

ENROLLMENT TRENDS AT UNIVERSITY OF ALASKA COMMUNITY CAMPUSES

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Prepared for
University of Alaska
Office of Statewide Planning and Budget Development

September 2005



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EXECUTIVE SUMMARY

ISER investigated the factors that explain change over time in enrollments and credit hours (participation) at the community campuses of the University of Alaska using both quantitative and qualitative methods.

The level of tuition is only one of many determinants of participation. For example, in recent years strength in job growth, reduced grant funding, and a more restrictive residency requirement for in-state tuition have all also negatively impacted participation. Conditions specific to individual campuses, such as consistency of leadership and the natural maturation cycle associated with the introduction of new programs, have also been important.

Some of these factors, such as the size and composition of the population and the structure and health of the economy, are beyond the control of the University. However, other factors such as financial aid, program offerings, and marketing can be managed to not only maximize participation but, more importantly, to obtain the best possible balance between access and program availability within the fiscal constraints of the University budget.

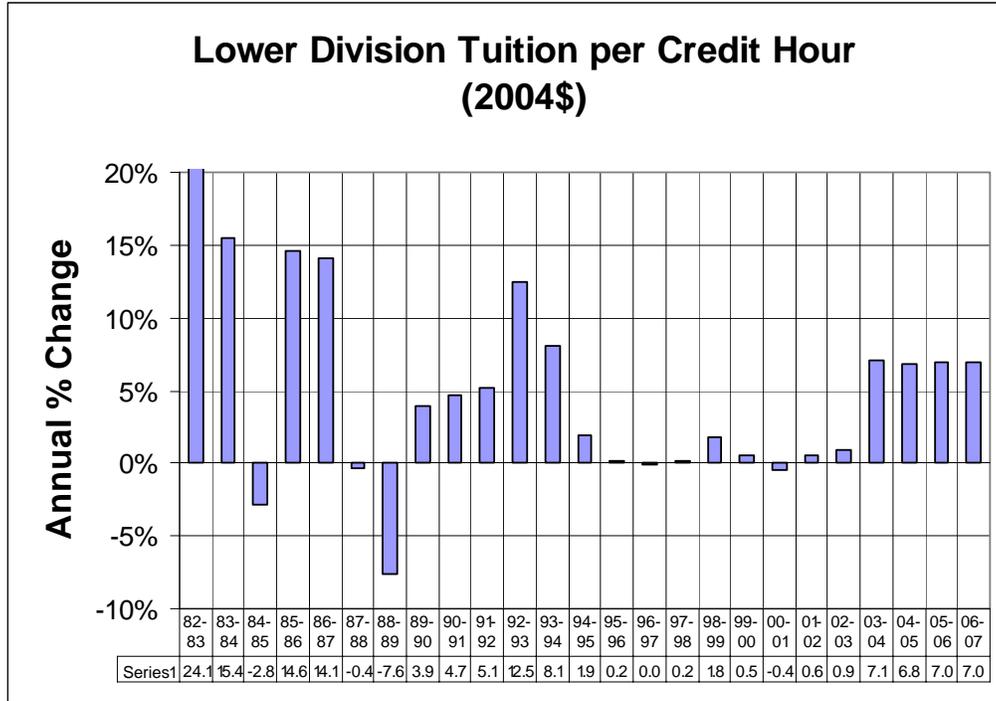
Not all students are equally impacted by tuition increases. “Non-degree-seeking” students do not have traditional sources of financial aid available to them and are more sensitive to tuition increases. However, these students, and the University, may not be taking advantage of all financial-aid opportunities. And, of course, a large share of non-degree seeking-students are enrolled at the main campuses, so the issue of access for these students is not limited to the community campuses.

In the last 2 years the University has raised tuition (price per credit hour) by 10 percent annually (in nominal \$) and is scheduled to increase tuition further by another 10 percent per annum in each of the next two years. Implementation of all four consecutive annual increases would result in tuition in the 2006-2007 school year being 46 percent higher than it was in 2002-2003. If the inflation rate remains at its current level of about 3 percent per annum, the real increase over the four-year period will have been 31 percent.

Figure A shows that an increase of this magnitude, though large, is not without precedent for lower-division class tuition at the University. Although there was a nine-year period—from 1994-95 through 2002-03—when the tuition rate was almost constant in inflation-adjusted dollars, the 4-year period prior to that saw tuition grow 34 percent in real terms. The average annual real increase in tuition since 1983-84 has been 4.2 %, with

the largest annual increases occurring over a period of 5 years between 1982-83 and 1986-87 when tuition in real dollars increased 82 %.

Figure A. University of Alaska Tuition, Annual Rate of Increase



The rest of the nation has had a historical pattern of tuition increases similar to Alaska, and Alaska is now ranked 37th among the states in full-time tuition at 4 year public schools. However, unlike virtually all other states where tuition at 2-year public institutions is less than the main campuses, in Alaska the tuition is the same at the community campuses as the main campus (PWSCC and Kodiak are modest exceptions). As a consequence, Alaska ranks in the top 5 among the states for tuition at 2-year institutions.

Tuition increases not offset by comparable increases in financial assistance will, other things being equal, result in a reduction in participation in higher education. However, it is very difficult to estimate exactly HOW sensitive participation is to tuition increases because other factors that influence participation have been changing at the same time. For example, falling grant support and rising employment have both been happening at the same time tuition has been rising. The University also recently introduced a more restrictive policy for instate tuition. All of these factors tend to reduce participation in higher education. It is not possible, given the amount and quality of the data available to us, to determine how much of the observed change in participation in recent years can be attributable to increased tuition and how much to other factors.

Credit-hour data, available starting with the 1990-91 school year, allows us to compare growth in participation over time. (The use of credit hours avoids a problem of double

counting associated with enrollment data.) Figure B compares annual average credit hour growth among the campuses of the University during three different historical periods.

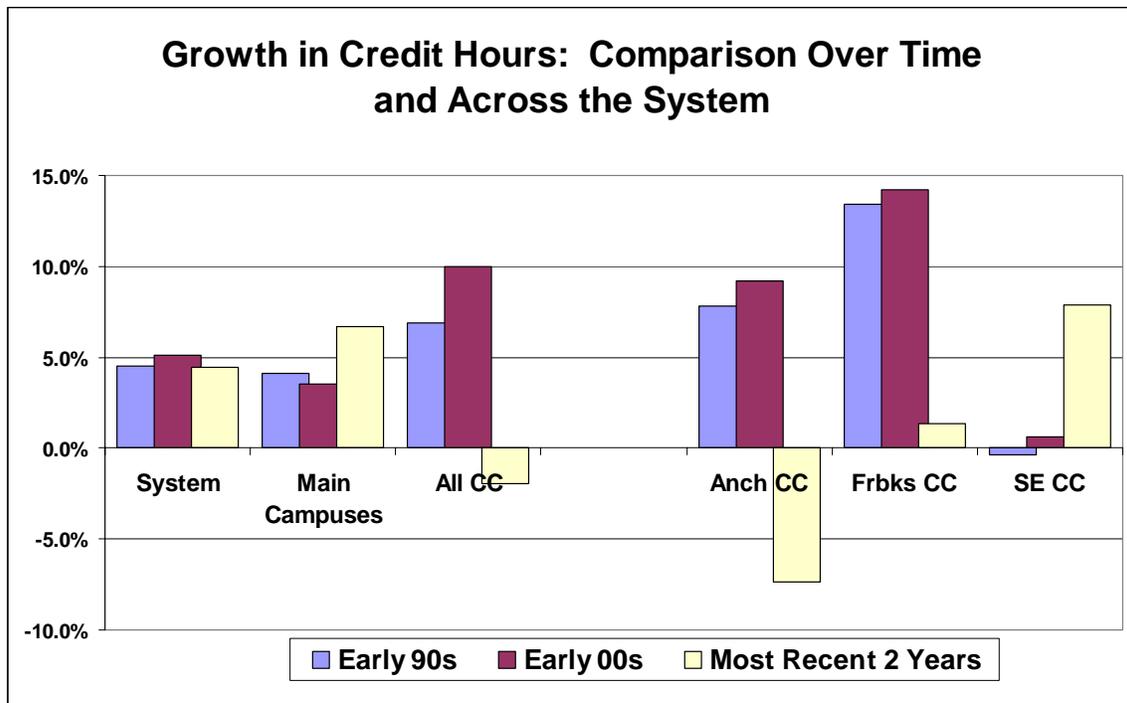
The Early 1990s: The 5 years from 1990-91 to 1994-95 were a period of rapid tuition increase as well as rapid population growth.

The Early 2000s: The 5 years from 1998-99 to 2002-03 were a period of no tuition increase as well as slower population growth

Most Recent Two Years: The two years from 2003-04 to 2004-05 were years of rapid real tuition increase with population growth slower than either of the earlier periods (except for the Anchorage MAU).

The growth rate in credit hours for the entire university system has been about the same during each of these three periods, just under 5% annually on average. The recent round of tuition increases does not appear to have had a big negative impact compared to the earlier periods.

Figure B. University of Alaska Credit-Hour Growth: Comparing Three Historical Periods



Comparing credit-hour growth at the main campuses with those of the community campuses, we see that the community campuses as a group grew faster than the main campuses in the two earlier historical periods. It is only in the most recent period that credit-hour growth at the community campuses has fallen behind that of the main campuses. In the most recent period, growth has accelerated—and concentrated—at the main campuses. In contrast, credit hours at the community campuses have declined.

But if we look at the community campuses by region, we see that during this recent period, it is only the combined Anchorage community campuses that have lost credit hours. Credit-hour growth has been modest for the Fairbanks community campuses and small compared to very rapid prior growth. In contrast, credit-hour growth has been strong for the Southeast community campuses, compared to very weak growth in the earlier periods.

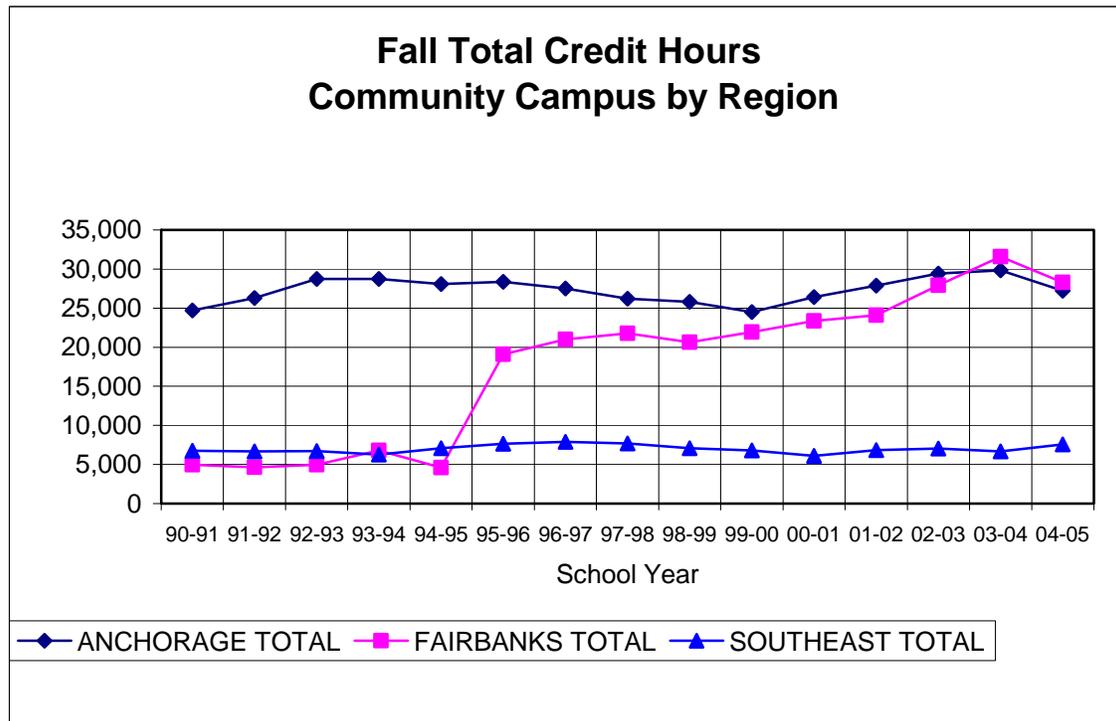
We tried to quantify the relationship between the change in tuition (“sticker price”) and the change in credit hours using regression analysis (seemingly unrelated variables) that also included population and economic conditions as explanatory variables, a technique commonly applied in other states and regions. Shortcomings in both the quality and quantity of the data prevented us from reaching robust conclusions.

However, the analysis did suggest that there was a negative relationship between tuition and credit hours, that the negative response was greater for the community campuses than for the main campuses, and that the negative response was greater for “non-degree-seeking” students than for those in the “degree-seeking” category. A review of similar studies conducted in other places (econometric analyses of the relationship between tuition and college enrollments) strongly confirmed a negative relationship between tuition and enrollments, assuming no other factors, such as the level of financial aid, were changing simultaneously with tuition. These studies further suggested that the negative relationship was greater for 2-year institutions, for lower-income students, and for minority students.

The national studies generally concluded that the negative relationship between tuition and enrollments is “inelastic,” which means that a 1% increase in tuition would result in a reduction in enrollment of less than 1%. A recent analysis of the 2-year colleges in California estimated the enrollment response to be less than .2 % for an increase in tuition of 1%.

We felt that these studies were of limited value for understanding the Alaska community campuses because our student population consists of three distinct groups not separately identified in any of these national studies and certainly not present in the same proportions at 2-year institutions in other places. These are traditional “degree-seeking” students, non-traditional “non-degree seeking” older students desiring to enhance their job skills, and “non-degree-seeking” students taking classes for personal enrichment.

However, it seems unlikely that participation responsiveness to tuition could be higher in Alaska than in other places. In fact, aggregate enrollments did not fall in the early 1990s—a period during which real tuition increased 34 %—but were instead steady or increasing (Figure C.). Although other factors were influencing enrollments during this time, a tuition increase of this magnitude would have had a noticeable impact if the relationship between tuition and enrollment were much larger in magnitude than suggested by the California study.

Figure C. Community Campus Fall Credit Hours

We conducted a series of interviews with current and former community campus directors to collect information about market characteristics, cost factors, and campus characteristics that could be influencing patterns of participation over time at their campuses. These interviews underscored the significant differences in characteristics among the campuses that result in a unique set of challenges for each of them.

In spite of marked differences among the campuses (Matsu, Kenai, Ketchikan, Kuskokwim, and Tanana Valley), several themes emerged from these interviews.

1. There was general concern about the ability of enrollment and credit-hour data—and particularly data broken into finer categories—to accurately and adequately portray the level and trends in activity at the community campuses.
2. Tuition was identified by only some directors as important in determining enrollments. Local economic conditions and revenues from grants and other sources that allowed for expanded capacity were specifically mentioned as being more important on some campuses.
3. Directors felt that “non-degree-seeking” students who are unable to qualify for financial aid were more sensitive to (and negatively impacted by) tuition increases than traditional “degree-seeking” students.
4. The expansion of course offerings made available by distance delivery is creating opportunities and challenges on all campuses. Some have taken more advantage of the opportunities to expand their credit hours through this means than others.

5. Distance delivery is also redefining the role of the community campuses. Some see this negatively—transforming the campuses into “facilitators of education rather than providers,” but others see it as a positive opportunity to provide more options at the local level while at the same time freeing up resources for critical “face-to-face” interaction between students, faculty, and administrators.
6. Most campuses have been successful in recent years in attracting larger numbers of younger, more traditional students. It is not clear the extent to which this is due to the attractiveness of campus programs or the rising cost of education outside these communities.
7. The requirement introduced in the fall of 2004 restricting the instate tuition rate to 2-year residents has negatively impacted enrollments.
8. Financial aid is generally not available for “non-degree-seeking” students, leaving them more vulnerable to tuition increases than “degree-seeking” students who can offset some of the negative effect of increased tuition with higher financial aid. However, with one exception, none of the directors mentioned the importance of helping students work through the maze of aid options to maximize financial assistance. None of the directors mentioned the potential impact of the recently enacted education tax credits in reducing the net cost of education to students.
9. The relationship between the community campus and its main campus varied from place to place. An area-wide strategic plan helps Ketchikan focus resources on what it can do best without duplication, and this has been important in their recent success.
10. All campuses attempt to respond to local workforce training opportunities in areas like allied health, education, and petroleum technology. Sometimes these programs start big and then the “boom” dissipates after a couple of years, either because the pent up demand has been worked off or because the funding for the program has dried up. On small campuses these periodic fluctuations can have a significant impact on enrollments and credit hours.
11. Being responsive to student needs for scheduling classes is generally understood, and small changes in scheduling can sometimes have a big effect on enrollments—positive or negative.
12. Marketing is an important activity for all directors, but more coordination and consistency over time could pay off in higher enrollments. Variation in enrollments in the past has sometimes been due to improvements, or the lack of, in marketing.
13. Good and consistent leadership can directly translate into growing enrollments and vice versa.

