credits, including general education requirements, and up to 15 quarter credits for technical courses at every Washington public baccalaureate institution and many Washington independent institutions. Courses included as part of the transfer degrees described below might not transfer on a course-by-course basis outside of an associate degree, but will transfer as part of the degree.

Direct Transfer Agreement (DTA) Associate Degree (sometimes called the Associate in Arts, Associate in Arts and Sciences, etc.): This two-year program focuses on meeting the common lower division general education requirements and preparation for the major with 90 quarter credits (60 semester) in the various general education categories.

Associate of Science – Transfer (AS-T): This two-year program focuses on math and science courses to prepare students for one of the following two tracks: 1) biology, chemistry, environment/resource sciences, earth science, geology majors; or 2) engineering, computer science, physics, and atmospheric science majors. Students taking this degree complete more science courses and defer some general education requirements until after they transfer.

Major Related Program (MRP): These are major-specific agreements based on the DTA and AS-T. They are designed to ensure that students in particular majors carefully select their general education courses and electives so that they have the pre-requisites for a specific major, such as business, nursing, education (teaching), engineering.

Associate in Applied Science (AAS-T): This degree has been designed to meet industry standards for employment. It transfers to a very limited subset of applied bachelor's degree programs.

The AAS-T is built upon the technical courses required for job preparation but also includes a college-level general education component, common in structure for all such degrees. The distinguishing characteristic of the AAS-T is a minimum of 20 credits of general education courses drawn from the same list as those taken by students completing the Direct Transfer Agreement (DTA) associate degree or the Associate in Science-Transfer (AS-T) degree (that is, the list of courses generally accepted in transfer). AAS-T courses are designed for the dual purpose of immediate employment and as preparation for the junior year in a bachelor's degree commonly described as the bachelor of applied science (B.A.S.).

Currently 11 per cent of AAS-T graduates actually transfer within three years of graduation, and not all of them enroll in programs where their credits will transfer. The transfer rate is constrained by the availability of university seats (see below).

The AAS-T degree generally will not be accepted in transfer in preparation for Bachelor of Arts or Bachelor of Science degrees although the general education component of the degree will be accepted in transfer. The AAS-T degrees commonly do not transfer if the baccalaureate institution does not offer course work in the technical field. Universities and colleges have addressed this issue by creating specific baccalaureate pathways for AAS-T graduates. These are sometimes called the Bachelor of Applied Science (B.A.S.) degrees. These pathways are available:

Pathways to baccalaureate institutions

- CWU – Bachelor of Applied Science in four areas: Information Technology/Administrative Management, Food Service Management, Health and Safety Management, and Industrial Technology
- EWU – Bachelor of Science in Applied Technology, Bachelor of Science in Dental Hygiene, and Bachelor of Arts in Children's Studies, Early Childhood Education Option
- WSU – Bachelor of Science in Nursing (B.S.N.) for the Registered Nurse (degree completion for Associate Degree Nursing graduates), B.A. in Interior Design, and B.A. in Human Development
- UW Tacoma and UW Bothell – B.S.N. for Registered Nursing

Pathways to degrees at Community and Technical Colleges

- Peninsula College – Bachelor of Applied Science in Applied Management
- South Seattle Community College – Bachelor of Applied Science in Hospitality Management
- Bellevue Community College – Bachelor of Applied Science in Radiation and Imaging Sciences
- Olympic College – Bachelor of Science Nursing (<http://www.hecb.wa.gov/preparing-for-college/admissions-and-transfer/transferring-from-two-year-to-four-year-institutions/associate-in-applied-science> and <http://www.sbctc.ctc.edu/college/e-transferassocinscience.aspx>)

The first AB degree programs with the B.A.S. designation approved by the state (in December 2004) were offered by Central Washington University. The three programs are the B.A.S. in Information Technology and Administrative Management, the B.A.S. in Safety and Health Management, and the B.A.S. in Food Service Management. These AB degree programs have been slow to attract students, although the Information Technology and Administrative Management program had evolved to a sizable enrollment of 115 students by spring 2010.

The most robust of the AB degree programs, the Information Technology and Administrative Management, is offered at the main CWO campus and at various sites in the Seattle-Tacoma metropolitan area, including three community college campuses. Many of the students who enroll in the B.A.S. program are working in the field of information technology and prefer to continue attending their respective community colleges. Online and hybrid online-classroom instruction is used extensively to deliver classes in the Information Technology and Administrative Management program, as well as in the other B.A.S. programs offered by Central Washington University (Bragg and Ruud, 2011). For example, as student who completes an Associate of Applied Science-Transfer (AAS-T) degree in Energy Management and then transfers to Central Washington University's (CWU) Bachelor of Applied Science degree in Information Technology and Administrative Management (ITAM) will take these credits:

- At the college:
 - 25 credits of general education (15 credits of English/communication, 5 credits of mathematics, and 5 credits of reasoning)
 - Five credits in a human relations course
 - Five credits of computer specialization
 - 61 credits of core requirements, which includes courses in Energy Management, two courses in general management, and six credits of elective courses

- At the university:
 - The student chooses from two specializations: Information Technology or Administrative Management.
 - The student takes 36 to 45 credits of breadth requirements, which consist largely of general education courses such as literature, philosophy, sciences, and world cultures.
 - The students takes 36 credits of core courses that are management-related, including Customer Relationship Management, Leadership & Supervision, and Business Math.
 - The Administrative Management specialization requires students to take an additional 26 to 29 credits, which includes courses such as Managerial Communication and Administrative Management Policy, as well as seven to ten credits in a summer internship.

The program is a management capstone model, i.e., the courses in the B.A.S. degree are not specifically related or tailored to the technical field of Energy Management (Makela, Ruud, Bennett, and Bragg, 2012).

Transfer without an Associate Degree

Students who have not completed an associate degree may still transfer to a four-year institution. Students are typically considered for admission as a transfer student if they have completed a minimum of 40 quarter credits (27 semester credits). Individual courses are considered on a case-by-case basis for transfer, with each course being evaluated to determine if it meets the general education requirements, satisfies specific degree requirements, or transfers as an elective at the receiving institution. Courses that might have been accepted toward fulfilling general education requirements may not be accepted as an equivalent without an associate degree. Generally, college-level, academic courses from CTCs will transfer to baccalaureate institutions. Exceptions include remedial or pre-college level classes, professional/technical or vocational courses completed at either a community or technical college may transfer depending on the baccalaureate institution and the degree program to which the student is transferring.

Student who have completed fewer than 40 quarter credits at a community college may be considered for admission based on their high school performance, and asked to submit high school transcripts, SAT or ACT scores, and to comply with earlier freshman admission deadlines.

Programs of Study Available

Transfer is available in academic arts and sciences and applied, technical programs.

Transfer students from CTCs were well represented in all majors in the Class of 2006 baccalaureate graduates, from 32 per cent in science, technology, engineering and mathematics to 50 per cent in education (Social and Economic Sciences Research Centre, 2009).

(Percentages reflect percentage of total 2006 baccalaureate graduates by source: CTC transfer, other transfer, or direct entry):

- Arts and Letters (35% CTC transfer, 18% other transfer, 47% direct entry)
- Education (50% CTC transfer, 10% other transfers, 40% direct entry)
- Business & Accounting (43% CTC transfer, 13% other transfer, 44% direct entry)
- Health (37% CTC transfer, 25% other transfer, 38% direct entry)
- Science, Technology, Engineering & Mathematics (32% CTC transfer, 13% other transfer, 55% direct entry)
- Social Sciences & History (35% CTC, 13% other transfer, 51% direct entry)

Policy Purposes of Transfer

A goal of the 2008 Strategic Master Plan for Higher Education in Washington is to create a high-quality higher education system that provides expanded opportunities to complete postsecondary degrees, certificates, and apprenticeships (HECB, 2007). A key strategy to achieve this goal is to make transfer more user-friendly so that greater numbers of students will successfully transfer and complete bachelor's and advanced degrees.

Transfer is seen as a means of improving access to baccalaureate degrees and, ultimately, achieving the goal of raising the overall level of educational attainment in the state. The transfer system is very important to the production of degrees. More than half (53%) of all Washington baccalaureate graduates in the Class of 2006 were categorized as transfers, with the remaining 47 per cent classed as direct-entry (Social and Economic Sciences Research Centre, 2009). While Washington ranks eleventh overall among states in terms of the percentage of its population with at least an associate degree, this success is largely due to in-migration. Washington needs to improve the rate of degree attainment among its younger population to keep pace with other states and nations and to supply skilled labour to its technology-intensive economy (Institute for Research on Higher Education, 2012).