Finally, the differences in market and campus characteristics across the state, combined with the growing importance of distance delivery, suggest that measures of participation in higher education should be viewed strategically rather than individually by campus. Each campus serves, in a different mix, traditional students as well as non-traditional students either taking job-related or personal enrichment classes. Distance delivery

expands the opportunities for all of these students, but not all campuses will necessarily see their participation rates increase as a result.

At the same time the community campuses provide the personal link to students that distance education cannot, but this important function might not be reflected in participation rates. Furthermore, the community campuses provide a direct and immediate link to the needs of the local economy for job training. The demand for job training tends to be quite variable over time as economic conditions change, and it may be a sign of effectiveness if participation rates for training fluctuate from year to year in response to these changing conditions.

For these and other reasons, a more regional and disaggregated approach to tracking participation might prove to be appropriate as the University continues to grow and evolve.

1. BACKGROUND

A growing number of studies and reports have documented the problem of affordability in higher education in the United States. For example, the summary of “Losing Ground: A National Status Report on the Affordability of American Higher Education” identifies these 5 important long term trends.¹

1. Increases in tuition have made colleges and universities less affordable for most American families. Tuition and related expenses have grown faster than inflation and faster than family income as well.
2. Federal and state financial aid to students has not kept pace with increases in tuition.
3. More students and families at all income levels are borrowing more money than ever before to pay for college.
4. The steepest increases in public college and university tuition have been imposed during times of greatest economic hardship.
5. State financial support of public higher education has increased, but tuition has increased more.

Different studies reach different conclusions about the magnitude of the affordability problem, because they cover different time periods, different segments of higher education, or calculate the net cost of education differently (tuition plus other expenses net financial assistance). However the growth of tuition (the sticker price of higher education) is clear. A comprehensive national study (see table) that has calculated the growth rate each year since 1976 shows an increase in tuition at public two year colleges nearly every year. The growth rate has varied with inflation and other factors, but in the last two years the rate has been 9 percent, almost the same as the University of Alaska tuition increase in those two years.²

¹ “Losing ground: A National Status Report on the Affordability of American Higher Education”, The National Center for Public Policy and Higher Education, 2002.

² Trends in College Pricing 2004, The College Board Trends in Higher Education Series, 2005.

**Average Published Tuition and Fee Charges, 1976-77 to 2004-05
(Enrollment-Weighted)**

Academic Year	Private Four-Year	% Chg	Public Four-Year	% Chg	Public Two-Year	% Chg*	Private Four-Year	% Chg	Public Four-Year	% Chg
76-77	\$2,534		\$617		\$283		\$8,179		\$1,992	
77-78	\$2,700	7%	\$655	6%	\$306		\$8,167	0%	\$1,981	-1%
78-79	\$2,958	10%	\$688	5%	\$327	8%	\$8,181	0%	\$1,903	-4%
79-80	\$3,225	9%	\$738	7%	\$355	9%	\$7,870	-4%	\$1,801	-5%
80-81	\$3,617	12%	\$804	9%	\$391	10%	\$7,910	1%	\$1,758	-2%
81-82	\$4,113	14%	\$909	13%	\$434	10%	\$8,280	5%	\$1,830	4%
82-83	\$4,639	13%	\$1,031	13%	\$473	11%	\$8,954	8%	\$1,990	9%
83-84	\$5,093	10%	\$1,148	11%	\$528	10%	\$9,480	6%	\$2,137	7%
84-85	\$5,556	9%	\$1,228	7%	\$584	11%	\$9,952	5%	\$2,200	3%
85-86	\$6,121	10%	\$1,318	7%	\$641	8%	\$10,657	7%	\$2,295	4%
86-87	\$6,658	9%	\$1,414	7%	\$660	8%	\$11,340	6%	\$2,408	5%
87-88	\$7,048	6%	\$1,485	5%	\$739	8%	\$11,526	2%	\$2,429	1%
88-89	\$8,004	14%	\$1,578	6%	\$799	8%	\$12,512	9%	\$2,467	2%
89-90	\$8,663	8%	\$1,696	7%	\$841	7%	\$12,925	3%	\$2,530	3%
90-91	\$9,340	8%	\$1,908	13%	\$906	14%	\$13,213	2%	\$2,699	7%
91-92	\$9,812	5%	\$2,107	10%	\$1,171	11%	\$13,450	2%	\$2,888	7%
92-93	\$10,448	6%	\$2,334	11%	\$1,116	12%	\$13,888	3%	\$3,102	7%
93-94	\$11,007	5%	\$2,535	9%	\$1,245	4%	\$14,262	3%	\$3,285	6%
94-95	\$11,719	6%	\$2,705	7%	\$1,310	6%	\$14,761	4%	\$3,407	4%
95-96	\$12,216	4%	\$2,811	4%	\$1,330	6%	\$14,979	1%	\$3,447	1%
96-97	\$12,994	6%	\$2,975	6%	\$1,465	6%	\$15,491	3%	\$3,547	3%
97-98	\$13,785	6%	\$3,111	5%	\$1,567	5%	\$16,147	4%	\$3,644	3%
98-99	\$14,709	7%	\$3,247	4%	\$1,554	4%	\$16,950	5%	\$3,742	3%
99-00	\$15,518	6%	\$3,362	4%	\$1,649	2%	\$17,384	3%	\$3,766	1%
00-01	\$16,072	4%	\$3,508	4%	\$1,642	1%	\$17,390	0%	\$3,796	1%
01-02	\$17,377	8%	\$3,766	7%	\$1,608	1%	\$18,475	6%	\$4,004	5%
02-03	\$18,060	4%	\$4,098	9%	\$1,674	5%	\$18,788	2%	\$4,263	6%
03-04	\$18,950	5%	\$4,645	13%	\$1,909	9%	\$19,292	3%	\$4,729	11%
04-05	\$20,082	6%	\$5,132	10%	\$2,076	9%	\$20,082	4%	\$5,132	9%

*Because of instability in the sample, percent change for public two-year institutions is a three-year rolling average.

Source: 1987-88 to 2004-05: data from Annual Survey of Colleges, The College Board, New York, NY, weighted by full-time undergraduate enrollment; 1976-77 to 1986-87: data from Integrated Postsecondary Education Data System (IPEDS), U.S. Department of Education, National Center for Education Statistics, weighted by full-time equivalent undergraduate enrollment.

Even though participation in higher education continues to increase in spite of its higher cost, the declining affordability of higher education has led to concerns about access to higher education particularly for lower income and minority students. A review of current trends in relation to community colleges reported³,

The swelling cost of college has important implications for access to higher education. Community colleges have historically provided access to a number of students who would not have otherwise been able to attend college. More than any other segment of higher education, community colleges offer open admissions, low cost tuition, and geographical access to students that are place bound, working full-time, under-prepared academically, single parent, or lower income. ...Community colleges, sometimes called democracy's colleges, are considered an educational and economic equalizer in our country. Certainly the current trends in tuition and financial aid will make access to a college education more difficult and this will have important implications for individuals as well as for society as a whole.

In light of this concern about access to higher education, numerous policy papers have recently been written. For example, the Carnegie Commission Tuition Policy study concluded:⁴

(1) Public and private subsidies. Higher education is both a public as well as a private good, and investment in higher education should reflect both dimensions. The mix of resources should reflect the different purposes of different programs in terms of goals and audiences, public and private benefits, and costs.

(2) The public/private benefit continuum. The benefits from investment in higher education in terms of lifetime incomes and enhanced personal opportunities are greater in upper-division and graduate or professional education than at entry levels. Public benefits are greatest at entry levels.

(3) Tuition charges should reflect costs. While public subsidies are generally justified in all programs because of the public benefits from higher education that occur at all levels, student tuitions should reflect the cost of programs. Higher-cost programs should charge higher tuitions.

(4) Student loans. Student loan financing should be available to enable students to attend high-cost programs.

³ "Community College Tuition and Financial Aid: Current Trends", ERIC clearinghouse for Community Colleges, by Michelle D. Plecha, December 2003.

⁴ "Looking Back, Going Forward: The Carnegie Commission Tuition Policy", sponsored by The Institute for Higher Education Policy, The Ford Foundation, and The Education Resource Institute, 2001..

(5) Financial aid. Responsibility for ensuring economic access to higher education is a broad-based public responsibility and should be funded from the widest source of revenue.

(6) Tuition and aid tied together. Economic access can be maintained despite higher charges through appropriately structured student-aid programs. As tuitions increase, so should funding for financial aid.

(7) The benefits from private higher education. In private higher education, the benefits of investment are essentially the same as the benefits to investment in public higher education. Therefore, a mix of public and private funding strategies is appropriate for private higher education as well as for public higher education.

(8) The opportunity costs of college. Foregone income, as well as subsistence costs, are legitimate elements of the cost of education and should be factored into the calculus of responsibilities for funding higher education. Opportunity costs, in particular, represent a higher percentage of family income for low-income students than for middle- and upper-income students.

Although affordability and access are challenges for all of higher education, the focus of this analysis is the community campuses within the University of Alaska system. Like community colleges throughout the United States, the community campuses potentially provide a broad range of services to a wide variety of clients as indicated by this chart.⁵

Table 1. Conceptual Relationships Between Key Client Groups and Community College Services

Services	Primary Client Groups			
	In-school youth (secondary education)	Recent high school graduates	Adults	Employers
Remedial and developmental education and adult education	●	●	●	●
General education	●	●	●	●
Transfer preparation	●	●	●	
Career preparation	●	●	●	●
Customized training, rapid-response workforce development			●	●
Community service (noncredit courses and other services to the community)	●	●	●	●
Brokering and serving as a delivery site for other providers	●	●	●	●

In order to analyze the question of access to higher education in Alaska we begin with a general understanding of the characteristics of students. Compared to the rest of the

⁵ Narrowing the Gaps in Educational Attainment Within States, Center for Community College Policy, October 2003.

nation, students in Alaska, both at the community campuses and at the main campuses, are more likely to be part time and tend to be older than the national average.

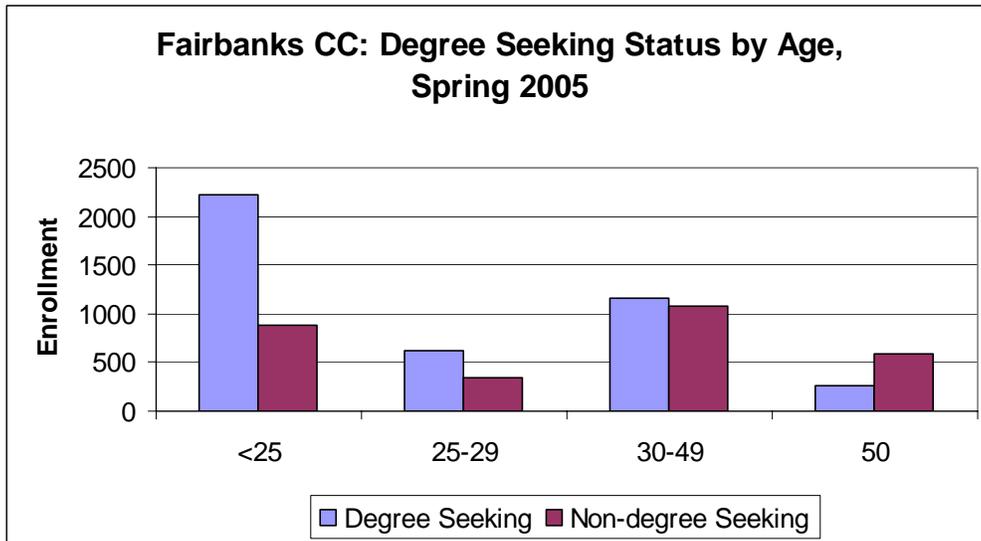
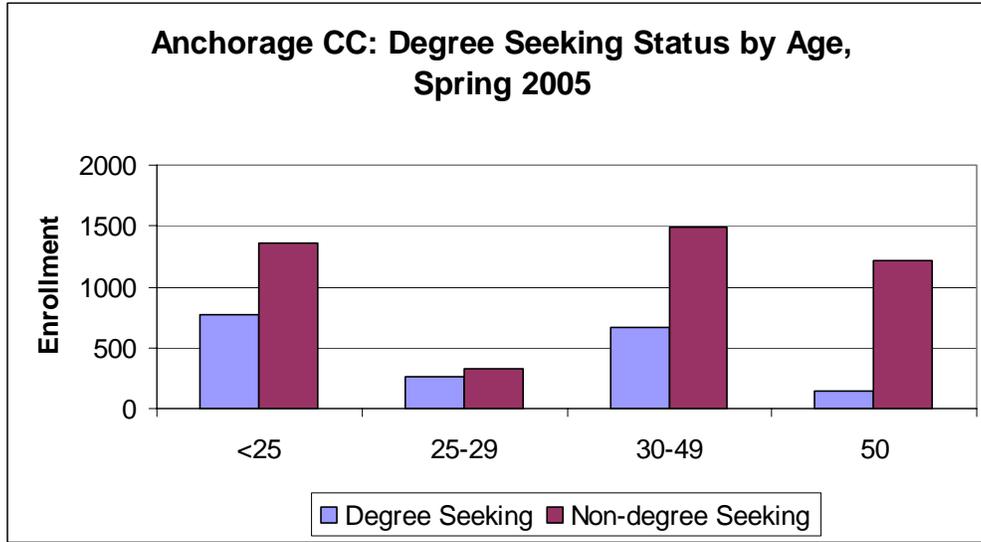
For example the share of full-time students in public 2 year institutions in Alaska was 12.5 % in 2003 compared to 33.1 % for the average across all the western states. The full time share at 4 year institutions, a better measure, since most Alaska community campuses were reported in this study as part of the Alaska public 4-year institution, was 41 % compared to 78.1 % for the entire western region.

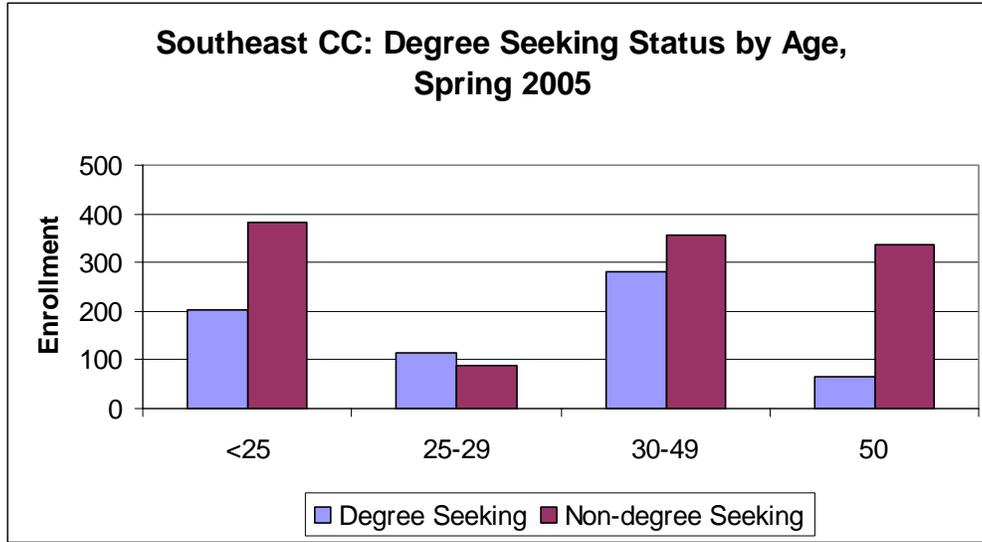
Undergraduate Enrollment by Attendance Status and Sector, Fall 2003 (Percent)				
	Public 2 Year		Public 4 Year	
	Full-time	Part-Time	Full Time	Part-Time
Alaska	12.5	87.5	41	59
Arizona	25.9	74.1	79.3	20.7
California	31.0	69.0	83.0	17.0
Colorado	32.2	67.8	78.5	21.5
Hawaii	41.3	58.7	80.8	19.2
Idaho	51.2	48.8	70.8	29.2
Montana	57.6	42.4	84.6	15.4
Nevada	22.4	77.6	65.6	34.4
New Mexico	34.9	65.1	79.0	21.0
North Dakota	63.9	36.1	83.4	16.6
Oregon	39.0	61.0	78.4	21.6
South Dakota	79.5	20.5	72.1	27.9
Utah	42.9	57.1	60.9	39.1
Washington	47.1	52.9	85.3	14.7
Wyoming	43.2	56.8	81.0	19.0
WICHE	33.1	66.9	78.1	21.9
Source: National Center for Education Statistics, Integrated Postsecondary Education Data System. Fall Enrollment Survey, 2003.				