There is evidence that CTCs provide access to bachelor's degrees for different students than universities.

- 67 per cent of CTC transfer students who earn bachelor's degrees are the first generation in their family to earn a bachelor degree, compared with 47 per cent of students at four-year institutions
- Compared with direct-entry students, transfer students who earn bachelor's degrees are more likely to be African American (45% vs. 39%), Latino (48% vs. 40%), and Native American (50% vs. 32%).
- CTC transfer students who earn bachelor's degrees are more likely to have taken a break between high school and post-secondary than are direct-entry students.

Source: Washington State Board for Community and Technical Colleges (2004)

Role of the HECB

A number of Washington statutes have assigned the Higher Education Coordination Board (HECB) a coordinating role in transfer, including establishing and adopting transfer policies, improving educational transitions, and delivering a biennial report on transfer to the Legislature regarding progress on the development of transfer associate degrees and other improvements in transfer efficiency. The HECB works closely with the State Board for Community and Technical Colleges and other partners to carry out its responsibilities regarding transfer.

The Policy on Inter-college Transfer and Articulation among Washington public colleges and universities was established by the HECB in response to legislation introduced in 1983. The policy provides that community college students who complete an approved associate degree program can enter any public and most private four-year institutions with full credit for their lower division and general education requirements (HECB, 1986).

In spring 2011, the Legislature abolished the HECB, effective July 1, 2012. The board will be replaced by two new entities: the Office of Student Financial Assistance and the Council on Higher Education. The latter will carry out a mandate that will focus on educational attainment. The law authorizing these changes indicates the Legislature's rationale for the change:

“... the legislature also recognizes the importance of prioritizing scarce resources for the core, front-line services that institutions provide -- namely instruction, research, and robust financial aid. During times of economic downturn, policymakers must focus on those areas of public service that have the most direct and immediate impact on

students. Keeping class sections open, attracting the best professors and instructors, providing comprehensive support services, and offering meaningful financial help to offset the costs of attending school must be the main concerns of policymakers.

It is for these reasons that the legislature intends to create a new office dedicated entirely to the administration of student financial aid programs. By focusing financial and governance resources on direct aid to students, the state can provide the highest level of service in this area. The legislature further intends to eliminate many of the policy and planning functions of the higher education coordinating board and rededicate those resources to the higher education institutions that provide the core, front-line services associated with instruction and research. Given the unprecedented budget crises the state is facing, the state must take the opportunity to build on the recommendations of the board and use the dollars where they can make the most direct impact." (Notes to RCW 28B.76.020, <http://apps.leg.wa.gov/RCW/default.aspx?cite=28B.76.020>)

The Institute for Research on Higher Education (2012) cautions that the elimination of the HECB and likely increased future reliance on institutions to drive policy may limit the state's ability to pursue a statewide plan where transfer is concerned.

Student Perspective

Number of College Students Expressing an Intention to Transfer, Relative to Total College Enrollments

Just over one-third (34%) of CTC students in 2009-2010 (113,358 out of 338,109) reported that they intended to transfer, a five percent increase over 2008-2009. A further 46 per cent were studying for workforce education, 14 per cent for basic skills and 7 per cent for other reasons (Washington State Board for CTCs, 2010).

The number of students expressing an intention to transfer has grown each year between 2005-2006 and 2009-2010, although this group of students has remained approximately constant as a percentage of all CTC enrollments at between 33 and 34 per cent (Table 1). Growth in the number of transfer and workforce education enrollments since 2007-2008 is attributed by the Washington State Board for CTCs to the recession that began in 2008, which has caused a lot of people to seek retraining and an affordable means to attain a post-secondary education.

Table 13: CTC Enrollments, by Purpose for Attending and Academic Year

	2005-06	2006-07	2007-08	2008-09	2009-10
Workforce Education	136,387	142,160	144,649	148,744	154,213
% of Total	45%	45%	45%	44%	46%
Transfer	99,838	100,840	103,844	108,379	113,358
% of Total	33%	32%	32%	32%	34%
Basic Skills	38,173	41,533	44,018	47,252	45,692
% of Total	13%	13%	14%	14%	14%
Home/Family/Other	30,051	29,620	30,464	29,957	24,846
% of Total	10%	9%	9%	9%	7%
Total	316,959	314,153	322,975	334,332	338,109

Source: Washington State Board for CTCs (2010).

Number of Transfer-eligible College Students Relative to Total College Enrollments

Many of the students who begin their CTC studies with the intention of transferring and completing a bachelor's degree do not reach their goal. The Washington State Board for CTCs (2004) tracked the progress of a class of CTC students who entered state supported courses at a CTC for the first time or returned after a period of absence of at least six years and expressed an intention to transfer. The goal was to find out how many of those who originally expressed an intention to transfer actually did so. The findings are summarized as follows:

- Transfer Intent: 41,426³ said they registered at their CTC with an intent to transfer.
- Transfer Path: 25,508 (62% of 41,426) had completed 15 quarter credits within two years and were considered to be "on the transfer path." Completion of 15 quarter credits is comparable to completing the admission requirements for university.
- Transfer Ready: 21,456 (84% of 25,508) were considered to be "transfer ready" because they had completed courses in each of the categories of general education requirements with a GPA of 2.0. Seventy-nine percent (16,956) of these students had earned 75 or more credits within two years of enrolling. The remaining 4,500 had completed at least 45 credits and were making steady progress toward their transfer goal after two years.
- Successful Transfers: 14,267 (66% of 21,456) transferred to a baccalaureate institution (13,334 within Washington and the rest transferred out-of-state).

Table 2 shows actual transfers within Washington as a percentage of CTC enrollments with a transfer intention and the distribution of transfer students by destination within Washington. Note that the number of transfers in Table 2 represents transfers within Washington State only. In 2008-2009 an additional 3000 students transferred out-of-state.

Table 14: Distribution of CTC Transfers by Destination

	Within State Transfers as % of Total CTC Enrollment			Distribution of Transfers by Destination	
	Transfers within State	CTC Enrollment with Transfer Intention	Ratio	To Washington 4-Year Public ¹	To Washington 4-Year Private
2005-06	16,768	99,838	17%	74%	26%
2006-07	17,138	100,840	17%	74%	26%
2007-08	17,734	103,844	17%	72%	28%
2008-09	17,780	108,379	16%	70%	29%
2009-10	18,946	113,358	17%	69%	31%

- Includes students who transferred from Running Start programs that are held on community campuses.
- Data compiled by author from HECB (2011a) and Washington State Board for CTCs (2010).

Table 2 shows that while the number of transfer students is rising each year, the transfer rate is staying constant. When out-of-state transfers are included, the transfer rate is between 19 and 20 per cent and has not changed since 1997-1998 (HECB, 2009). The static transfer rate may be due to a variety of issues, including lack of capacity at the upper division level, inadequate preparation, financial issues, difficulty navigating the system, conflicting priorities, etc. Improving this rate is a key piece of the strategy to raise the number of bachelor's degrees earned by people in Washington. In an effort to improve the transfer rate,

³ Note that the number of students expressing an intention to transfer is lower in this analysis than in the table above because the table includes transfer students in second year and beyond, whereas this analysis is limited to new entrants.

Washington is pursuing several strategies related to building clearer pathways to bachelor's degrees, improving state-wide coordination of transfer and articulation and ensuring long-term capacity in the state's higher education system for transfer students (HECB, 2009).

Table 2 illustrates a trend toward transferring to independent institutions in Washington. Between 2005-2006 and 2009-2010, the share of in-state transfers going to independent institutions rose from 26 to 31 per cent (HECB, 2011a).

In addition to transfer from CTCs to four-year institutions, there is also a significant amount of what the HECB (2009) calls "swirling." This refers to students transferring among CTCs, among four-year institutions, and "backwards" from four-year institutions to CTCs. In 2005-2006, almost 35,000 students transferred in the Washington's post-secondary system, as follows:

- 16,768 from two- to four-year universities
- 10,810 among CTCs
- 5104 from four-year institutions to CTCs
- 2266 between four-year institutions

Upper division capacity was identified as a barrier to transfer, particularly for students seeking baccalaureate degrees in applied programs in a 2005 study conducted by public universities and the Washington State Board for CTCs (WSB for CTCs, 2005). The study found that about 10 per cent of the 7000 graduates with technical associate degrees transferred to a baccalaureate program, while it was estimated that a rate of 30 per cent was needed to meet industry needs. In response to this finding, legislation (HB 1974 passed in 2005) was introduced authorizing CTCs to offer applied baccalaureate degrees (Seppanen, 2009). Examples of applied baccalaureate degrees include: Radiation and Imaging Science, Interior Design, Applied Management, Applied Behavioural Science, and Hospitality Management.

Four-year institutions are concerned about the implications of continued growth in the number of transfer students for the capacity and funding of receiving institutions. There are financial disincentives to increasing transfer enrollments because it is more expensive to educate upper division students due to smaller class sizes. Given Washington's relatively strong reliance on CTCs for lower division studies, four-year institutions in Washington have a relatively high proportion of upper to lower division students and this has implications for financing (Institute for Research on Higher Education, 2012).

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

More than half (53%) of all Washington baccalaureate graduates in the Class of 2006 were categorized as transfer students and the remaining 48 per cent were classed as direct entry students (Social and Economic Sciences Research Centre, 2009) (Table 3). Thirty-eight percent transferred with an associate degree from a CTC. A further 15 per cent transferred with 40 credits or more from a private or out-of-state institution. The direct-entry group is comprised of students who entered directly from high school (n=5728) and students who transferred with fewer than 40 credits (n=3467). Thus, almost 40 per cent of students categorized as "direct entry" had some transfer credits, but not enough to be categorized as a transfer student (less than 40) (Social and Economic Sciences Research Centre, 2009).

Table 15: Bachelor's Degree Graduates from Class of 2006, by Transfer Status, Washington State Public Baccalaureate Institutions

	Total Graduates	% Distribution
Direct Entry	9195	48%
CTC Transfer	7278	38%
Other Transfer	2799	15%

Source: Social and Economic Sciences Research Centre, 2009.

Among graduates of the class of 2006, at least 70 per cent had attended two or more post-secondary institutions.

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

The number of transfer students from CTCs who graduate within three years after transferring to a Washington public baccalaureate institution has increased by nearly 9 per cent between 1997-1998 and 2009-2010 (HECB, 2010). In 2009-2010, the three year graduation rate for students who transferred to a public baccalaureate institution with an associate degree was 72 per cent (HECB, 2011b).

Data for the six public baccalaureate institutions is provided in Table 4. Comparing the six-year graduation rate of direct-entry students to the three-year rate for CTC transfers shows that transfer students had essentially the same or higher rates of graduation at all public, four-year institutions in Washington, except Washington State University.

Table 16: Graduation Rates for Direct-Entry and Transfer Students

	6-Year Graduation Rate for Direct-Entry		3-Year Graduation Rate for CTC Transfers with Associate Degrees	
	Baseline ¹	2009-10	Baseline ¹	2009-10
University of Washington	70%	80%	65%	79%
Washington State University	60%	69%	59%	64%
Central Washington University	48%	56%	70%	76%
Eastern Washington University	47%	48%	58%	57%
The Evergreen State College	52%	58%	n/a	66%
Western Washington University	62%	69%	57%	74%

4. Direct entry includes students who entered public four-year institutions as freshmen and did not stop studying for more than six months.

5. The Baseline Graduation rate is the annual average graduation rate from 1997-1998 to 2001-2002.

Source: HECB, 2010.

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

Student grades vary more by major than by transfer status. By the senior year, transfer students and direct entry students have about the same GPAs (transfer: 2.94 and direct-entry: 2.98) (Washington State Board for CTCs, 2003). There is some variation in this result by major, with direct entry students tending to have higher grades than their transfer counterparts in Business and Accounting, Science and Math, and Engineering and Computer Sciences. Transfer students tend to academically out-perform direct entry students in Social Sciences and History and Nursing and other Health Related Sciences. These findings are based on the bachelor's graduating class of 2001-2002.

After-graduation Employment/unemployment Rate of College Transfer Students Compared with Traditional Students

No information available.

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

No information available.

COST INDICATORS

Table 5 shows spending on education and related costs (primarily administration) per FTE students at each type of Washington public institution.

Table 17: Education and Related Spending Per FTE Student at Public Institutions, Washington, 2009 (US\$)

	Colleges	Comprehensive Universities	Research Universities
Government cost	\$7466	\$7684	\$14,134
Student cost	\$2826	\$6017	\$10,192
Total	\$10,292	\$13,701	\$24,326
Share of public enrolments	64%, U.S. Avg 48%	15%, U.S. Avg. 19%	21%, U.S. Avg. 30%

Colleges include the 34 public colleges in Washington, **Comprehensive Universities include:** Central Washington U., Eastern Washington U., The Evergreen St. College, Western Washington U., U. of Washington-Bothell Campus, U. of Washington-Tacoma Campus; **Research Universities include:** Washington St. U., U. of Washington-Seattle Campus
SOURCE: Delta Cost Project, 2009.

Based on the data in Table 5, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 6.

Table 18: Education and Related Spending Per Four-Year Student at Public Institutions, Washington, 2009 (US\$)

	Comprehensive University			Research University		
	Direct Entry	Transfer from College	Savings Due to Transfer	Direct Entry	Transfer from College	Savings Due to Transfer
	4 years at State University	2 years at CCC, 2 years at CSU		4 years at UC	2 years at CCC, 2 years at UC	
Government Cost	\$30,736	\$30,300	\$436	\$56,536	\$43,200	\$13,336
Student Cost	\$24,068	\$17,686	\$6382	\$40,768	\$14,732	\$14,732
Total	\$54,804	\$47,986	\$6818 (12.4%)	\$97,304	\$69,236	\$28,068 (28.8%)

SOURCE: Author's calculations.

Table 6 suggests that there is a significant financial benefit for the student in starting his/her education at a college and then transferring to a university. There is also a benefit to the government when students

complete their lower division studies at a CTC. The savings to government is relatively small when students transfer to a comprehensive university (\$436) as compared with a research university (\$13,336).

A number of qualifications to this analysis should be noted:

- The data are based on per-student averages for each type of institution and so may vary by program type and student type. In particular, the university figures may be distorted by high-cost graduate and professional programs.
- We have no data on the cost of student aid, which may differ for each type of student.
- It might be argued that an adjustment should be made for students who drop out before completing a baccalaureate. A high share of CTC students who appear to intend to attain a degree do not in fact transfer to a degree program, and there is also attrition among students who enter universities directly. There are two methodological impediments to making this adjustment: 1) there is no widely-accepted way of deciding which CTC students “intend” to transfer to university; and 2) there is no accepted way of deciding what percentage of the money spent on students who do not complete a degree was actually “wasted.”
- The analysis assumes an ideal case of a student who completes a four-year program in four years. Over ninety percent (93% in 2009-2010) of transfer students do not earn more than 125 per cent of the number of credits required for the degree they earn (HECB, 2011b). This is not considered to be out-of-line with direct-entry students, who may change majors, etc. and also graduate with excess credits. It is evident that many students will not complete their degrees within a four-year time frame.

Affordability

From 1999 to 2009, median family income in Washington declined in constant dollars by 1.9 per cent. At the same time, tuition increased in constant dollars by 42.4 per cent at CTCs and by 39.5 per cent at public four-year institutions (Institute for Research on Higher Education, 2012). These trends mean that post-secondary education is becoming less affordable for students in Washington.

COMMENTS

The transfer system in Washington is a key part of that state's strategy to increase the overall educational attainment of its population and to supply skilled workers to its technology-intensive economy. The state has been working on strategies to increase the transfer rate. To address capacity constraints, it now allows CTCs to offer applied baccalaureate degrees. The proportion of transfer students going to independent post-secondary schools in Washington has been growing over the last decade. With the abolishment of the central agency overseeing the transfer process in Washington, the Higher Education Coordinating Board, and financial disincentives to four-year institutions accepting transfer students, there is some uncertainty regarding how successful Washington will be in achieving its objective of increased educational attainment through transfer.

The available data show that transfer students fare as well as direct-entry students in terms of their final-year grades and graduation rates.

The cost to the student of a degree earned by articulation is lower than that for a degree earned by direct entry to university, assuming the student attends four years of full-time study. The cost to the government may also be lower, although this depends on the student's choice of institution and program.