Likewise, the age distribution of students is older than the average for the western US. In Alaska 66.8 % of part time students were over the age of 24 in 2003 while the average for the western states was only 55.8 %. For full-time students the Alaska share over 24 was 25.9 % compared to 19.1 % for the western region.⁶

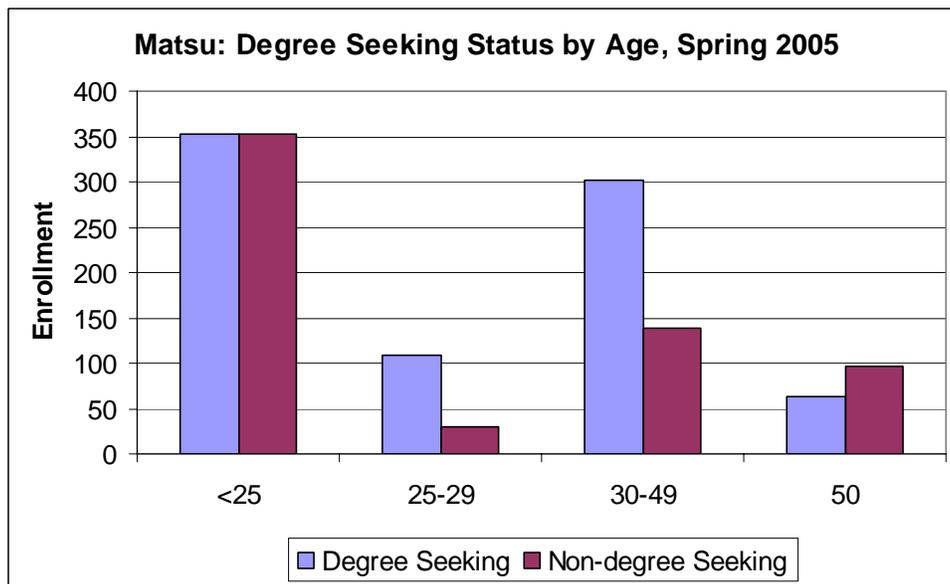
The question of access also depends upon the type of program students are pursuing. A majority of students, at least at the community campuses, are not “degree seeking”. The enrollment of “non-degree seeking” students outnumbers that of degree seeking students at the Anchorage community campuses as well as the Southeast Alaska community campuses. The reverse is true only for the Fairbanks community campuses.

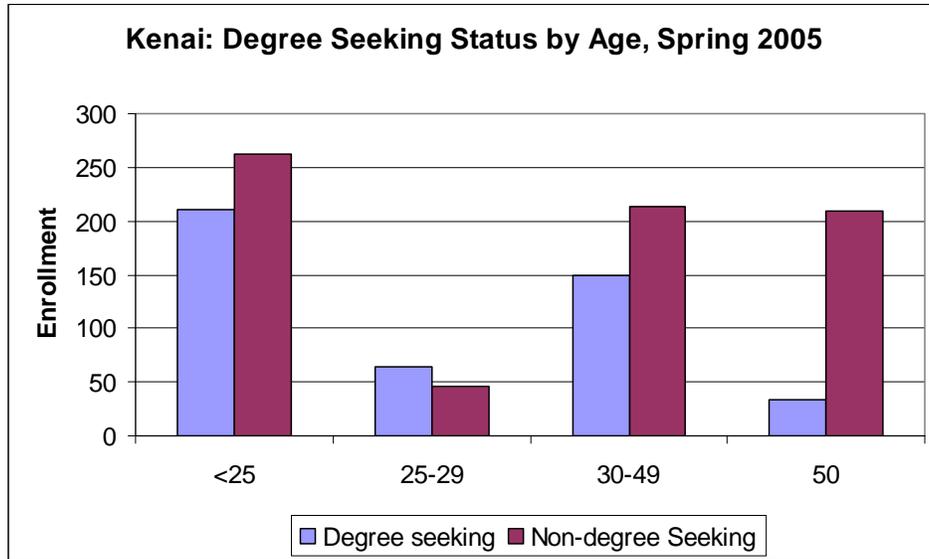
⁶ National Center for Education Statistics, Integrated Postsecondary Education Data System, Fall Enrollment Survey.





Differences in the composition of enrollments is also evident between campuses within the regions of the state. For example the share of students who are “degree seeking” is much higher on the Matsu campus than the Kenai campus.





2. FACTORS INFLUENCING ENROLLMENTS: ALASKA POPULATION AND ECONOMICS

Participation in higher education is influenced by the size of the population as well as general economic conditions. Because of the small size of the community campuses and their market areas, as well as the unique characteristics of each campus, these relationships will differ from place to place. Nonetheless, it is useful to have a general understanding of the aggregate trends in population and economics for the state.

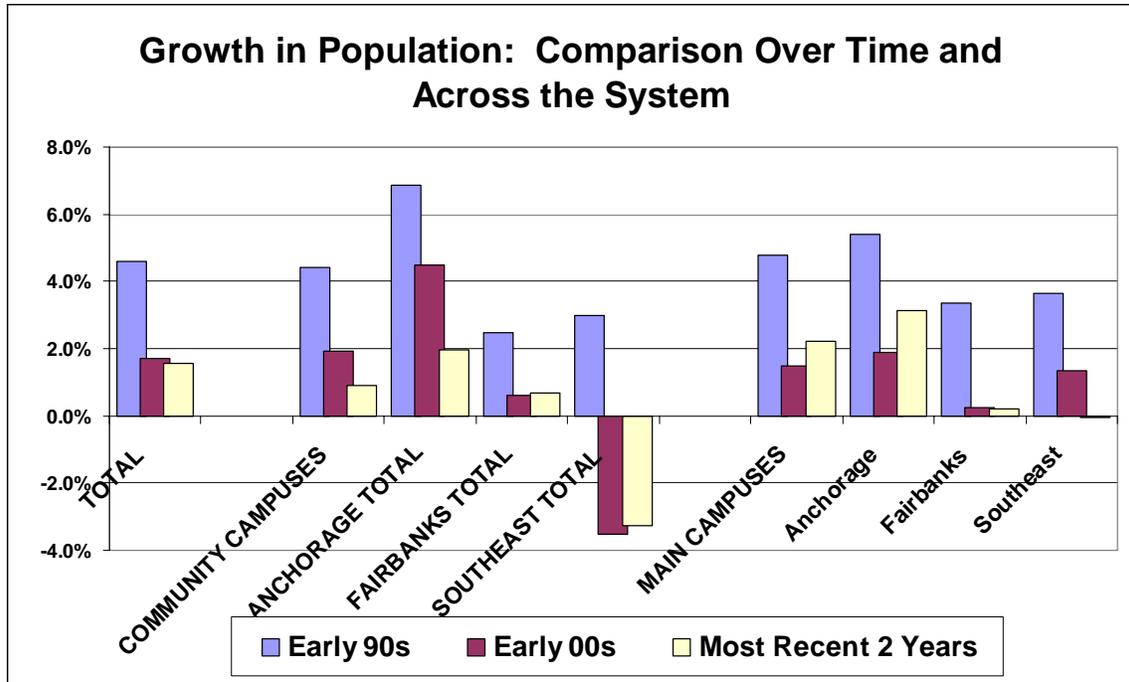
Population

The Alaska population has continued to grow over the last 15 years, but at a rate that has been decelerating. Population continues to concentrate in the Anchorage-Matsu area of the state. Finally, the population has been ageing as the large baby boomer cohort nears retirement.

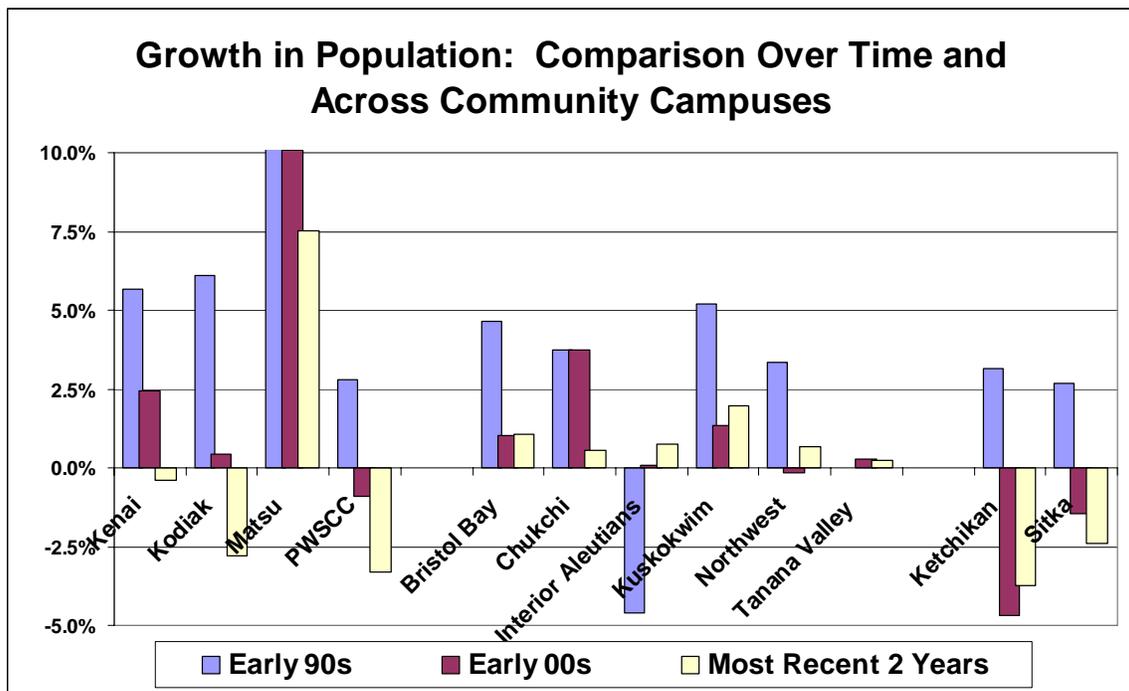
If we compare three periods in the recent history of the state—the early 90s and most recent two years—when real tuition at the University was increasing—with the early 00's when real tuition was constant, we see that population growth was faster in the early 1990's than it has been since 2000.

Other things being equal we would expect faster growth in population to contribute to faster growth in enrollments and credit hours. Comparing the two periods of tuition increase, we would expect faster enrollment and credit hour growth in the earlier period because, although tuition was increasing in both periods, population was growing faster in the earlier years. And comparing the two most recent periods of steady and growing tuition, we would expect growth to be slower in the most recent 2 year period because although population was increasing at about the same rate in both periods, tuition was increasing faster in the later period.

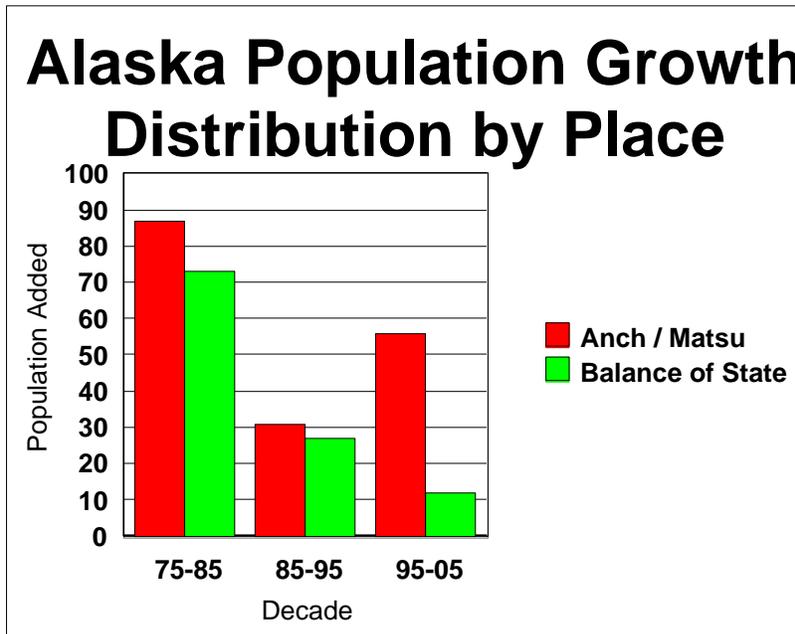
As we shall see, participation did not grow slower in the most recent two years than it did in the early 1990's. Nor did it grow slower in the most recent two years than the prior years of slower tuition increase (Early 00s). Clearly the relationship between aggregate population and participation is complex.



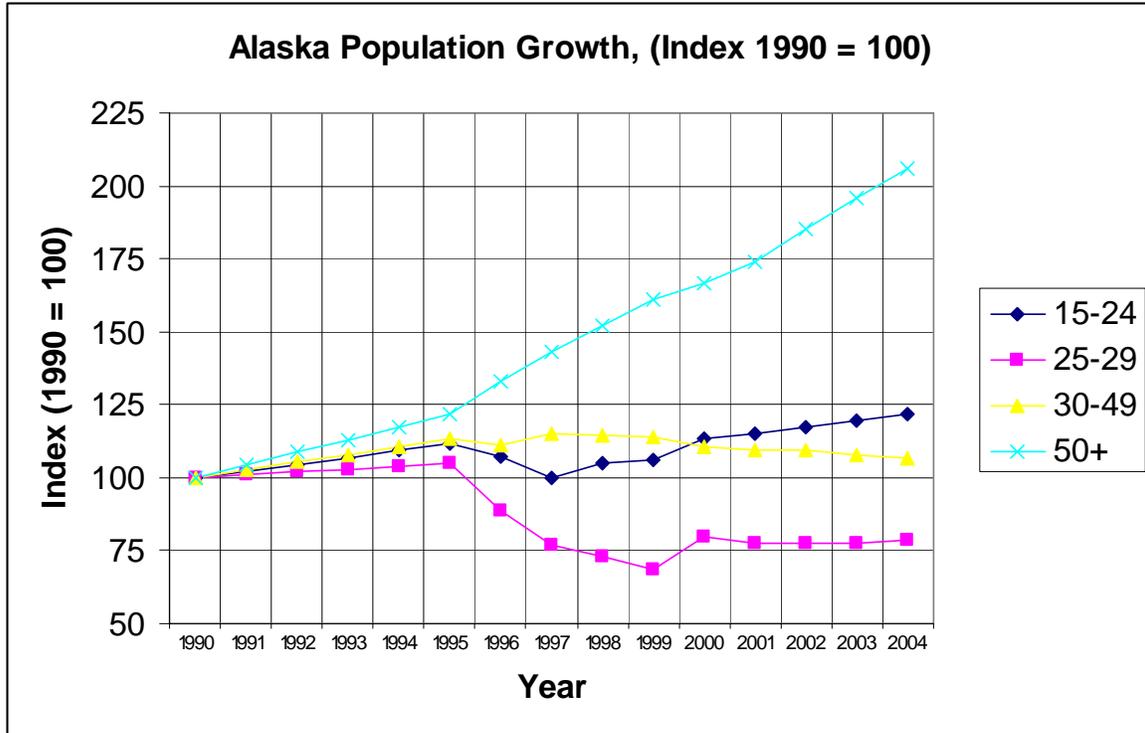
The situation is complicated by the fact that the rate of population growth has not been the same either across the broad regions of the state or among the community campus regions. However, there is some consistency in that the population growth rate is generally slower today than in the past in all locations.



Coupled with the slowing of population growth is the concentration of growth in the Anchorage-Matsu region of the state. Since 1995 about 80 % of the population increase in the state has concentrated in the Anchorage-Matsu region.

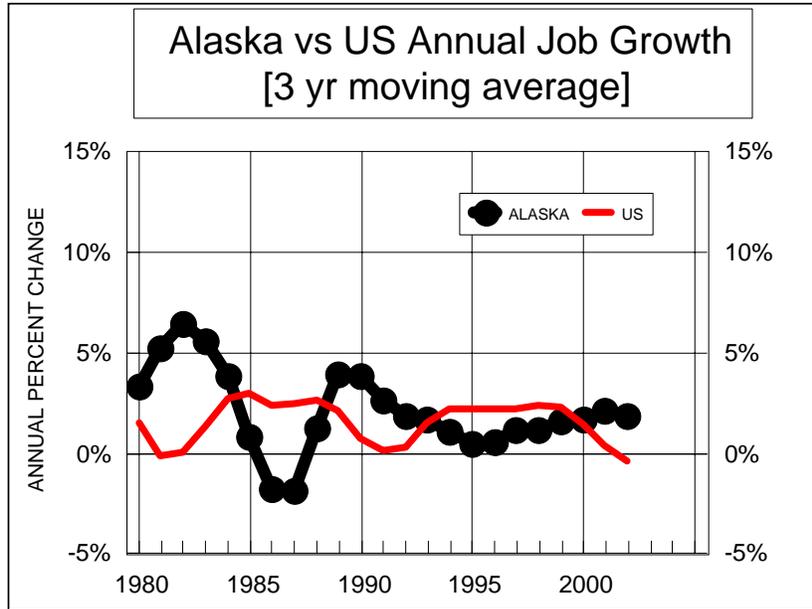


A final aspect of recent population growth is that the over 50 population growth rate has been the most rapid—doubling since 1990. In contrast the population 25-29 declined in the mid 1990's and remains considerably below its level of 10 years ago. The population 15-24 is about 25 % higher than it was in 1990.