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Scotland

SYSTEM CONTEXT

Scotland has 17 universities and 35 colleges. The universities developed in three broad phases:

- The so-called “ancients” (St. Andrews, Glasgow, Aberdeen and Edinburgh) were established in the fifteenth and sixteenth centuries.
- Dundee, Strathclyde, Heriot-Watt and Stirling achieved university title in the 1960s, as did the Open University.
- The 1992 Further and Higher Education Act removed the distinction between universities and polytechnics/colleges of education, so that Glasgow Caledonian, Napier, Paisley (now merged with Bell College as the University of the West of Scotland), Robert Gordon and Abertay became universities. Queen Margaret University became a separate university in 2007, as did the University of the Highlands and Islands in 2011.

Most of the colleges were founded since the mid-1960s, but some have their roots in the eighteenth, nineteenth and early twentieth centuries.

With five million people, Scotland has three of the top 150 universities in the 2012 Times Higher Education World University Rankings, and three of the top 100 in the 2012 QS World University Rankings. 1.8 per cent of the world's cited research comes from Scotland with just 0.1 per cent of the world's population. This makes Scottish-based research the most cited by GDP in the world (Scottish Government, 2010: 1-3).

There are 231,260 students in universities and related institutions, plus 48,355 studying sub-degree level HE programmes within the college sector. In other words, the colleges provide 20 per cent of higher education. Almost all degrees are offered by universities, but a small number of degrees are available in colleges by the authority of a university.

Program Description

The Scottish Government has made college-to-university articulation a priority. The government's Green Paper on higher education states:

The four-year degree is and will remain the core offer of our universities...but we want to explore ways in which we could make the learner journey more effective for learners, more efficient for the public purse and how we can make our funding systems more flexible to encourage institutions to be innovative and creative in developing courses that meet the changing needs of a diverse student population and our economy, through recovery and into prosperity' (Scottish Government, 2010: 6).

Articulation is defined as "... entry to the second or third year of a university degree course using a [one-year] Higher National Certificate or a [two-year] Higher National Diploma (HNC/D) gained in a college as an entry qualification." Articulation is distinguished from "progression," where a college student proceeds to university but receives little or no credit for college work.

Measures to promote articulation run up against longstanding institutional roles. The majority of students entering full-time undergraduate education in Scotland do so directly from school and expect to spend four years achieving an honours (four-year) degree. The older universities have not seen articulation as a major part of their mission, as shown in the following table.

Table 2: number and proportion of entrants to Scottish universities for the higher national certificate or diploma or similar further education qualification was the highest on entry, by university category, 2000

University category	Number of entrants	Number of entrants with HNC/D as highest qualification	Percentage of all entrants
Ancient universities	10,000	303	3
Old universities	7,000	568	8
New universities	10,500	2,665	25
Art/music colleges	1,300	167	13
Total	28,800	3,703	13

Source: Gallacher (2003: 12), table 7: numbers and percentages of students entering HEIs in Scotland for whom HNC/D or similar was highest qualification on entry

The government's strategy has been to promote college-to-university articulation, with full credit for college courses, on a bilateral or regional basis.

In 2007, the Scottish Funding Council (SFC) designated Articulation Hubs (regionally-based clusters of institutions) that have been working to create partnerships which support articulation between some college programmes and degree qualifications. In addition, the number of articulating students is a key indicator of the SFC's outcome agreements with a number of the post-1992 universities.

The six articulation hubs are:

- Greater Glasgow Articulation Partnership
- Edinburgh, Lothians, Fife and Borders Articulation Hub (ELRAH)
- South West Articulation Hub (SWAH)
- North-East Scotland Articulation Hub
- Tayside and Fife Articulation Hub (TFh)
- The Open University in Scotland

Each hub is based at a post-1992 university. The hub receives a specified amount of funding in return for an agreement to increased articulated enrolments beyond a base level, as shown in the following table.

Hub	Baseline agreed	Target number of students	SFC funding	Average cost per student
North East (RGU)	248	288	£400,000	£1,389
Tayside & Fife (Abertay)	150	Not known	£400,000	Not known
ELRAH (Edinburgh Napier University)	530	580	£700,000	£1,207
GGAP (Glasgow Caledonian University)	550	550	£650,000	£1,181
SWAH (UWS)	551	350	£650,000	£1,857
Open University in Scotland	n/a	408	£200,000	£490

SOURCE: Scottish Funding Council, 2011a.

The effort towards a large number of articulated enrolments takes place within the Scottish Credit and Qualifications Framework (SCQF), which is jointly managed by the government, the universities and the colleges. The framework recognizes a single stream of higher education qualifications, as shown in the following table.

- SCQF is the national credit transfer system for all levels of qualifications in Scotland. It incorporates the Scottish Qualifications Certificate, Higher National Certificate, Higher National Diploma, Scottish Vocational Qualification (SVQ) and all Degrees of Scottish Higher Education Institutions.
- SCQF is managed by a partnership of the Scottish Qualifications Authority, the Association of Scotland's Colleges (ASC), the Quality Assurance Agency for Higher Education (QAA Scotland), Universities Scotland and the Scottish Government.

SCQF level	The Scottish Credit and Qualifications Framework			SCQF level
	SQA National Units, Courses and Group Awards	Higher Education	SVQs*	
12		Doctorates		12
11		Masters	SVQ 5	11
10		Honours Degree Graduate Diploma/Certificate**		10
9		Ordinary Degree Graduate Diploma/Certificate**		9
8		Higher National Diploma Diploma in Higher Education	SVQ 4	8
7	Advanced Higher	Higher National Certificate Certificate in Higher Education		7
6	Higher		SVQ 3*	6
5	Intermediate 2 Credit Standard Grade		SVQ 2	5
4	Intermediate 1 General Standard Grade		SVQ 1	4
3	Access 3 Foundation Standard Grade			3
2	Access 2			2
1	Access 1			1

Despite the existence of this framework, institutions report challenges in developing articulated programs because college programs are vocationally-oriented and may not align well with university programs. See, for example, MacAskill, 2010.

Policy Purposes of Transfer

The government sees articulation as having these purposes:

- Offering a route to a degree which is the best route for some students
- Encouraging participation from students from less privileged backgrounds given that colleges generally have a higher proportion of such students
- Providing high level technical and academic education where employers require it
- Potentially reducing costs for the government and the student (Scottish Government, 2010; Scottish Funding Council, 2011b)

There is evidence that colleges are an important point of entry for older learners and students from low-income regions (Raab, 1998; Parry, 2005: 11).

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

Number of Transfer-eligible College Students Relative to Total College Enrolments

Number of College Students Expressing an Intent to Transfer, Relative to Total College Enrolments Not available.

In 2009-2010, articulation activity (where students transfer from college to university with full credit) through the five Scottish hubs accounted for approximately 2000 articulating students – some 25 per cent of all students who entered Scottish universities at the second- or third-year levels that year. Adding some student who articulate outside the hubs, the total is estimated at 2500. By comparison, total college enrolments were 48,355.

An additional 3500 students entered university from college but are repeating at least one year of study.

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

Not available.

Tracking of admissions and articulation has been hampered by poor interconnections between the information systems of the universities and colleges (Croxford, 2011).

COST INDICATORS

The Scottish Funding Council has calculated the cost of a degree obtained by college-to-university articulation at £26,600 to 29,900, or 10 to 20 per cent lower than the cost of a degree obtained by direct entry to university (£33,200).

These figures include direct operating grants to the institution and the average government cost of student maintenance (assistance of living costs). Students permanently living in Scotland and studying at Scottish universities do not pay any fees towards their tuition costs.

Table 1 – Articulation models: time taken and indicative cost					
	Year 1	Year 2	Year 3	Year 4	Total time to degree/ total cost to degree
1+3 model	1 st year study at college – achieve HNC	Enter 2 nd year of university study	3 rd year university study	4 th year university study - achieve degree	4 years
AVERAGE cost per annum	£5,000	£8,300	£8,300	£8,300	£29,900
2+2 model	1 st year study at college	2 nd year study at college – achieve HND	Enter 3 rd year of university study	4 th year university study - achieve degree	4 years
AVERAGE cost per annum	£5,000	£5,000	£8,300	£8,300	£26,600
Source: SFC (SAAS average cost information) Note: SFC has determined the average cost of a year's study by taking an average gross funding cost for a fully funded place and adding the average student maintenance cost.					

SOURCE: Scottish Funding Council, 2011b.

The Scottish Fund Council has also calculated that the costs of an articulated program is higher than direct-entry if a student transfers from college to university without receiving full credit for college studies. These costs are shown in the following table.