Employment

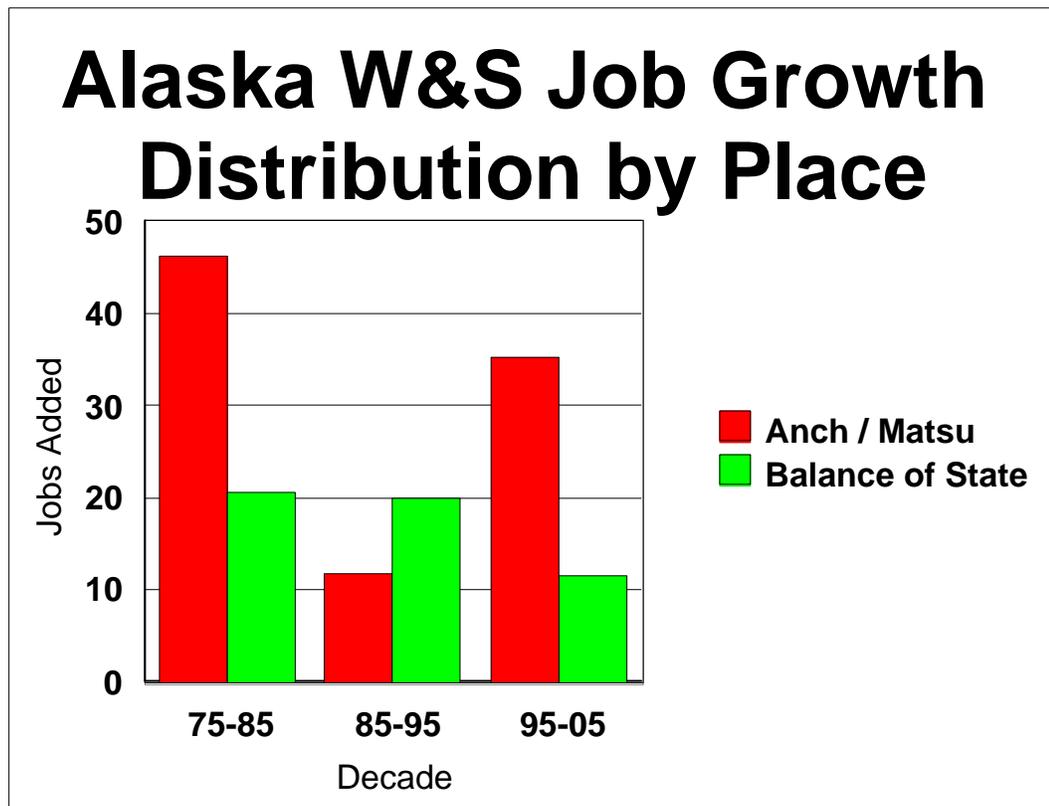
The growth rate of statewide employment has been positive since the early 1990's. More rapid growth, and growth relative to the rest of the US, has coincided with the historical periods when tuition was increasing at the University (the early 1990's and the most recent 2 years). Thus some of any observed effect of rising tuition on enrollments and credit hours may in fact be due to the fact that employment growth was increasing at the same time, reducing the relative attractiveness of higher education.



On the other hand, the unemployment rate has been slightly higher during these periods when employment growth has been faster. It is usually assumed that a higher rate of unemployment contributes to enrollment and credit hour growth. If that is the case then a higher unemployment rate during periods when the tuition rate is increasing would mask (by offsetting) some of the effect of tuition on enrollments and credit hour growth.



Like population, employment is, over time, concentrating more heavily in the Anchorage-Matsu region of the state.



Real Average Earnings

The annual earnings of the average Alaska worker trended downward thru the early 1990's but has moved up modestly since then. The downward trend is the result of a shift in the economy towards the creation of lower paying support jobs. Growth in construction and health care jobs has been the main factor explaining the reversal of the trend in recent years.

This indirectly reflects an increase over time in the relative return to higher education demonstrated by the relative increase in the expected lifetime earnings of a person with some college experience compared to a person with only a high school diploma. If a larger share of the working population can increase their lifetime earnings by a larger amount than in years past thru the pursuit of higher education, this should increase participation over time, other things being equal.

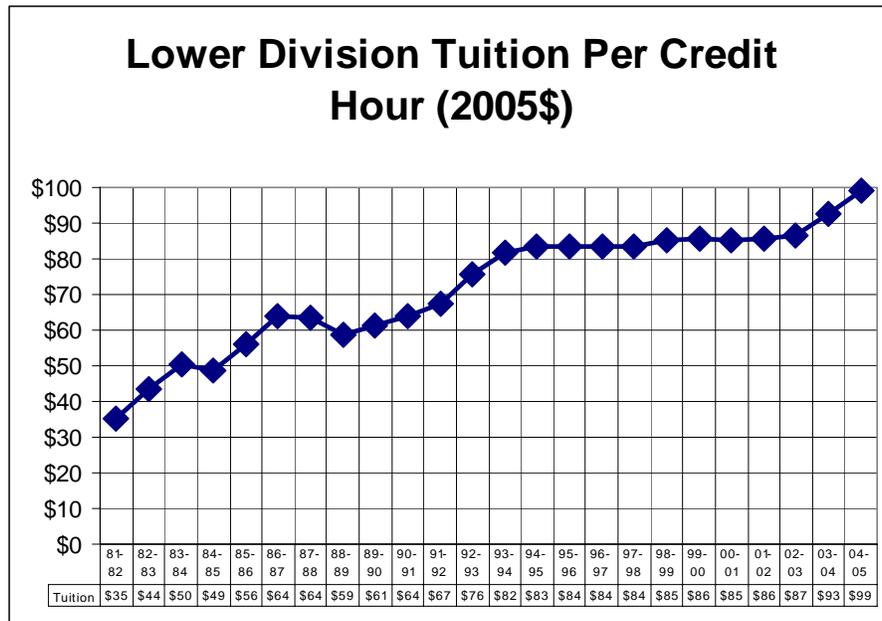
This phenomenon would be stronger in the early 1990s, but less important in more recent years of stronger economic growth.



3. STUDENT COST FACTORS

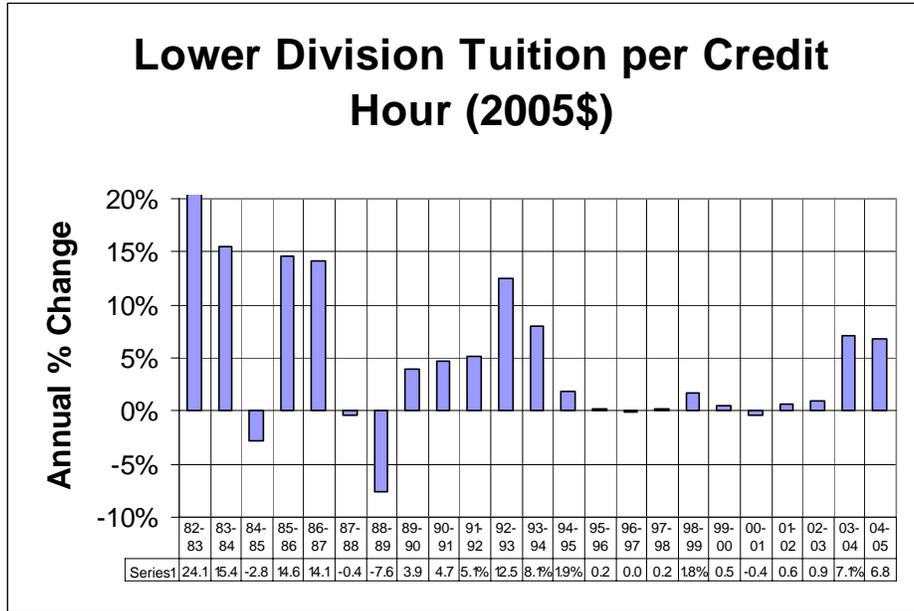
Tuition (Sticker Price)

The instate undergraduate lower division tuition per credit hour rate in 04-05 was \$99 which converts to \$297 for one 3 credit course and \$594 for a 6 credit course load. The tuition rate is the same at the main campuses of the University as at the community campuses.⁷

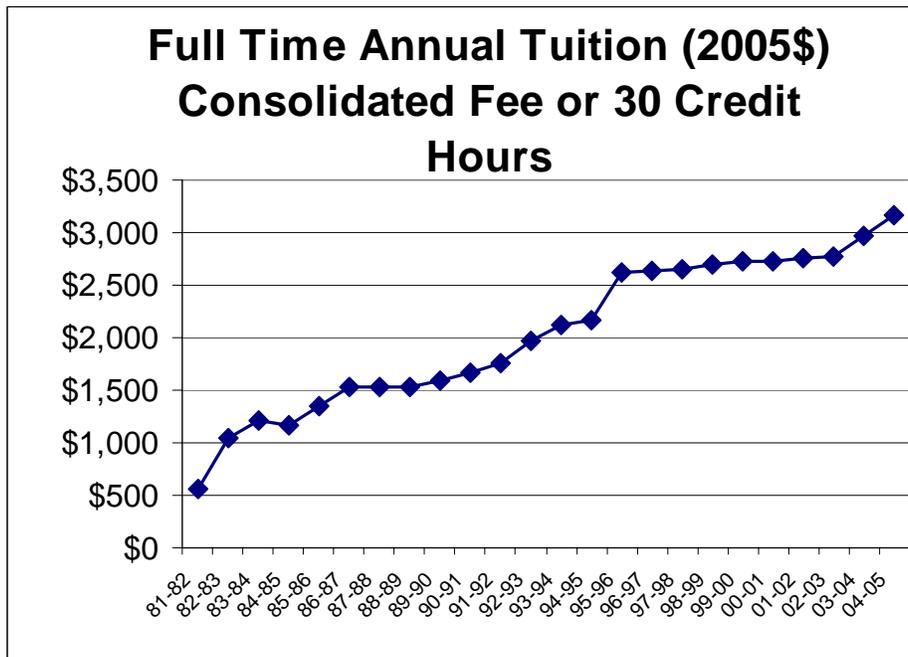


The growth rate in inflation adjusted tuition per credit has averaged almost 5 percent each year since the early 1980's but has varied considerably from year to year. The period of most rapid growth was in the mid 1980's when it nearly doubled in a 5 year period. After two years when tuition fell, 6 years of tuition increase resumed in 89-90 and continued through 94-95. This was followed by 8 years during which there was little noticeable change in the inflation adjusted tuition rate (although it did increase in nominal \$). Increases of about 7 percent (net of inflation) occurred in 03-04 and 04-05. (The full history of tuition rates is in an appendix.)

⁷ Except for PWSCC (Prince William Sound Community College) which in 04-05 had a rate of \$85 and Kodiak which had a rate of \$86.



The in-state full time (15 credits) undergraduate tuition⁸ in 04-05 was \$1,583 per semester or \$3,165 for a full year.



The growth rate of inflation adjusted full time tuition parallels that of a single credit with one important exception which occurred in 95-96 when the consolidated fee was eliminated. Prior to that time a full time student taking 15 credits was charged only for

⁸ A course load divided between lower division classes at \$99 per credit and upper division classes at \$112.

13 (or 12 before 88-89). Since then a student is charged for each credit. The elimination of the consolidated fee caused a large jump in the full time tuition in 95-96 that part time students did not share.

In most states tuition at the community colleges is lower than at the 4 year institutions. In Alaska, community campus tuition is the same as at the main campuses. The most recent national comparison shows that tuition at the University of Alaska ranked 37th among the states while tuition at the community campuses was 6th highest compared community colleges in the rest of the nation⁹. These comparisons also demonstrate a wide variation in the average tuition among the states.

Resident Tuition and Fees at Community Colleges, State Averages for 2004-2005		
	Tuition	Rank
New Hampshire	\$5,283	1
Wisconsin	\$3,945	2
Minnesota	\$3,822	3
Vermont	\$3,696	4
Massachusetts	\$3,385	5
ALASKA	\$3,219	6
Texas	\$1,552	46
Arizona	\$1,407	47
North Carolina	\$1,216	48
New York	\$896	49
California	\$780	50
US AVERAGE	\$2,324	
Source: Washington Higher Education Coordinating Board.		

Resident Tuition and Fees at Flagship Universities, State Averages for 2004-2005		
	Tuition	Rank
Pennsylvania	\$10,856	1
Vermont	\$10,226	2
New Hampshire	\$9,226	3
Massachusetts	\$9,008	4
New Jersey	\$8,564	5
ALASKA	\$4,408	37
Idaho	\$3,632	46
Hawaii	\$3,581	47
Wyoming	\$3,243	48
Florida	\$2,955	49
Nevada	\$2,850	50
US AVERAGE	\$5,724	
Source: Washington Higher Education Coordinating Board.		

Alaska community campus tuition is currently estimated to be the highest among the states in the WICHE (Western Interstate Commission for Higher Education) region¹⁰ (although the western region has the lowest average tuition for public two year colleges compared to the rest of the US)¹¹. In the most recent year the resident tuition reported for Alaska two year institutions was \$2,658 which was only slightly less than Montana, North Dakota, and Oregon. However this is the full time tuition at PWSCC (Prince William Sound Community College), which is slightly less than the other community campuses. Adjusting for that difference would move Alaska's ranking up to the top.

⁹ "2004-2005 Tuition and Fee Rates, A National Comparison", Washington Higher Education Coordinating Board, January 2005. The Alaska community college data in this report closely corresponds to but does not exactly track full time tuition for the most recent 3 years as reported by the University of Alaska. In earlier years however the Alaska tuition figures are less than full time tuition based on a per credit calculation. As a consequence the report overestimates the long term growth in tuition for the Alaska community campuses.

¹⁰ Regional Fact Book for Higher Education in the West: Policy Indicators for Higher Education, WICHE states, December 2004, accessed on 8/17/05 at www.wiche.edu/policy/factbook. See also "Tuition and Fees in Public Higher Education in the West, 2004-2005 Detailed Tuition and Fees Tables", Western Interstate Commission for Higher Education, December 2004.

¹¹ "Trends in College Pricing 2004", the College Board, 2005.

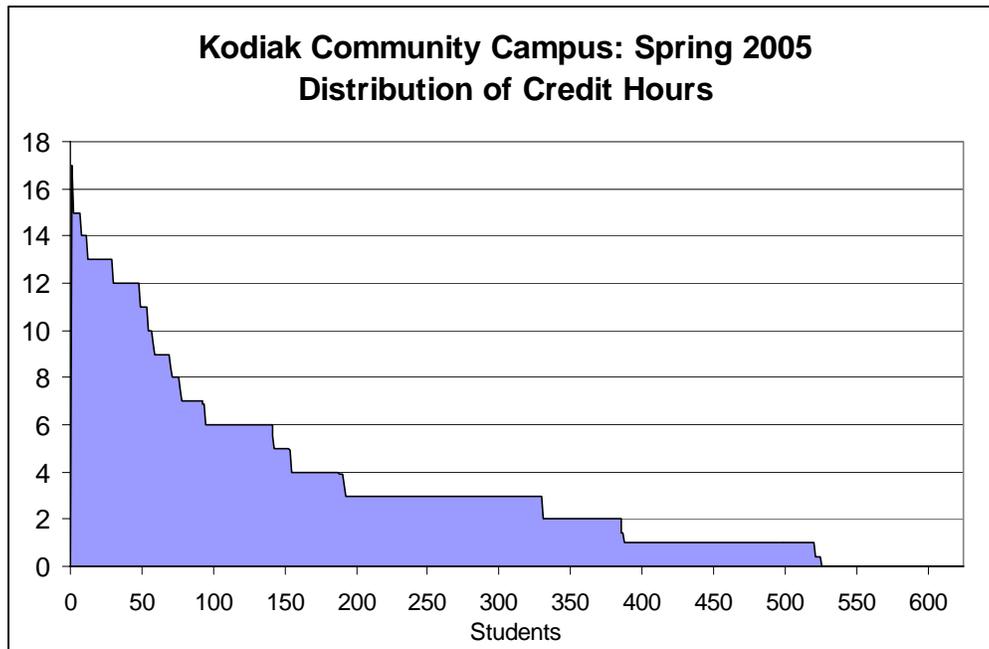
The WICHE data, shown in the following table, also shows that tuition increases have occurred in every state in recent years and that the rate of increase in Alaska is not inconsistent with rates occurring in other western states.

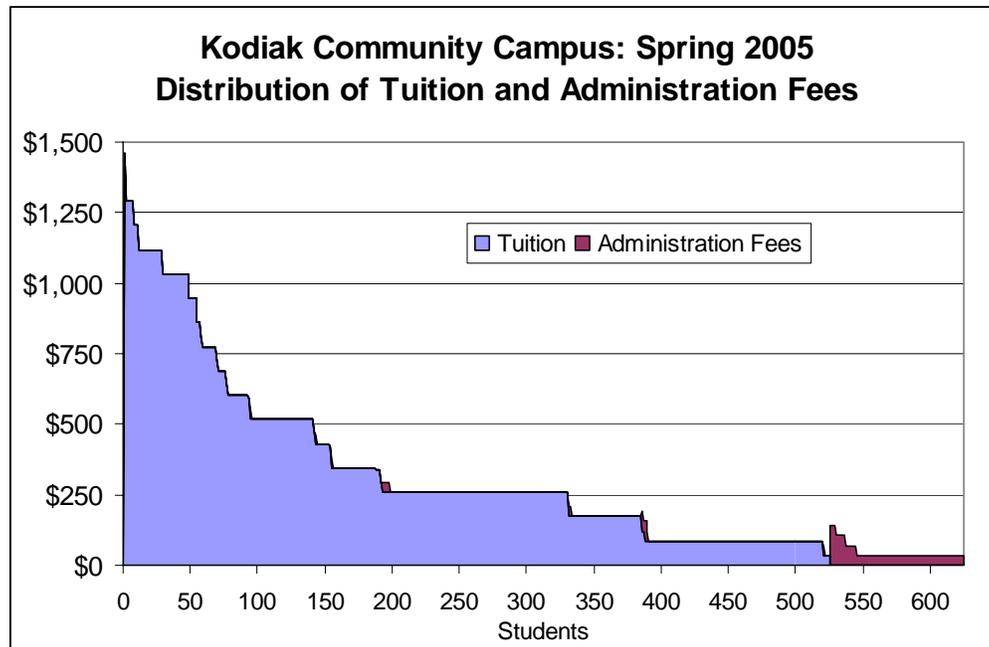
Table 23
Resident In-District/County Tuition and Fees at Public Two-Year Institutions
in the WICHE Region, State Averages, 2004-05, 2003-04, 1999-2000, and 1994-95

State Averages	2004-05	2003-04	1999-2000	1994-95	Percent Change		
					2003-04 to 2004-05	1999-2000 to 2004-05	1994-95 to 2004-05
Alaska	\$2,658	\$2,418	\$2,028	\$1,320	9.9%	31.1%	101.4%
Arizona	\$1,413	\$1,295	\$993	\$806	9.1%	42.4%	75.3%
California	\$780	\$540	\$330	\$390	44.4%	136.4%	100.0%
Colorado	\$1,835	\$1,717	\$1,490	\$1,213	6.9%	23.2%	51.4%
Hawaii	\$1,176	\$1,116	\$1,052	\$500	5.4%	11.7%	135.0%
Idaho	\$1,732	\$1,619	\$1,264	\$1,013	7.0%	37.0%	71.0%
Montana	\$2,701	\$2,509	\$2,024	\$1,474	7.7%	33.5%	83.2%
Nevada	\$1,590	\$1,537	\$1,230	\$915	3.4%	29.3%	73.8%
New Mexico	\$1,050	\$897	\$723	\$626	17.0%	45.1%	67.7%
North Dakota	\$2,816	\$2,503	\$1,906	\$1,738	12.5%	47.7%	62.0%
Oregon	\$2,834	\$2,701	\$1,727	\$1,380	4.9%	64.1%	105.4%
South Dakota	\$2,468	\$2,434	\$1,954	\$1,617	1.4%	26.3%	52.6%
Utah	\$1,943	\$1,815	\$1,476	\$1,305	7.1%	31.6%	48.9%
Washington	\$2,457	\$2,263	\$1,664	\$1,302	8.6%	47.7%	88.7%
Wyoming	\$1,724	\$1,633	\$1,309	\$886	5.6%	31.6%	94.5%
WICHE Average w/o CA	\$2,028	\$1,890	\$1,489	\$1,150	7.3%	36.3%	76.4%
WICHE Average w/ CA	\$1,945	\$1,800	\$1,411	\$1,099	8.1%	37.8%	77.0%
US	\$2,076	\$1,909	\$1,649	\$1,310	8.7%	25.9%	58.5%

Source: WICHE Regional Factbook for Higher Education

Because a majority of the students at the community campuses of the University of Alaska are part time, and because of the types of courses offered, the tuition payment for the average student is considerably less than the full time figures presented in these tables suggests. As an example, in the Spring of 2005 at Kodiak Community Campus there were 48 full time students (taking 12 or more credits) out of a total enrollment of 625. 70 percent of students were enrolled in three credits or less and paying \$258 or less in tuition. The most common tuition payment (22 % of students) was \$258, and the next most common amount was \$86 (21 %). Sixteen percent paid an administration fee instead of tuition which for most was \$35.





Other Out-of-Pocket Costs

Students incur other out-of-pocket education-related expenses to attend school in addition to tuition. For commuting students who do not live on campus—the case for most Alaska community campus students—books and lab fees are the most common expenses.

For full-time students, a review of these charges for the Kodiak campus for the Spring of 2005 revealed that the average expenditure for books, purchased through the University, was \$116. However, only about half of the full-time students purchased books, so the average expense for those who did buy books was \$199. The average lab fee across all full-time students was \$22. The sum of all these additional direct expenses added 12 % to the cost of going to school over and above tuition.

For part-time students, the same review found the sum of other University expenses added 13 % to the price of going to school over and above the tuition.

Indirect expenses, from gasoline for commuting by car to student activity fees, further add to the out-of-pocket expenses of students and, of course, vary considerably depending upon individual circumstances. Information on the average size of these out-of-pocket costs is unavailable, and in any event some of these apparent costs would be incurred if students were not in school. For example, if a student quit school and took a job, there would likely be some commuting expenses associated with that job.

However, it is possible to say that in general these other expenses have not increased as fast over time as the tuition rate (the very recent increase in the price of gasoline excepted). When we say that the tuition rate has been increasing at 5 percent annually

after adjusting for inflation, it means that tuition has been increasing 5 percent faster than the average of all goods and services, many of which represent the other out-of-pocket costs associated with attending school.

Foregone Income

The largest cost of higher education for many students is the income forgone while attending school, estimated in one study to be 2/3 of the total cost.¹² This “opportunity cost” of higher education is higher for students from lower income families than middle or upper income families.

Since most students at community campuses are part time, they are not sacrificing current income to attend school. For these students, tuition is likely to be the largest component of cost.

Traditional Financial Assistance

A large number of public and private grant and loan programs are available to Alaska students. The trend in recent years has been for more financial assistance in the form of loans than grants or scholarships. This has had the effect of increasing the cost of education.

Beyond having a different effect on the cost of education, different types of financial assistance can have differential impacts on different types of students. In particular it is possible that a modest, well-structured (targeted) needs based grant program could offset much of any negative effect on participation that a tuition increase might impose. In other words it should be possible to offset the negative effects of a \$1 tuition increase with a needs-based grants program of considerably less than \$1.

Some federal financial assistance is needs based, but until recently the state of Alaska did not have any needs-based financial aid programs for higher education¹³.

Most financial aid is restricted to “degree seeking” students, so for most students at the community campuses, traditional financial assistance is not available to help defray tuition and other costs of participation.

Tax Benefits

In recent years education savings plans, federal income tax credits, and federal income tax deductions have benefited many middle or higher income students.

¹² Looking Back, Going Forward, The Carnegie Commission Tuition Policy, 2001, sponsored by the Institute for Higher Education Policy, the Ford Foundation, and the Education Resources Institute.

¹³ “Need-Based Grant Aid at University of Alaska: An Independent Analysis”, by Derek V. Price, under contract to the University of Alaska, May 2005.

Students with enough income to save for future education needs can use Education IRAs and 529 plans to earn tax free interest which can later be applied to education expenses.

Students with a federal income tax liability may be able to offset some of their education expenses with federal tax credits or deductions, if they have taxable income, thru two programs.

Two types of education related federal tax credits were created by the Taxpayer Relief Act of 1997—the Hope Scholarship tax credit and the Lifetime Learning tax credit.

The Hope Scholarship tax credit is available to students in their first or second year of college who are enrolled at least half time. The credit is applicable on actual tuition paid, net of scholarships, up to a maximum of \$1,500. The credit is a \$1 per \$1 reduction in income tax liability.

The Lifetime Learning Tax Credit is available to students who have completed two years of college or students who are enrolled less than half time and includes students who are enrolled in courses to acquire or improve job skills. The maximum credit is \$ 2,000. As with the Hope Scholarship tax credit, a tax liability is necessary to take advantage of this credit.

A federal income tax deduction of up to \$3000 for education expenses was included in the Tax Relief Act of 2001. At a 15 percent tax rate, this would have a maximum value of \$450, reducing the cost of education by an equal amount.

What Students Actually Pay

The actual amount students pay is the sum of tuition, fees, other education expenses like books, and related expenses like gasoline for commuting or if in residence, room and board, plus foregone income, minus of financial assistance of all types and tax credits.

Comprehensive information is not available for different categories of Alaska students on what they actually pay, although some information is available, primarily on full time degree seeking students (since they receive the bulk of financial aid) in a recent study of needs based financial aid options for Alaska.¹⁴

Perceptions of Cost

Tuition is the “sticker price” of participation in higher education. However what students actually pay is dependent upon many other factors, not the least of which is financial aid.

Because access to information about financial aid is not as widespread as information about tuition, students may make their participation decisions on the basis of incomplete information that overestimates the true cost of participation.

¹⁴ Derek V. Price, Ibid.

Furthermore, students may end up actually paying more for their education than they would need to if they do not take full advantage of available financial aid opportunities, either because they are unaware of them or they are unable or unwilling to apply for aid.

This problem of people not applying for assistance to which they are entitled is evident in Alaska in the number of people who are eligible for, but do not receive, the Earned Income Tax Credit (EITC). Under this program, low income working adults are eligible for a cash payment (credit) from the federal government independent of whether they have a federal income tax liability. Receipt of the credit requires only the filing of a special form with the federal income tax forms at the end of the year. However each year eligible Alaskans annually forgo millions of dollars of payments because they fail to apply for the EITC.

Affordability

By any measure of the average or median income of Alaska households has not increased as rapidly as the tuition rate over the last 20 years. In fact in spite of the absence of any broad based state tax and the presence of the Permanent Fund dividend payment, in 2000 a slightly larger share of family households with children had real earnings less than \$25,000. The share of family households with children with income less than 10 times the annual UA tuition in 1990 was 8 percent. In 2000 the share had increased to 16 percent.

Affordability of Higher Education in Alaska				
	UA Tuition	UA Tuition (2000\$)	10 Times Tuition	Households with Children < 18 with Income <10 Times Tuition
1990	\$1,092	\$1,451	\$14,500	8%
2000	\$2,385	\$2,385	\$23,800	16%
Source: U.S. Census of Population and ISER				

A recent WICHE affordability of higher education calculation, based on the ratio of tuition and fees to median household income (half of incomes below and half above this figure) reported that Alaska was only slightly above the regional average for colleges offering associates degrees but below the national average for colleges offering bachelor and higher degrees¹⁵.

¹⁵ Regional Fact-Book for Higher Education in the West: Policy Indicators for Higher Education, WICHE states, December 2004, accessed on 8/17/05 at www.wiche.edu/policy/factbook. See also "Tuition and Fees in Public Higher Education in the West, 2004-2005 Detailed Tuition and Fees Tables", Western Interstate Commission for Higher Education, December 2004.

Table 24
Ratio of Tuition and Fees to Median Household Income,
Public Institutions, 2003-04, 1998-99, and 1993-94

State	Associate's Colleges			Baccalaureate/Master's		
	2003-04	1998-99	1993-94	2003-04	1998-99	1993-94
Alaska	4.7%	3.9%	3.0%	6.3%	5.0%	4.0%
Arizona	3.2%	2.6%	2.7%	8.7%	5.8%	6.0%
California	1.1%	0.9%	N/A	5.2%	4.6%	4.7%
Colorado	3.4%	3.0%	3.3%	5.7%	4.7%	5.2%
Hawaii	2.2%	2.5%	1.1%	4.4%	5.0%	2.6%
Idaho	3.8%	3.3%	2.9%	7.5%	5.7%	4.5%
Montana	7.4%	6.2%	5.0%	10.5%	8.4%	6.8%
Nevada	3.4%	3.0%	2.5%	4.6%	N/A	N/A
New Mexico	2.6%	2.1%	2.2%	6.8%	5.5%	5.3%
North Dakota	6.2%	6.1%	6.0%	8.9%	8.7%	6.5%
Oregon	6.5%	4.3%	3.8%	10.2%	8.2%	8.0%
South Dakota	6.2%	6.2%	7.8%	10.8%	9.0%	7.5%
Utah	3.7%	3.2%	3.5%	5.5%	4.4%	4.5%
Washington	4.8%	3.3%	3.2%	7.8%	5.6%	5.5%
Wyoming	3.8%	3.6%	2.9%	N/A	N/A	N/A
WICHE w/o CA	4.4%	3.8%	N/A	N/A	N/A	N/A
WICHE w/ CA	4.2%	3.5%	3.1%	7.2%	6.0%	5.3%

Source: WICHE Regional Factbook for Higher Education

The College Premium

Although the cost of higher education, measured by tuition, has been rising, the benefit, measured by the higher earnings of workers with some college education, has also been increasing in Alaska. In 2000 the “college premium” was 47 %. This was the additional annual earnings a full-time worker with a college degree could expect to receive on average compared to a person with no college education. This amounted to \$15,000 per year. The comparable premium in 1990 was 42 %.

The College Premium in Alaska				
	Real median earnings (2000\$) full time workers aged 35-64		Additional Annual Earnings Relative to High School Degree	
	1990	2000	1990	2000
< High School	\$30,557	\$22,600		
High School Degree	\$37,200	\$32,100		
Some College	\$39,857	\$36,000	7%	12%
Associate Degree	\$42,514	\$38,700	14%	21%
Bachelors Degree	\$52,817	\$47,100	42%	47%
Masters Degree	\$56,682	\$51,000	52%	59%
Professional / Doctorate Degree	\$66,428	\$65,000	79%	102%
Source: U.S. Census of Population and ISER.				

For the entire United States the expected lifetime earnings of a person with some college has recently been estimated to be 17 % greater than a person with only a high school diploma. The premium for an associate degree was estimated to be 23 % and a bachelor degree 73 % percent greater than a high school diploma.¹⁶ The net present value lifetime earnings with a college degree compared to no college experience was estimated to be about \$450,000.

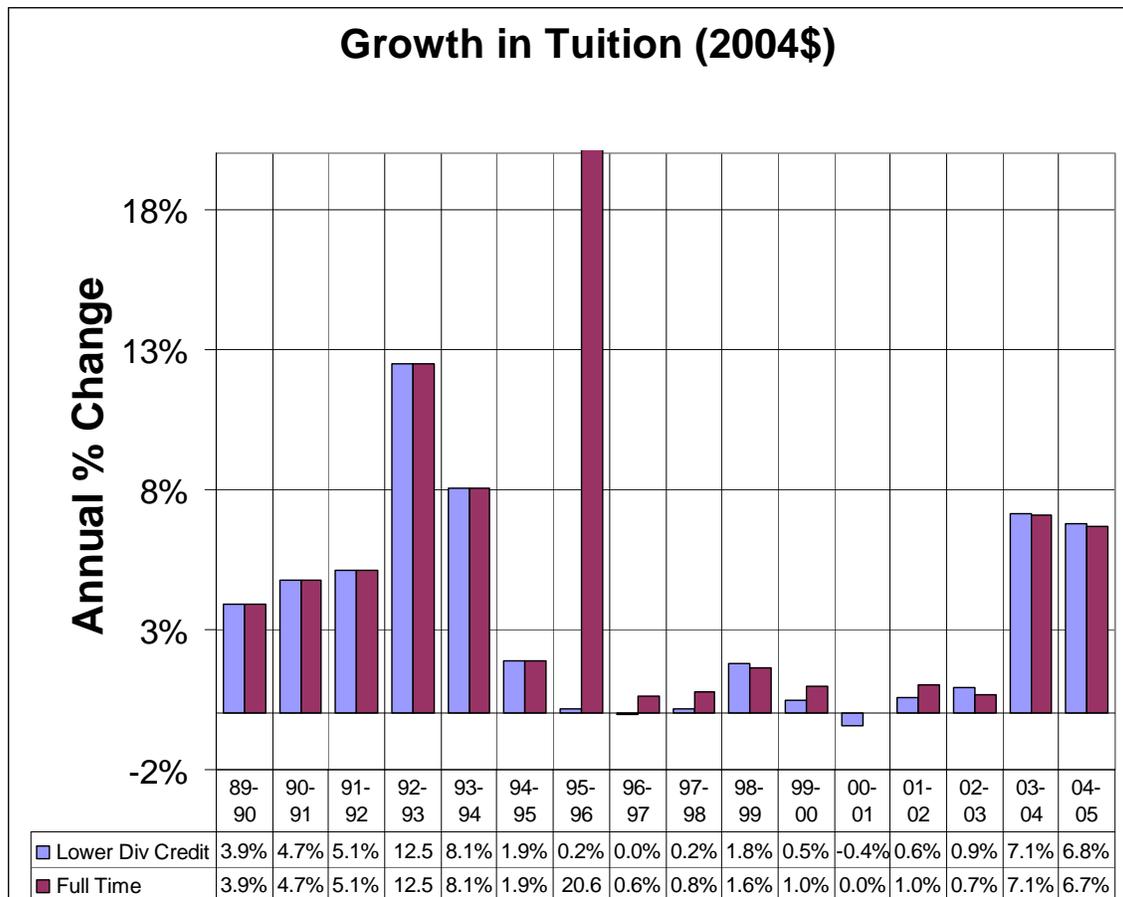
¹⁶ Education Pays 2004, by Sandy Baum and Kathleen Payea, the College Board, The Trends in Higher Education Series, 2005.