Table 2: Partial credit HNQ entry to HE – time taken / indicative costs		
Model	Time taken to complete degree	AVERAGE cost to complete degree
1+4 Complete HNC at college but enter year one at university	5 years	£38,200
2+3 Complete HND at college but enter year two at university	5 years	£34,900
2+4 Complete HND at college but enter year one at university	6 years	£41,900
Students Awards Agency for Scotland (SAAS) does not fund first year university study for those students who have achieved a HND. It will however fund second year university study for HND entrants (a repetition of Level 8) and first year university study for HNC entrants (a repetition of Level 7).		

SOURCE: Scottish Funding Council, 2011b.

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New Zealand

SYSTEM CONTEXT

Program Description

New Zealand's tertiary education system consists of:

- Eight universities (Auckland University of Technology, Lincoln University, Massey University, University of Auckland, University of Canterbury, University of Otago, University of Waikato, and Victoria University of Wellington). These institutions received 50 per cent of tertiary education funding in 2010 (\$1,382,592,000).
- Polytechnics and institutes of technology (ITPs): there are 20 public ITPs located throughout New Zealand. These institutions received 23 per cent of tertiary education funding in 2010 (\$664,001,000).
- Wananga: 3 wananga institutions provide education using traditional Maori ways of teaching and learning. These institutions received 6 per cent of tertiary education funding in 2010 (\$169,901,000).
- Industry Training Organizations (ITOs): 38 industry training organizations coordinate training for employees, leading to qualifications from the New Zealand Qualifications Framework, while earning money. These institutions received 7 per cent of tertiary education funding in 2010 (\$193,942).
- Private trainers (PTEs): 369 organizations, including companies, trusts and other entities, offered postsecondary education and vocational training. These institutions received 12 per cent of total tertiary education funding in 2010 (\$323,638,000) (Tertiary Education Commission, 2010).

The remaining 2 per cent of Tertiary Education funding in 2010 went to other funded organizations and students.

New Zealand has a national register of qualifications, maintained by the New Zealand Qualifications Authority (NZQA). This organization is also responsible for quality assurance for all tertiary education institutions other than universities. The New Zealand Qualifications Framework is a comprehensive list of all quality assured qualifications in New Zealand. One of the goals for the Qualifications Framework is to enhance opportunities for credit transfer by establishing a common system of credit. The list includes all quality-assured qualifications that have been approved by the universities through either the Committee on University Academic Programs (CUAP) of New Zealand or the NZQA. To receive government support, education providers must have their programs quality assured by either the CUAP or the NZQA.

Until 1961, there was only one university in New Zealand, the University of New Zealand, with five colleges located in different regions of New Zealand. Since then, the five colleges have become independent universities and three new universities have been added, to bring the total to eight. Partly due to their history as a single institution, New Zealand universities are familiar with assessing transfer credit for students transferring within the university system. Crediting arrangements have been extended to include a range of non-university qualifications such as relevant NZQA-approved degrees and qualifications registered on the New Zealand Qualifications Framework. When assessing transfer credit, New Zealand universities ensure that their qualifications are not “devalued” by limiting the amount of credits that can transfer and they also consider a student’s academic performance and allow a strong performance to “make up for some irrelevance or inadequacy of content” (CUAP, 2012: 15).

Universities have some formal transfer agreements in place, but most transfer is assessed on a case-by-case basis. A review of a number of New Zealand university websites shows that transfer requests are assessed by universities *after* students are admitted and students are responsible for providing detailed course descriptions on which transfer credit can be assessed. This means that students have little certainty regarding the transfer credit they will be granted when making decisions about where to continue their studies. The

CUAP argues for a case-by-case approach to assessing credit transfer on the basis that “a merely mechanical system which precludes the exercise of judgment is seen as disadvantageous to students and might affect course completion rates (CUAP, 2012: 15).”

Policy Purposes of Transfer

In its tertiary education strategy for the period 2010-2015, the New Zealand Ministry of Education identifies strengthening collaboration and shared resources for greater efficiency as a strategy to achieve the broader goal of improving system performance. The report notes that enabling students to transfer among the different sub-sectors that compose the tertiary education system is beneficial to students and a more efficient use of resources (Ministry of Education, 2011a).

To support the goal of achieving greater integration across the tertiary sector, a national credit transfer policy was developed by the New Zealand Qualifications Authority in 2002. The policy was developed in consultation with groups from across the tertiary sector, including universities, polytechnics, wananga, student associations, and private training establishments. The policy sets out a number of high-level principles, objectives and expected outcomes related to the transfer of credits among tertiary sector institutions (New Zealand Qualification Authority, 2002). The National Qualifications Framework provides a “common currency” for all quality-assured qualifications in New Zealand and lays the groundwork for transfer.

The universities support the national transfer policy and outline some of their own principles for transfer of credit in their functions and procedures manual. The universities’ principles reflect a strong emphasis on institution autonomy, a desire for flexibility to award different amounts of credit based on the merits of each case, and a recognition that processes for appeal of credit transfer decisions should be in place (CUPA, 2012).

Student Perspective

There is no central database for credit transfer information in New Zealand.⁴ The processing of credit transfer and the recording of this information is the responsibility of each individual tertiary institution.

A study conducted by Scott in 2008 looked at the movement of students within the tertiary system from 1997 to 2006. The study identified students who moved from one institution to another, but did not distinguish between those who transferred credits and those who simply changed institution. On average, across all qualifications, 19 per cent of tertiary sector students transferred to a different provider before completing a qualification. Twenty-five per cent of diploma students transferred between institutions before completing their credentials, including 4 per cent who transferred to a university bachelor’s degree. University and PTE students were the least likely to transfer before completing (about 13%), and ITP and wananga students were the most likely to transfer prior to completing their qualification (24% and 27%, respectively). Six per cent of ITP students transferred to a university, including 4 per cent to degree-level or higher programs. There was some “backwards” transfer, from universities to ITPs (7%), mostly to complete certificate or diploma qualifications, although 1.2 per cent transferred to an ITP degree program.

⁴ This was confirmed in an email from Kathy Maclaren of the New Zealand Qualifications Authority, dated May 30, 2012.

Table 19: Proportion of Students who Transferred before Completing their Qualification, 1997 to 2006

	Did not Change Provider	University	Transferred to:		PTE	Total Transfers	Total
University	83%	7%	7%	1%	3%	17%	100%
Polytechnics and Institutes of Technology (ITP)	76%	6%	9%	3%	6%	24%	100%
Wananga	73%	2%	9%	4%	12%	27%	100%
Private Trainer (PTE)	84%	3%	5%	2%	5%	16%	100%
Total	81%	5%	7%	2%	5%	19%	100%

Source: Scott, 2008.

The most common type of transfer in the tertiary system was for students moving from a certificate program at one ITP to another certificate program at another ITP. This pathway accounted for about 9 per cent of all transfer. The most common transfer pathways are listed below in order of volume, as measured by the percentage of total transferring students during the period 1997 to 2006 (Smith, 2008).

1. ITP certificate to ITP certificate ~ 9.1%
2. ITP certificate to PTE certificate ~ 6.3%
3. University degree to university degree ~ 5.8%
4. PTE certificate to ITP certificate ~ 4.3%
5. PTE certificate to PTE certificate ~ 4.1%
6. ITP certificate to wananga certificate ~ 3.9%
7. ITP certificate to university ~ 3.2%
8. University degree to ITP certificate ~ 3%
9. PTE certificate to wananga certificate ~ 2.6%
10. ITP diploma to university degree ~ 2.4%
11. ITP diploma to ITP certificate ~ 2.1%
12. ITP diploma to PTE certificate ~ 1.9%
13. ITP diploma to ITP diploma ~ 1.8%

Changing to a new educational provider was more popular among students who had completed their qualification. More than half of the students (52%) who proceeded to a higher qualification after completing a qualification changed providers. Again, the rate was higher for those previously enrolled in ITPs (80%) and lower for those from universities (20%).

Qualitative research with students found that learners encounter a number of administrative and academic problems when transferring among institutions (Scott, 2008). Some who completed a diploma in the ITP sector and applied for a bachelor's-level qualification at a university were refused entry because the university did not recognize their qualification, even though the ITP had advised the learner that progression was possible.

Number of College Students Expressing an Intent to Transfer, Relative to Total College Enrolments
Number of Transfer-eligible College Students Relative to Total College Enrolments
Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total
Number of Baccalaureate Graduates

No data available.

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

David Scott's 2008 study of students who changed institution asked the question: does changing providers affect qualification completion? The study found that, apart from the lowest-level certificates (levels 1-3), changing providers was associated with significantly lower rates of credential completion when compared to students who stayed with their original institution. After ten years, 66 per cent of bachelor's students who did not transfer had completed their degrees, compared to 35 per cent of those who did transfer. The study found that many students transferred to another institution to complete a lower-level credential; for example, they transferred from a diploma program at one institution to a certificate program at another.

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

There is no information regarding the academic performance of transfer students in New Zealand.

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

No information available.

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

No information available.

COST INDICATORS

Table 2 shows spending on education and related costs (primarily administration) per FTE students at each type of New Zealand public institution.

Table 20: Education and Related Spending Per FTE Student at Public Institutions, New Zealand, 2010 (NZ\$)

	ITP	Wananga	Universities
Government Cost (average subsidy)	\$8020,	\$6270	\$8870
Student Cost (domestic)	\$3660	\$582	\$5190
Total	\$11,680	\$6852	\$14,060
Share of public enrolments	33%	12%	55%

Source: Ministry of Education, 2011b: 122-123.

Based on the data in Table 2, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 3.

Table 21: Education and Related Spending Per Four-Year Student at Public Institutions, New Zealand, 2010 (NZ\$)

	ITP to University			Wananga to University		
	Direct Entry	Transfer from College	Savings Due to Transfer	Direct Entry	Transfer from College	Savings Due to Transfer
	4 years at University	2 years at ITP, 2 years at University		4 years at University	2 years at W, 2 years at U	
Government Cost	\$35,480	\$33,780	\$1700	\$35,480	\$30,280	\$5200
Student Cost	\$20,760	\$17,700	\$3060	\$20,760	\$11,544	\$9216
Total	\$56,240	\$51,480	\$4760 (8%)	\$56,240	\$41,824	\$14,416 (26%)

SOURCE: Author's calculations.

Table 3 suggests that there is some financial benefit for the student in starting his/her education at an ITP or wananga institution and then transferring to a university. There is also a benefit to the government when students complete their first two years of tertiary studies at an ITP or wananga institution, compared to the scenario of four years at university. However, this assumes that students are not set back in their studies as a result of the transfer, and given that New Zealand does not have a strong transfer system, this assumption is unlikely to be valid.

Affordability

In 2010, the number of students who borrowed money to pay tuition fees rose by 6.9 per cent over the previous year. In addition, the amount borrowed rose by 12 per cent, reflecting increases in course fees of 14 per cent, other course-related costs of 16 per cent and in living costs (4.9%). The average amount borrowed in 2010 was \$7300 (Ministry of Education, 2011b).

COMMENTS

The government of New Zealand has established a credit transfer policy to guide credit transfer among tertiary education institutions. The transfer policy reflects a broader priority of government to strengthen collaboration and shared resources to achieve greater efficiency in the tertiary education sector. The government recognizes that it will often make sense for students to change institutions in the course of achieving their educational goals. Enabling students to transfer among different sub-sectors is a more efficient use of resources because it reduces the need to repeat course work (Ministry of Education, 2011a). To facilitate transfer, New Zealand has a National Qualifications Framework that lists all of the quality-assured and publically funded qualifications in the country.

Unlike other jurisdictions, New Zealand does not have any lower-levels credentials that are designed specifically for transfer (e.g., associate degree). There is no central source of information for New Zealand students that provides information on credit that can be expected when transferring from one institution to another. Furthermore, universities process credit transfer requests after a student is admitted to the institution, so students cannot use credit transfer information to inform their choice of institution for subsequent studies. Although universities support the transfer principles established by the New Zealand government, they place a high value on protecting their distinctiveness and the integrity of their own programs, and assess requests for credit transfer on a case-by-case basis. There is little information regarding the performance or outcomes of students who transfer credit in New Zealand. One research study suggests that those who move from one institution to another take longer, on average, to complete their credential, which may reflect a lack of recognition by their new institution for prior learning (Scott, 2008).

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Australia

SYSTEM CONTEXT

The postsecondary system in Australia is composed of two sectors: the higher education (HE) sector and the vocational and technical education (VTE) sector. These are roughly analogous to the university and college sectors, respectively, in North America.

VTE Sector

There are 3000 institutions in this sector, serving 1.5 million students. About 1000 of these institutions, accounting for 75 per cent of the students, are TAFE institutions, which are owned, operated and financed by states or territories and are referred to as colleges or institutes, depending on the jurisdiction. They offer programs mainly at the certificate and diploma level in business, finance, hospitality, tourism, construction, engineering, visual arts, information technology and community work. Most TAFEs serve a designated geographical area and cover a wide range of subjects. In large urban areas, some TAFEs specialize in a particular subject matter area and serve a larger geography, such as the Trade and Technical Skills Institute in Brisbane.

HE Sector

The HE sector is composed of universities, graduate business schools, theological colleges, etc. The sector's 45 major institutions and 85 other institutions serve approximately 750,000 students (75% undergraduate/25% graduate). These institutions have a high degree of autonomy and many are self-accrediting.

Relationship between the Two Sectors

Different organizations are responsible for accrediting the qualifications offered in the two sectors. The sector accrediting or endorsing the qualification determines the standards and other quality requirements for accreditation. Awards offered by the VTE sector are authorized by the National Quality Council or by state/territory accreditation agencies known as Registered Training Organizations (RTOs). HE qualifications are accredited primarily by the institutions themselves. For those HE institutions that are non-self-accrediting, the state/territory accreditation authorities authorize the qualifications.

As Table 1 illustrates, the boundaries between the two sectors in terms of the level of qualifications offered are becoming blurred. Diplomas and advanced diplomas are offered by both sectors. Since 2002, some TAFE institutions have been able to offer vocational graduate diplomas and certificates in specialized areas, subject to assessment and approval by the Higher Education Accreditation Committee (HEAC). Some universities are "dual sector" institutions and deliver both VTE and HE programs.

Table 22: Credentials by Sector, Australia

Vocational Training and Education Credentials	Higher Education Credentials
	Doctoral degrees
	Master's degrees
Vocational graduate diploma	Graduate diploma
Vocational graduate certificate	Graduate certificate
	Bachelor's degree
Advanced diploma	Associate degree, advanced diploma
Certificate IV	
Certificate III	
Certificate II (equivalent to grade 12)	
Certificate I (equivalent to grade 11)	

The governance of tertiary education in Australia is complex and fragmented, resting with separate ministerial councils reporting to the Council of Australian Governments. A 2008 review of Australian Higher Education concludes that a more holistic approach to the tertiary education sector is needed to maintain Australia's international position in higher education (Australian Department of Education, Employment and Workplace Relations, 2008). The report recommends that Australia adopt a system that provides a continuum of tertiary skills, primarily funded by a single level of government and nationally regulated, rather than having two separate sectors as it is currently configured.

Eligibility Requirements

The Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEETYA) has laid out principles to guide transfer between the VTE and HE sectors in Australia. These principles do not guarantee transfer between the sectors but provide guidelines for articulation agreements between institutions. Agreements that are in place vary in terms of how credit is given to students for past studies. Some offer block credit (e.g., credit for a year of study), others offer specified credit related to particular courses, and others offer unspecified credit. There are two main mechanisms for credit transfer in Australia.

1. **Credit Transfer Arrangements** – These arrangements may be carried out on a case-by-case basis, with the student negotiating credit for prior studies, or they may be structured based on a pre-existing agreement between institutions. In the case of structured transfer arrangements, the institutions involved determine agreed amounts of credit for a given VTE qualification and apply that agreement universally to all students following that particular pathway. For example, some HE institutions have policies that state that advanced diplomas from the VTE sector qualify a student to enter the second year of a bachelor's degree.
2. **Articulation Arrangements** – This term is used to describe instances where VTE and HE institutions collaborate to develop curricula to create an integrated qualification pathway. It is distinguished from credit transfer, which is largely an administrative process that determines course equivalencies. Articulation arrangements are based on collaborative curriculum design that involves developing new courses or modifying existing ones and usually results in block transfer.

Transfer arrangements in Australia often have limited applicability. For example, a particular arrangement to transfer credit to a HE institution may apply to VTE credentials issued by that institution, to a defined subset of VTE providers, to VTE providers within a particular state, or they may apply nationally.

Transfer between Institutions within the HE Sector

Until 2007, credit transferability within the HE sector was somewhat ad hoc and not based on multi-institution agreements. In 2007, the country's eight largest universities (known as the G8⁵) signed a credit transfer agreement that ensures that:

- credit will be granted when transferring to an equivalent degree, and that
- credit will be available to students in all undergraduate degree programs who have successfully completed at least one year of equivalent full-time study at a Group of Eight university.