4. Evidence of Tuition Price Sensitivity in Enrollments and Credit-Hour Production

In this section we review enrollment and credit hour data for the various campuses to identify patterns across campuses that could suggest sensitivity to tuition rates and increases. (The source data is presented in an Appendix.)

The real (inflation-adjusted) tuition growth rate since 1990-91 can be broken into three general periods:

1. 1990-91 to 1994-95 annual increases between 2% and 13%
2. 1995-96 to 2002-03 annual increases averaging less than 1% (except 95-96 when the consolidated fee for full-time students was eliminated and full-time tuition increased about 20 %)
3. 2003-04 to 2004-05 annual increases of about 7 %.



We have seen that trends in economic and demographic variables would suggest a positive trend in both enrollments and credit hours over time. If other factors remained

constant over time, and if tuition were an important consideration in determining enrollments and credit hours, one would expect to see differences in enrollment and credit hours during these three different periods of time. In particular their growth should be weaker during the beginning and end of the 15 year period and stronger during the middle years.

Any patterns should be easier to see if we aggregate across campuses, because that will minimize the effect of campus specific factors influencing enrollments and credit hours.

Changes in other factors might help to explain the patterns. In reviewing trends in enrollment and credit hours, one should ask is what these other factors might be.

Annual Enrollment

Annual (fall semester) enrollment data is available starting in 1990-91 by campus. Tracking total enrollments involves double counting of those students who are simultaneously enrolled at two or more community campuses, but the number does give a very general picture of the trend in enrollments, particularly if we assume that the share of such students is relatively constant over time.¹⁷

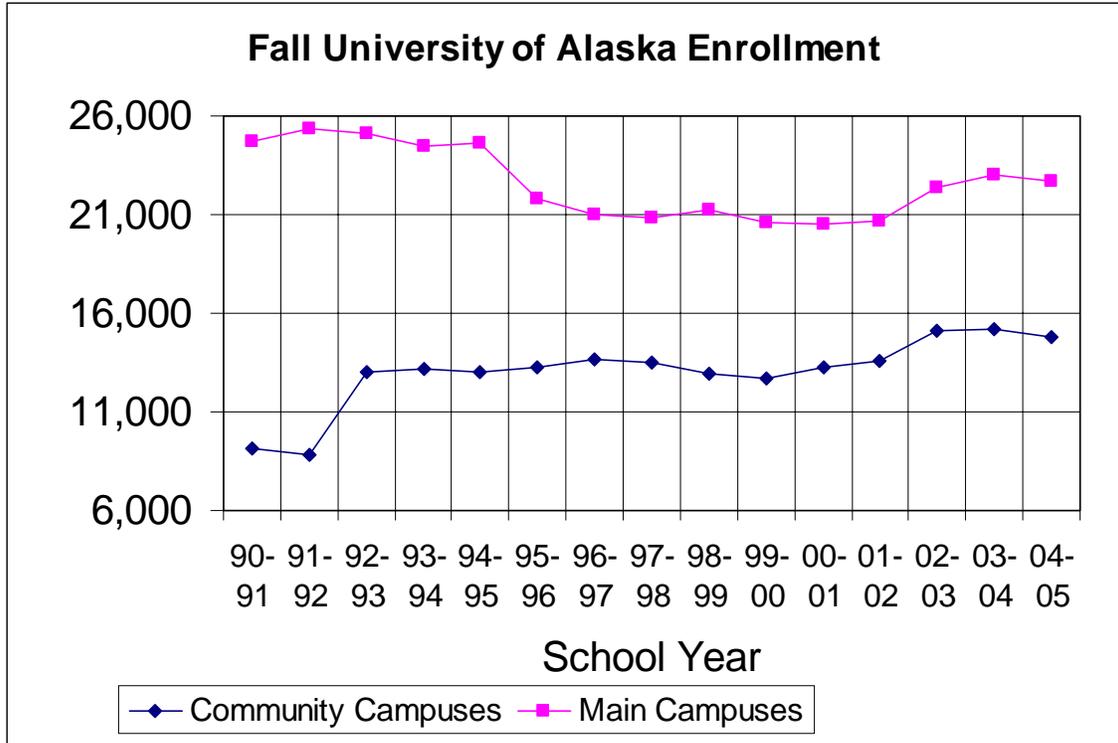
If we tried to combine the headcount of students enrolled at Mat-Su and Anchorage, we would count those students taking classes at both campuses twice and get an inflated figure for total enrollment in the Greater Anchorage area.

Since 1995-96 the general pattern of enrollment at the community campuses and at the main campuses has been similar. Before that time the definitions used in reporting the data make it more difficult to do comparisons and identify trends.

¹⁷ Summing enrollment numbers across campuses results in a total greater than the actual number of students in the University system during any given semester. In the fall of 2004, 4,653 students, 14% of the total, were concurrently enrolled in classes at more than one campus. This assumes no student is enrolled at more than 2 campuses. The unique student headcount (enrollment) was 32,711 while the sum across campuses of students enrolled at each campus was 37,364.

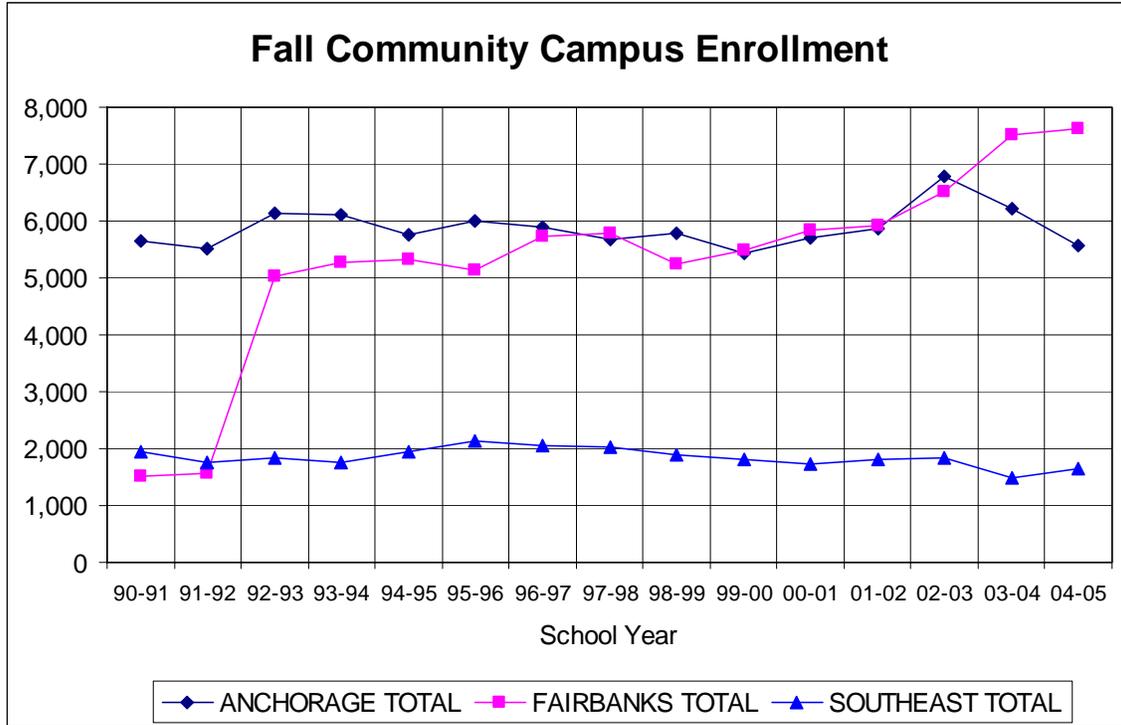
Furthermore each student has a “home” campus which is the campus that “owns” the student’s degree program (degree seeking students), or the original campus at which the student entered the university (non-degree seeking students). The home campus for a student may not correspond to the campus at which a student is currently enrolled for several reasons. A student may have moved to a new location, or may still live where originally enrolled but commute to another campus or take distance delivery courses offered by another campus. For these reasons, tracking enrollment by “home” campus measures the total number of students enrolled in the system but does not provide an accurate picture of demand at a particular campus.

For example, in the fall of 2004, the Mat-Su campus had an enrollment of 1,478 (serving campus headcount). Mat-Su was the “home” campus to 1,047 of those students while Anchorage was the “home” campus to 403 students enrolled at Mat-Su. The remaining 28 had “home” campuses elsewhere in the system. That same semester there were 1,201 students enrolled in the University system for whom Mat-Su was the “home” campus. 1,047 were taking classes at Mat-Su, 135 at Anchorage, and 96 elsewhere.



There was little trend in community campus enrollments through the decade of the 1990s. In 02-03 there was a jump associated with a one time increase at PWSCC that was reversed in 03-04. Aside from that, 03-04 was consistent with the modest positive trend observed starting in 99-00. The trend however was reversed in 04-05 when enrollments declined by 2 percent, compared to 1 percent for the main campuses.

The recent historical pattern differed among the community campuses in the three MAUs. Enrollment has continued to increase in Fairbanks; it has dropped off in Anchorage (partially due to the one-time spike at PWSCC in 2002-03); and it dropped off and then partially rebounded in Southeast. This regional variation tends to undercut the notion that tuition alone is the driving variable in the determination of enrollment levels.



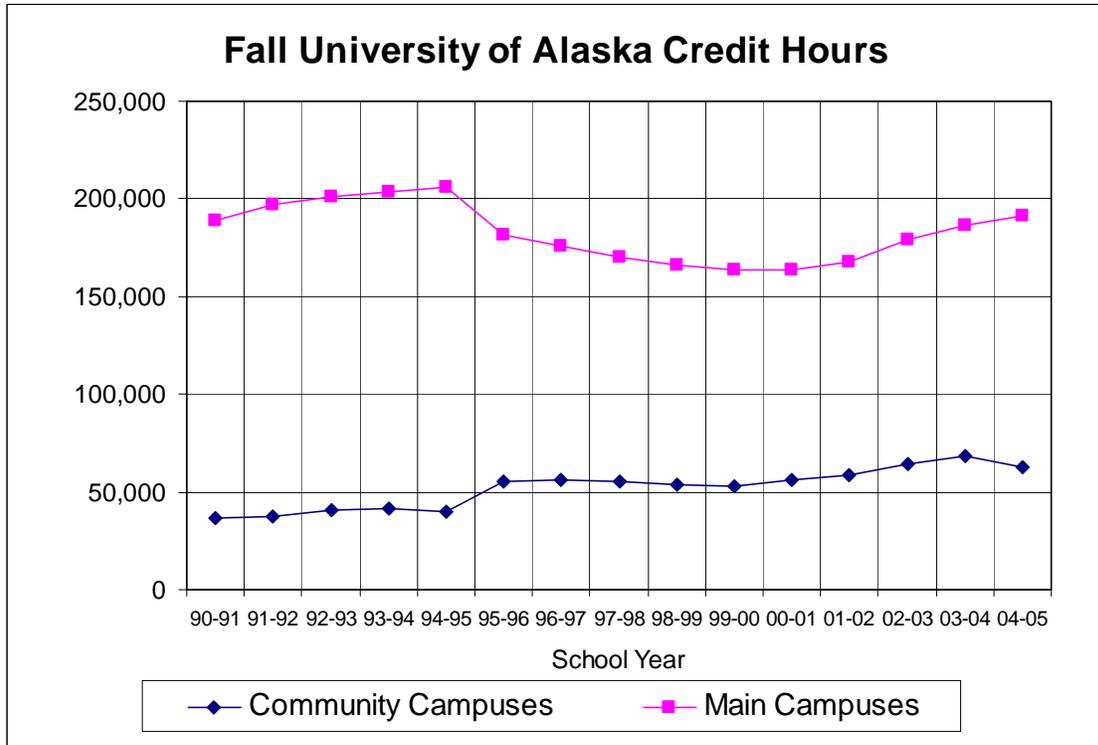
Using index numbers helps to compare trends over time. In the next chart we compare enrollment levels at the community campuses in the three regions using 1995-1996 as the baseline (an arbitrary choice.) and present data starting in 99-00 when enrollments throughout the community campus system began to grow. The table shows that in 99-00, Anchorage had fallen to 90.5% of the 95-96 level of enrollments. It then began to grow and was 13.1% above the 95-96 level in 02-03. It subsequently fell back to 92.6% of the baseline. In contrast, Fairbanks has increased each year. Southeast has displayed a mixed pattern with a drop in 03-04 (attributable to Sitka) and rebound in 04-05.

Fall Semester Enrollment at Community Campuses (Index 1995-1996 = 100)						
	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Anchorage	90.5	94.8	97.6	113.1	103.3	92.6
Fairbanks	106.9	113.7	115.5	127.2	146.7	148.6
Southeast	84.2	80.9	84.8	85.5	69.1	76.9
Source: ISER						

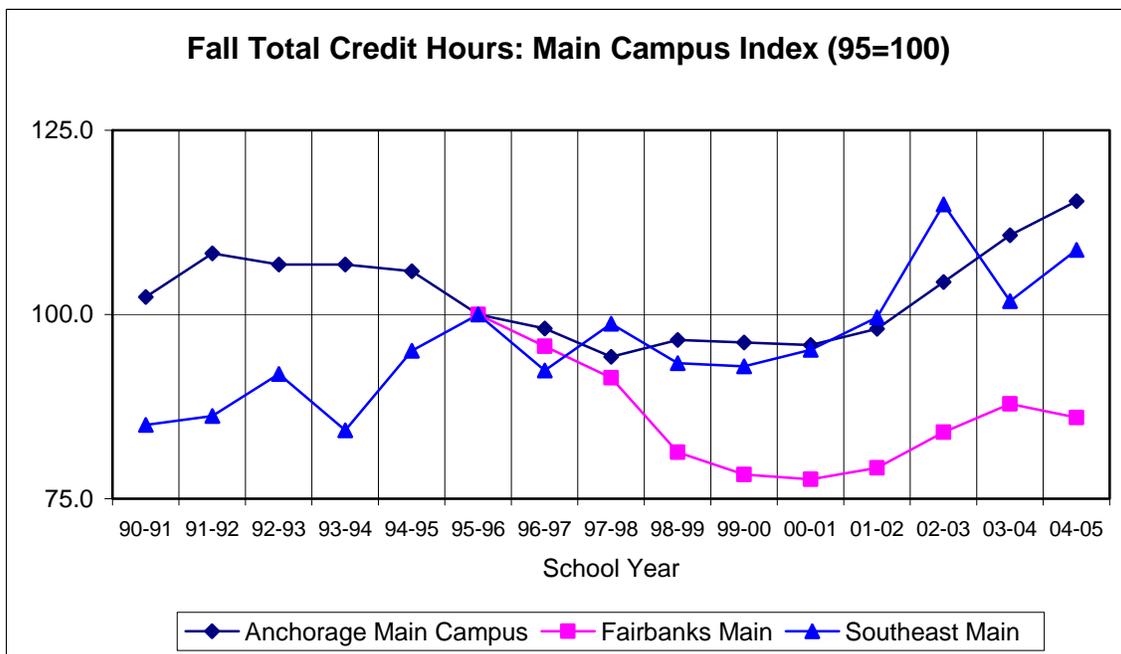
Annual Credit Hours

Tracking credit hours is an alternative method of analyzing the sensitivity of participation in higher education to tuition levels. It has the advantage of avoiding the double counting associated with students enrolled at multiple campuses simultaneously.