Transferring undergraduate students will be required to complete at least one year of equivalent full-time study at the university from which they graduate. It is believed that a multi-institution agreement such as this was only possible in Australia because the institutions participating in the agreement believed that the instruction the other signatories were providing was equivalent to their own (Junor and Usher, 2008).

Programs of Study Available

The most popular fields of study for students admitted to HE on the basis of prior TAFE awards are (Watson, 2008):

- Business
- Administration
- Economics
- Arts
- Humanities
- Social Sciences,
- Sciences
- Education

PhillipsKPA (2006a) reports that some fields of study lend themselves to transfer because they are taught and labelled in similar ways within the two sectors. Conversely, in other cases there are few VTE courses at the upper levels of qualification, such as diploma or advanced diploma, or no relevant HE courses to receive qualified VTE transfers.

Policy Purposes of Transfer

The VTE sector attracts students from a lower socioeconomic background than the HE sector. Within the VTE sector, students from the lowest socioeconomic status tend to be clustered in the lower qualifications, such as certificates. In its 2008 review of higher education, the Australian Government recommended setting a national target that by 2020, 20 per cent of HE enrolments at the undergraduate level will be from low socioeconomic backgrounds. Increased transfer from the VTE sectors will be a key strategy to achieve this objective.

According to a national study of credit transfer and articulation in Australia (PhillipsKPA, 2006a), much of the advocacy for improved outcomes in credit transfer and articulation comes from the system level, where the focus is on overall educational opportunities, efficiencies and outcomes for the community in general. In reality, the objectives of credit transfer and articulation may be difficult to achieve operationally due to differences between the sectors that compose Australia's post-secondary system. The system-level opportunities that transfer provides, as outlined in the PhillipsKPA report, are as follows:

- cater for a more flexible workforce and a broader range of skill needs within the workforce

⁵ The G8 includes the University of Adelaide, the Australian National University, the University of Melbourne, Monash University, the University of New South Wales, the University of Queensland, the University of Sydney and the University of Western Australia.

- address skill shortages in some industries
- expand choices for students and employers
- give students a wider range of study options and pathways, including those linked to a wider range of career structures
- encourage mature students to return to study and upgrade their qualifications by saving time spent on learning and opportunity costs
- enhance 'second chance' educational provision for early school leavers
- encourage students from equity groups to move to higher education
- encourage higher educational attainment within the community
- facilitate lifelong learning
- allow seamless movement for students between educational providers and education sectors
- provide economic benefits through sharing resources and reducing duplication

PhillipsKPA (2006a) also discusses drivers for credit transfer and articulation from the student, HE and TAFE institution perspectives, but notes that the drivers are strongest at the system-level. This is an important consideration given that institutional autonomy is very high in Australia and it is at the institution-level that transfer arrangements must be made.

The Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEETYA) has undertaken a series of initiatives to improve credit transfer and articulation from VTE to HE over the last decade (MCEECDYA, 2012).

- 1) In 2005, the Council adopted Good Practice Principles for Credit Transfer and Articulation. The principles are not prescriptive regarding solutions, and therefore do not compromise academic or institutional autonomy in assessing and awarding credit. The principles apply throughout the country to all credit transfer and articulation arrangements by both VTE and HE providers. They set some broad goals to encourage improvement over time and provide a benchmark against which progress can be assessed and reported.
 - The focus of credit transfer and articulation arrangements from VTE to HE is to establish the equivalence of learning outcomes and to assist these equivalence decisions to be reached, regardless of the similarity or differences of the education processes involved (including processes of delivery, teaching methodology and assessment), whether the provider is a RTO or an accredited HE provider or of entry levels to previous qualifications (for example, diploma from year 12 entry versus diploma from cert IV).
 - All individual institutions and providers should include formal vertical and lateral pathways for credit and articulation, both in the design of new courses and programs of study and when upgrading existing courses and programs of study, and that these pathways should be widely publicized to existing students and potential applicants.
 - Decisions to grant applications of credit or articulation between the VTE and the HE sector should have general applicability for all eligible students, but may not guarantee automatic admission to specific courses or programs of study where demand exceeds the numbers of student places available.

- Rules, regulations and any register of precedents which inform, influence or govern decisions taken in respect to the granting of credit or advanced standing should be transparent and publicly available to intending students prior to submissions of enrolment and include applications for credit in an easily accessed format. This should include transparent information related to fees where they are charged.
 - Arrangements for articulation and credit transfer, when applied, should not unfairly advantage or disadvantage either the students entering courses and programs of study with credit transfer or articulation or those students who enter directly.
 - Arrangements for credit transfer and articulation should take account of existing and continuing arrangements and procedures which support improved credit and articulation agreements from VTE to Higher Education at industry-wide, state-wide, regional or institutional levels.
 - Institutions should employ agreed measures to evaluate the effectiveness of their credit transfer and articulation arrangements in improving over time the mobility of students from VTE to HE.
 - Individual institutions and providers are expected to demonstrate through their regular internal and external quality audits that their policies and practices for all types of credit transfer and articulation support these agreed principles.
- 2) In 2006, the MCEEDYA adopted Principles for Good Practice Information Provision on Credit Transfer and Articulation from VTE to HE. These principles focus on ensuring that students have access to information that enables them to make well-informed choices about where and what to study. The principles can be found at <http://www.mceecdya.edu.au/mceecdya/default.asp?id=11902>.
 - 3) In 2006, the MCEEDYA funded a national study of credit transfer and articulation between the VTE and HE sectors. The study identified gaps in practice and made recommendations for improvement.
 - 4) The MCEEDYA researched improvements to data collection on credit transfer and articulation. Improvements to the data collected in the areas of coverage (include all VTE instead of just TAFE), range of data (include course code to assess whether transfer was a viable option, VTE provider, field of education and complete or incomplete VTE qualification) and timing are outlined in a report issued by the Credit Transfer and Articulation Working Group (2006).
 - 5) The MCEEDYA asked the Australian Universities Quality Agency (AUQA) and the VET quality agency to play a role in auditing credit transfer and articulation in their respective sectors against the good practice principles.

Number of Transfer Students Graduating with a Baccalaureate, Relative to the Jurisdiction's Total Number of Baccalaureate Graduates

Number of Transfer-eligible College Students Relative to Total College Enrolments

Data systems to assess the extent of credit transfer and articulation in Australia are not very advanced, and the Australian Government has produced a paper outlining the improvements needed in this area (Credit Transfer and Articulation Working Group, 2006). Issues with consistency of definition, source and timing of the data collected need to be addressed. Data sources currently include only TAFE institutions from the VTE sector and leave out all private VTE providers; they also leave out transfer within the HE sector and from the HE sector to the VTE sector (PhillipsKPA, 2006a). The data available show the number of students entering university bachelor's programs or below whose highest prior qualification is a TAFE award and the number of students who received exemptions for prior TAFE studies.

There is very little information about demand for transfer from the VTE to the HE sector. PhillipsKPA cites a survey that found that just over half of 2001 TAFE graduates admitted to a bachelor's degrees applied for and received some credit. About 30 per cent did not apply to transfer credit and only 9.4 per cent applied for but did not get the credit they requested.

Actual Number of Students Admitted on the Basis of a TAFE Credential

As shown in Table 2, there was a gradual increase in the proportion of students admitted on the basis of TAFE credentials between 1994 and 2005; after 2005, the proportion declined slightly. Due to the way data are collected, it is not clear whether students admitted to HE on the basis of non-TAFE VTE credentials are included in the number of students admitted to HE based on TAFE. This is an area of ambiguity that the Australian Government is working to address. If these students are not being counted, the number of transfers will be understated. Data available from 1994 through 2004 show that a very low proportion of total students admitted to HE actually received "exemptions" or credit for their previous TAFE studies.