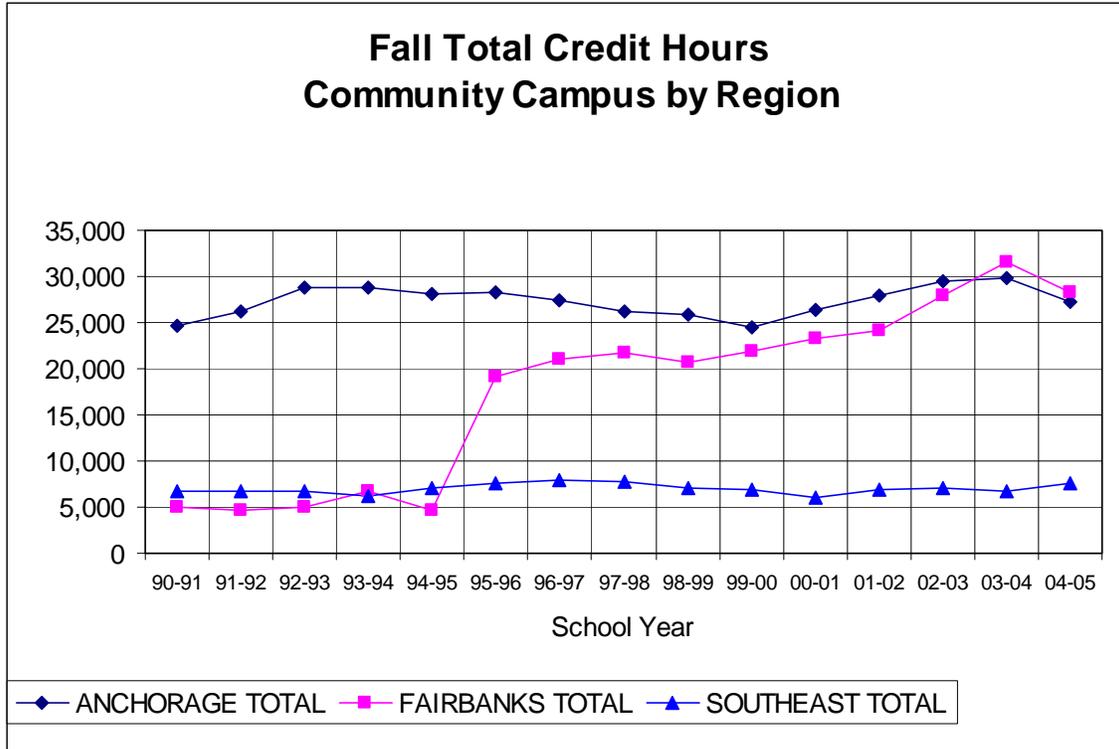
Credit hour production generally follows the same pattern as enrollment, although there appears to have been a more pronounced downward trend in credit hour production at the main campuses in the 1990's than in enrollment.

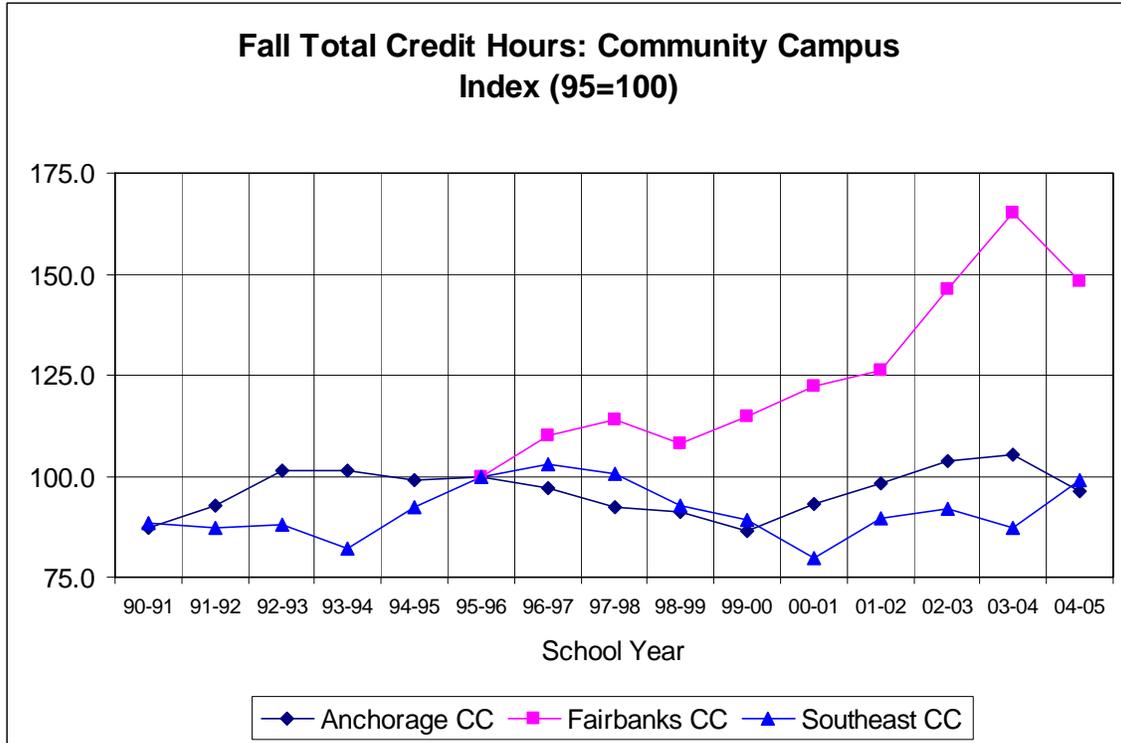


This downward trend was most pronounced on the Fairbanks campus, as indicated by the index of credit hours.



In contrast, the Fairbanks community campuses have experienced the most rapid increase in credit hours since the mid 1990s.





	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Anchorage	86.4	93.2	98.3	103.7	105.3	96.1
Fairbanks	114.8	122.3	126.2	146.1	165.3	148.1
Southeast	89.1	79.6	89.5	91.9	87.3	99.2
Source: UA in Review						

The relationship between credit hours and enrollment can also be seen by looking at the ratio of the two. This works as a tracking device as long as the pattern of simultaneous multiple campus enrollments by students is constant over time.

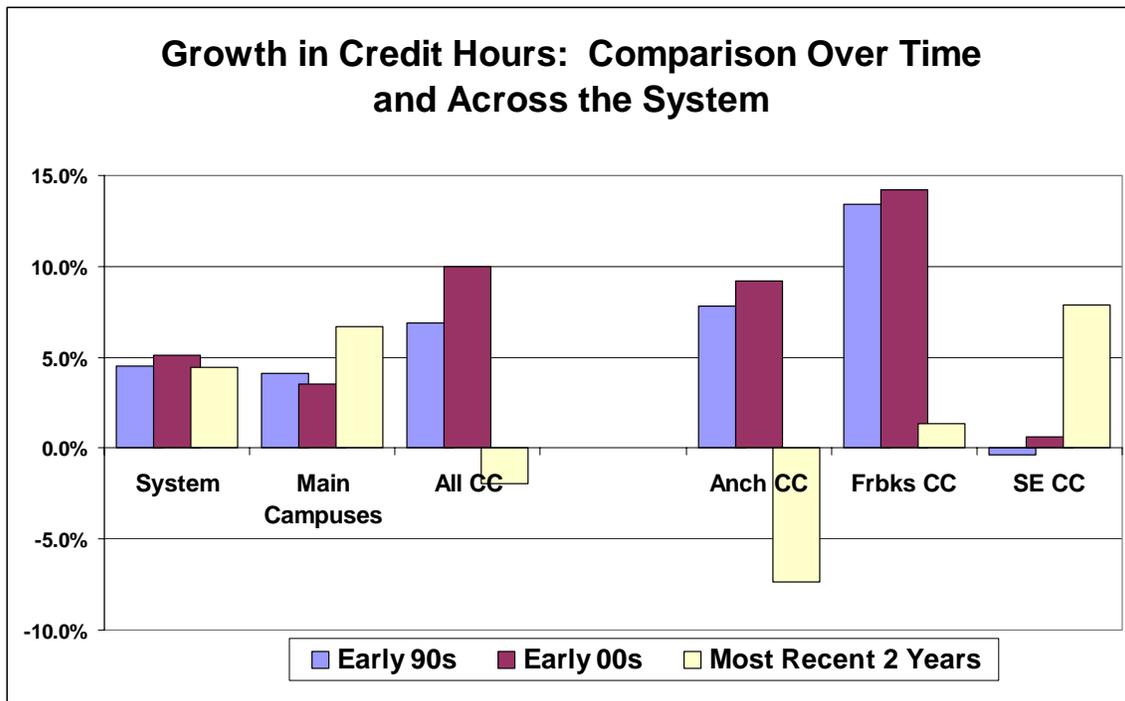
The number of credit hours per enrollee at the community colleges was higher in Anchorage and Southeast in 04-05 than it had been two years earlier, but lower in Fairbanks.

We might expect credit hours to be less sensitive to tuition in the short run than enrollments since for students already “in the pipeline” the impact of tuition increases on their education costs would be less than for new students. On the other hand, a higher tuition could force existing students to take fewer course.

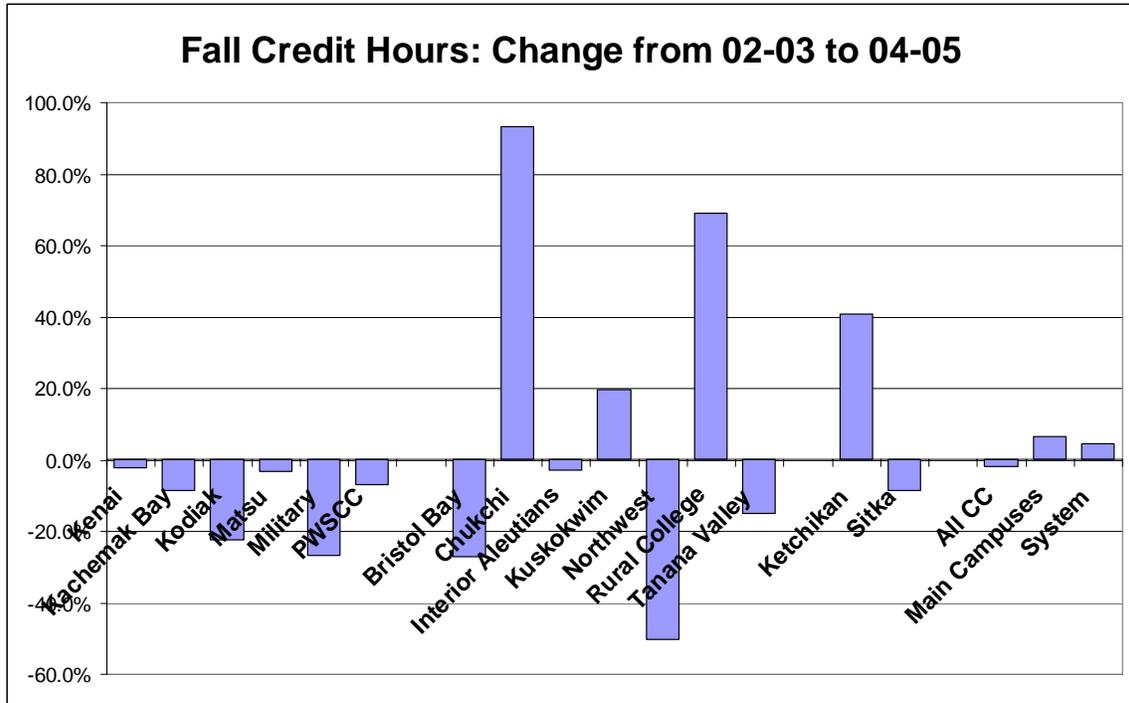
Fall Semester Credit Hours per Enrollee at Community Campuses						
	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Anchorage	4.50	4.64	4.75	4.33	4.81	4.90
Fairbanks	4.00	4.01	4.07	4.28	4.2	3.71
Southeast	3.79	3.52	3.77	3.85	4.52	4.61

Source: UA in Review, ISER

If we take a longer perspective and compare credit hour growth during three distinct periods in the history of the University—the early 1990s and the most recent two years when tuition was increasing, with the early 2000s when tuition was flat—we see little pattern to suggest that the influence of tuition is strong. For the main campuses the growth rate was actually slower when tuition was not growing. For the community campuses as a whole, growth was faster when tuition was flat, but not for the Southeast campuses. For the community campuses in each region, growth was very different during the more recent period of tuition increases than during the earlier round of tuition increases.

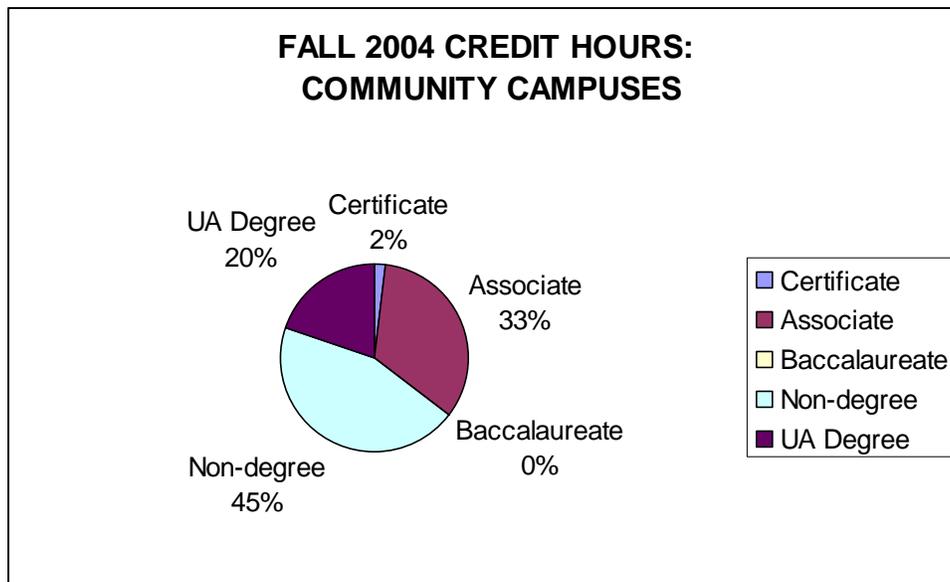


If we look at credit-hour growth during the last two years at the campus level, we see there is dramatic variation among the campuses. This suggests that many factors beyond tuition drive credit-hour production.



Credit Hours by Category

Credit-hour production can be divided into the various programs that students are pursuing. As shown in the pie chart, the largest shares of credit hours at the community campuses are generated by non-degree-seeking students, followed by associate degree students, and UA degree students.



Over time there is some movement among students between the Degree Seeking and Non-Degree Seeking categories, but our analysis shows that most do not switch. In particular, between the fall of semester of 1997 and the spring of 2005 74,768 different students attended the university and were initially enrolled at a community campus. 84% of these students were initially Non-Degree Seeking. Only 11% switched to Degree Seeking status during in that time period while another 1% switched status two or more times.

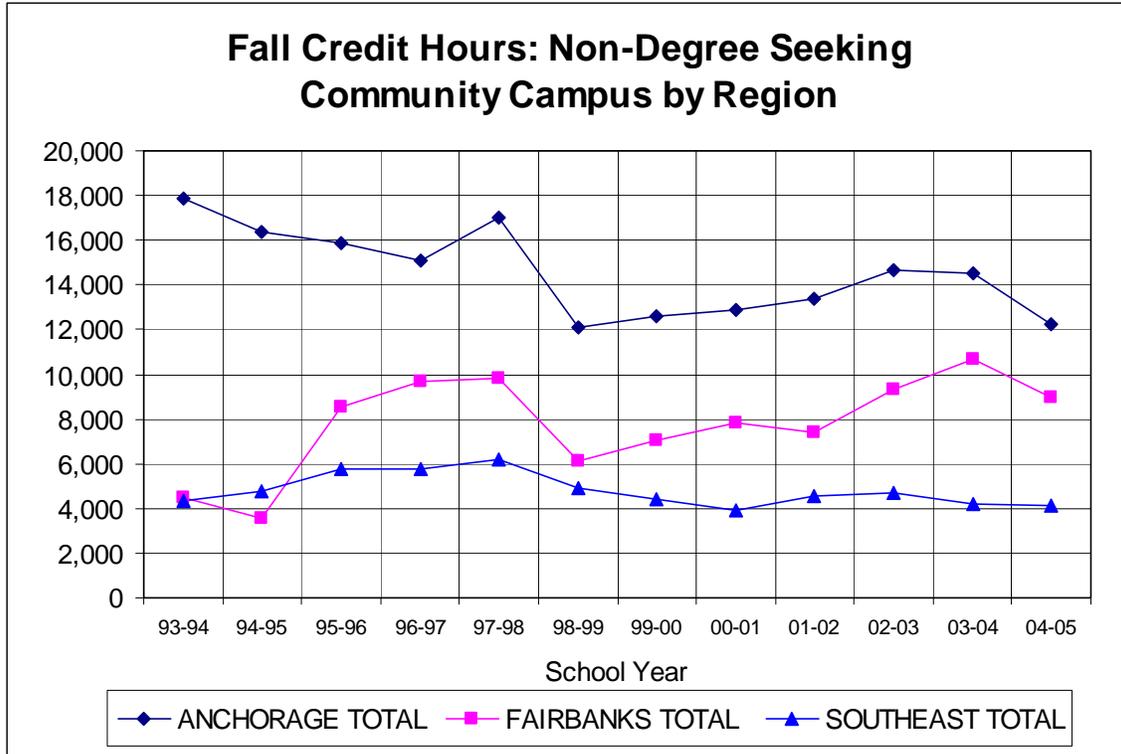
Switching from Non-Degree Seeking to Degree Seeking status among students has actually been somewhat higher –16%-- at the main campuses where there were 90,014 students and only 55 percent were Non-Degree Seeking..