Table 23: Number of Students Admitted to HE based on TAFE Credentials and Number Receiving Exemptions for Past TAFE Studies

	A: Students Enter HE with TAFE as Basis for Admission	B: % of Total Students Admitted to HE	C: Students Receiving Exemptions for Prior TAFE Studies	D: % of Total Students Admitted to HE
1994	9111	5.5%	2617	1.6%
1995	11,763	6.5%	3860	2.3%
1996	11,819	6.1%	4690	2.6%
1997	14,320	7.3%	4828	2.5%
1998	14,374	7.2%	5227	2.7%
1999	15,667	7.6%	5061	2.5%
2000	14,599	6.9%	5730	2.8%
2001	15,316	7.0%	5974	2.8%
2002	16,013	8.3%	5181	2.4%
2003	15,859	8.6%	4629	2.6%
2004	16,903	9.4%	5694	3.4%
2005	18,820	10.0%		
2006	18,769	9.7%		
2007	19,619	9.7%		
2008	18,842	9.2%		

Source: Data for columns C and D: 1994-2004 from PhillipsKPA (2006a)

Source: Data for columns A and B from Australian Department of Education, Employment and Workplace Relations, Students, data for commencing students

Watson (2008) reports that there is substantial variation in the percentage of students admitted on the basis of TAFE across institutions in the HE sector. The national average in 2005 was 10 per cent, while the Group of Eight universities admitted only 3 per cent of their undergraduates on the basis of a TAFE credential. Another group of five universities admitted over 20 per cent of their students based on TAFE. In most cases, articulation agreements do not guarantee applicants with TAFE diplomas admission in a relevant field. TAFE students must compete against other students on the basis of 'merit.' When there is a particularly strong group of high school graduates as measured through their standardized tests, it can be more difficult to transition from vocational to higher education (Watson, 2008).

PhillipsKPA (2006a) notes that arguments to increase the level of credit granted to transfer students need to consider variation in student success rates when granted different levels of credit. It is important to find the

balance between ensuring student success on the one hand, and saving resources and avoiding duplication of effort on the part of students on the other hand.

Depending on how credit transfer rates change in the future, the Australian government may consider making improvement in credit transfer rates a condition of institutional funding (Australian Department of Education, Employment and Workplace Relations, 2008). The government is also working to standardize the descriptors of similarities and differences between qualifications in different sectors. The objective is to improve understanding of the relationship between the two sectors and to foster a better understanding of the nature of the qualifications issued by each sector. This would assist in building links between courses at the design stage and improve prospects for credit transfer (Australian Department of Education, Employment and Workplace Relations, 2008).

QUALITY INDICATORS

Graduation Rate of College Transfer Students Compared with Traditional Students

Academic Performance of College Transfer Students Compared with Traditional Students (Defined as Fourth-year Grade Point Average or Similar)

Through a series of seven case studies, PhillipsKPA (2006b) concludes that students who are granted exemptions based on TAFE studies perform as well as direct-entry students in terms of progress rates and attrition rates.

Another study (Urban et al., 1999) concluded that TAFE qualifications had a significant negative effect on graduation rates. The study found that 53 per cent of women and 50 per cent of men entering on the basis of TAFE qualifications complete a degree, compared to 72 per cent for direct-entry females and 65 per cent for direct-entry males. This study also found that the success of TAFE students who continue in the HE sector varied substantially depending on the institution they entered. Watson (2008) hypothesizes that lower HE retention rates among former TAFE students may reflect the differing academic expectations of the two sectors. The HE sector places a heavy emphasis on critical thinking, analysis and writing skills. This is contrasted with the VTE sector, where students are assessed on their performance in task-oriented, work-related competencies. Watson argues that the expectation that students with TAFE qualifications should be granted advanced standing may be counterproductive, in the sense that these students will miss out on the opportunity to develop needed academic literacy skills.

After-graduation Employment/Unemployment Rate of College Transfer Students Compared with Traditional Students

No information available.

After-graduation Employment Earnings of College Transfer Students Compared with Traditional Students (Defined as Starting Salaries or Similar)

No information available.

COST INDICATORS

University fees are generally higher than TAFE fees. The tuition fee to study full-time at a TAFE institution in 2010 was a maximum of \$590 per semester and is capped at \$1000 per year. TAFE fees are payable either at the beginning of the semester or during the year of study. By contrast, university fees, although higher, can be deferred until students complete their studies and begin working (Government of Western Australia, Department of Training and Workforce Development, 2012).

A review of the Australian HE funding model by Lomax-Smith et al. (2011) found that the student contribution to HE funding varies between 19 and 84 per cent of the base funding amount, depending on the area of

study, with student fees varying from \$4355 per year to \$9080.⁶ Furthermore, the portion paid by students does not seem related to their likely income outcomes. Some students with relatively low prospects for high post-graduation incomes pay 52 per cent of the base funding amount, while those in high-cost disciplines with relatively high potential earnings pay 32 per cent. The panel recommended that students pay 40 per cent of base funding and that the remaining 60 per cent be provided by government, and this 40:60 ratio should apply consistently across disciplines.

Australia introduced an income-contingent loan system (the HECS income-contingent loan program) in 1989, to assist students in the HE sector to pay for university tuition. Students are not required to begin repaying their loan until their taxable income reaches a specified threshold. Repayment rates are based on taxable income and are considered to be quite lenient. The loans are indexed to the CPI; thus the amount owing rises with inflation, but no interest is charged. This generous repayment arrangement for the loans translates into a subsidy of about 33 per cent of the value of the loan. Although the tuition rates in Australia are ranked fifth highest out of OECD countries, the proportion of Australian HE students that receive subsidized loans is the highest in the OECD.

TAFE students are not eligible for the HECS income-contingent loans, but are eligible for another program called FEE-HELP. This program is available to TAFE students taking some higher-level courses that are offered on a fee-for-service basis. For these eligible courses,⁷ FEE-HELP allows students to defer all of their tuition fees or pay some of their tuition fees and defer the balance. A loan fee is charged to the student – calculated at 20 per cent of the total FEE-HELP loan. Some argue that the different loan programs introduce marked inequity to the treatment of students across the two sectors:

the current funding arrangements effectively exclude Australian students who choose to undertake their undergraduate education at a public TAFE institution accredited to offer degrees from an equitable share of a government subsidised higher education.
(Box Hill Institute of TAFE, 2011: 4).

In an OECD study, Hoeckle et al. (2008: 18-19) conclude:

It is unclear why higher education students should pay about a third of the cost of tuition, repayable through the HECS income-contingent loan scheme, while VTE students typically pay either a lower fee (but are not eligible for an income-contingent loan) or pay full fees on the basis of criteria which vary widely among states and provider institutions. Although these VTE students are now eligible for income-contingent loans under FEE-HELP arrangements, they are more likely than higher education students to pay fees.

Table 3 provides a summary of the average per student tuition and government costs for the TAFE and HE sectors. This table does not account for the fact that HE students generally do not pay their tuition until they are finished university and employed, and that they do not pay any interest on their government loans.

⁶ The highest tuition of \$9080 is for law, accounting, commerce, economics and administration, while the lowest of \$4355 is for mathematics and statistics – see Lomax-Smith (2011), Table 1.1

⁷ Eligible courses include graduate certificates and diplomas, and advanced diplomas and diplomas with an approved credit transfer arrangement with an HE provider.

Table 24: Education and Related Spending Per FTE Student at Public Institutions, Australia, 2010 (Aus2010\$)

	TAFE	HE
Government Cost	\$3,457	\$24,000
Student Cost	\$1,000	\$6,000
Total	\$4,457	\$30,000

Source: Research Universities : Lomax-Smith et al. (2011) – Estimated from Figure 1.1, page 4

Source: TAFE: Long (2010). Calculated from Tables 2 and 3, pages 3 and 4, respectively

Based on the data in Table 3, we can compute the cost for a student who attends higher education for four years and completes a baccalaureate, as shown in Table 4.

Table 25: Education and Related Spending Per Four-Year Student at Public Institutions, Australia, 2010 (Aus2010\$)

	HE		
	Direct Entry	Transfer from TAFE	Savings Due to Transfer
	4 years at Uni	2 years at TAFE, 2 years at Uni	
Government cost	\$96,000	\$54,914	\$41,086
Student cost	\$24,000	\$14,360	\$9,640
Total	\$120,000	\$69,274	\$50,726 (42%)

SOURCE: Author's calculations.

COMMENTS

The tertiary education system in Australia is divided into two distinct sectors with different governance and accreditation structures and educational mandates. There is also a strong tradition of institutional autonomy in the HE sector in Australia. While the government recognizes the importance of credit transfer to improve efficiency in the overall tertiary education system, the goal of a coordinated, system-wide transfer approach has been difficult to realize within the current structure of the tertiary education system. As a result, the rate of credit transfer, such as it can be measured given the data available, is relatively low. In its recent review of the higher education system, the Australian Government recommends that the need is stronger than ever in Australia for the regulation and funding of tertiary education to be located at the national level of government, to ensure that a holistic approach is taken (Australian Department of Education, Employment and Workplace Relations, 2008).

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Higher Education
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