UA Community Campus Attendees 1997 thru 2005			
	Non-Degree Seeking	Degree Seeking	Total
Initial Status	62,743	12,025	74,768
Number Switch	7,799	1,736	
Percent Switch Once	11 %	11 %	
Percent Switch >Once	1%	4 %	
Source: ISER			
UA Main Campus Attendees 1997 thru 2005			
	Non-Degree Seeking	Degree Seeking	Total
Initial Status	49,422	40,592	90,014
Number Switch	8,013	6,233	
Percent Switch Once	14 %	12 %	
Percent Switch >Once	2 %	4 %	
Source: ISER			

Non-Degree-Seeking Credit Hours

The number of credit hours at the community campuses in each region were lower in 04-05 than in 02-3. (Note: there was a discontinuity in the reporting of credit hours between 97-98 and 98-99 making it difficult to identify trends during the decade of the 1990's by type of credit.)

However, the index numbers show that the pattern differed in each region. In Anchorage Most of the decline was in 04-05 while in Southeast it was concentrated in 03-04. In Fairbanks credit hours increased in 03-04, but fell in 04-05.



**Fall Semester Credit Hours:
Non-Degree Seeking at Community Campuses
(Index 1995-1996 = 100)**

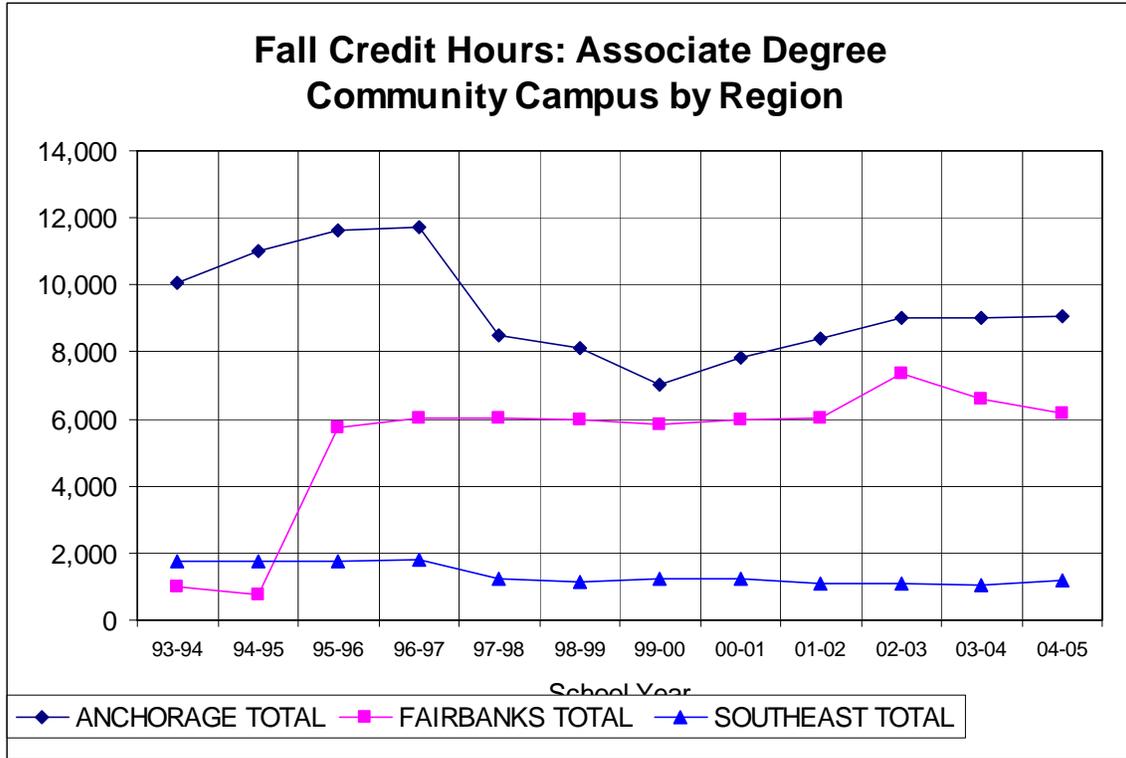
	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Anchorage	79.5	81.3	84.3	92.5	91.5	77.3
Fairbanks	82.6	91.6	87.0	109.4	125.3	105.2
Southeast	76.8	68.3	79.8	82.1	72.9	71.6

Source: UA in Review

Degree Seeking Credit Hours

The number of credit hours for students seeking associate degrees at the community campuses in Anchorage and Southeast were higher 04-05 than in 02-3. (Note there was a discontinuity in the reporting of credit hours between 97-98 and 98-99 making it difficult to identify trends during the decade of the 1990’s by type of credit.)

The number of credit hours for the Fairbanks community campuses was lower, but primarily because 02-03 was a year of unusually high credit hour production.



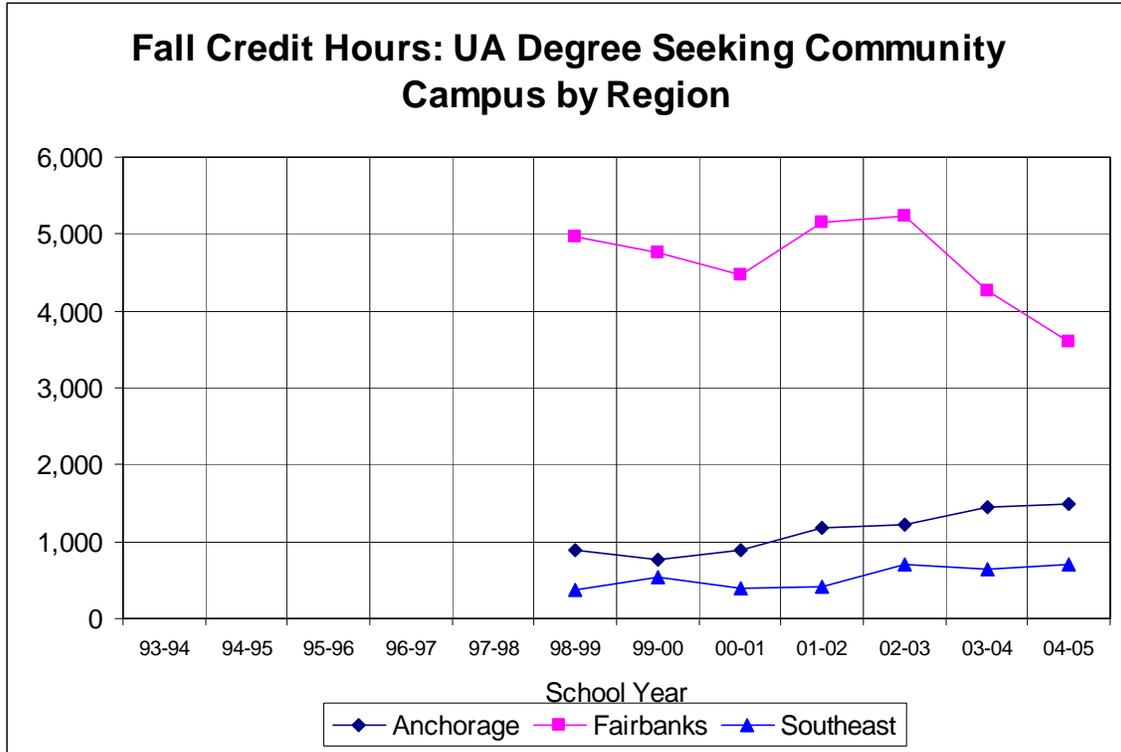
Fall Semester Credit Hours: Associates at Community Campuses (Index 1995-1996 = 100)

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Anchorage	60.2	67.2	72.1	77.6	77.6	77.9
Fairbanks	102.3	105.0	105.7	128.5	115.0	108.2
Southeast	70.4	71.6	62.3	61.6	59.1	67.9

Source: UA in Review

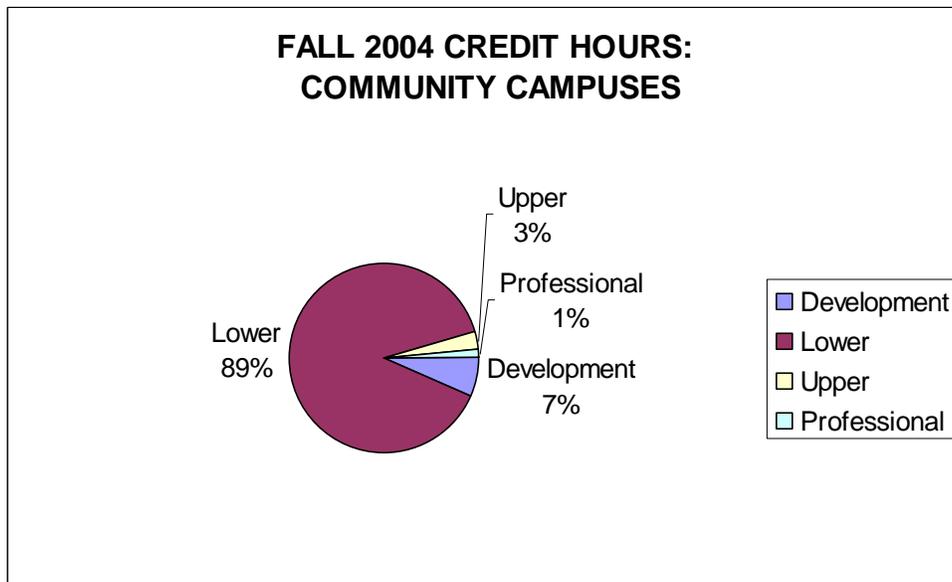
UA Degree Seeking Credit Hours

Credit hours fell between 02-03 and 04-05 in Fairbanks but increased in Anchorage and Southeast.



Upper Division Credit Hours

Almost all the credit hours at the community campuses are lower division classes, so total credit hours primarily reflects lower division classes.

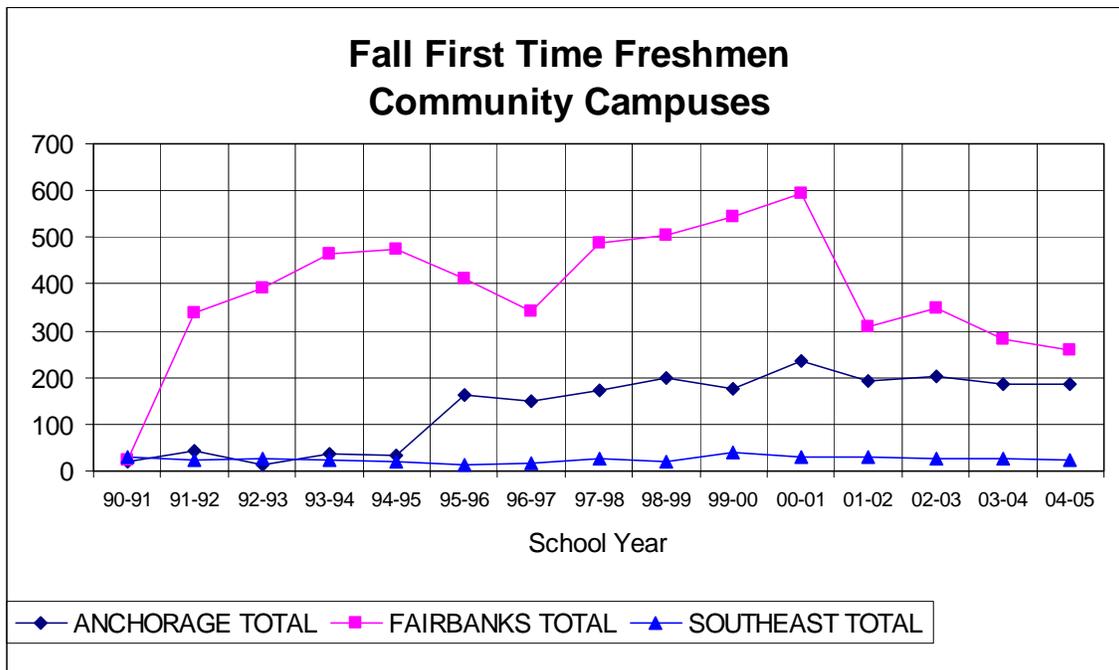


If we isolate developmental, upper division, and professional credit hours, about 10% of the total, we see that they declined between 02-03 and 04-05 in Anchorage and Southeast, but increased in Fairbanks. The decline for Anchorage was concentrated in 04-05 while it came mostly in 03-04 in Southeast. Credit hour production in Fairbanks actually increased in 03-04.

Fall Semester Credit Hours excluding Lower Division Classes at Community Campuses (Index 1995-1996 = 100)						
	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Anchorage	99.0	105.2	107.0	95.8	95.9	73.5
Fairbanks	105.1	105.7	93.7	105.5	145.9	120.6
Southeast	67.6	49.4	61.0	82.1	73.1	71.9
Source: UA in Review						

Fall First-Time Freshmen

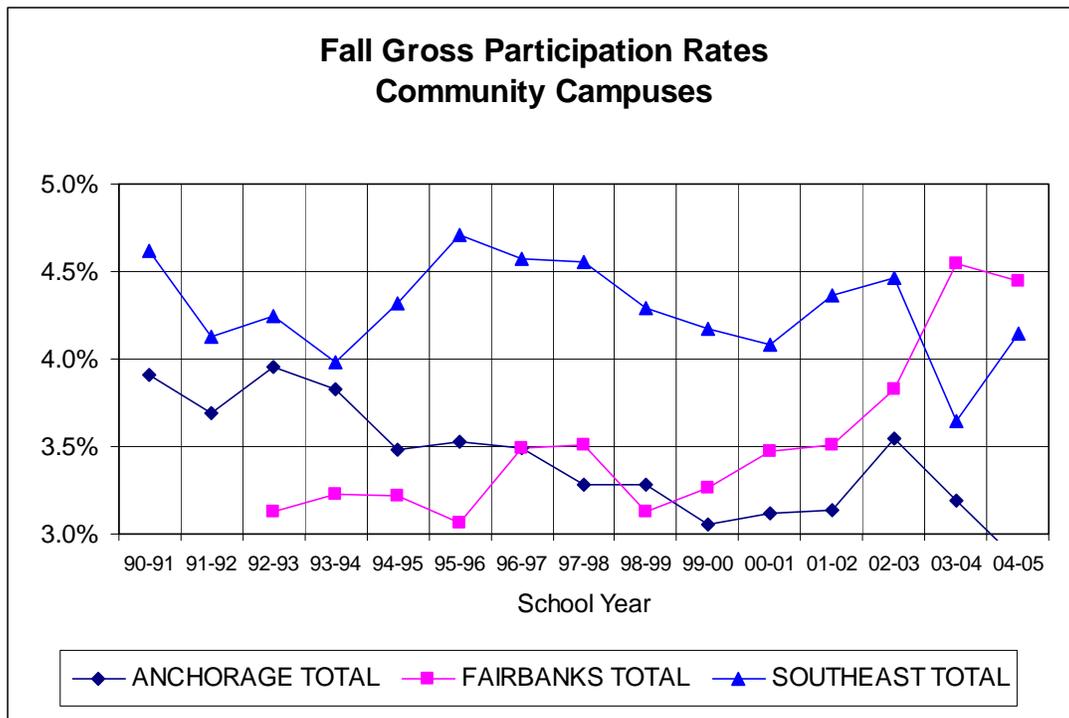
The number of first-time freshmen has varied considerably over time (perhaps partly due to changes in definitions and reporting). In the last two years, the number has fallen in all the community campus areas.



Fall Semester First Time Freshmen at Community Campuses (Index 1995-1996 = 100)						
	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Anchorage	107.4	144.2	117.2	124.5	114.7	114.1
Fairbanks	132.3	144.4	75.2	84.7	68.4	62.9
Southeast	278.6	207.1	221.4	200.0	178.6	171.4
Source: UA in Review						

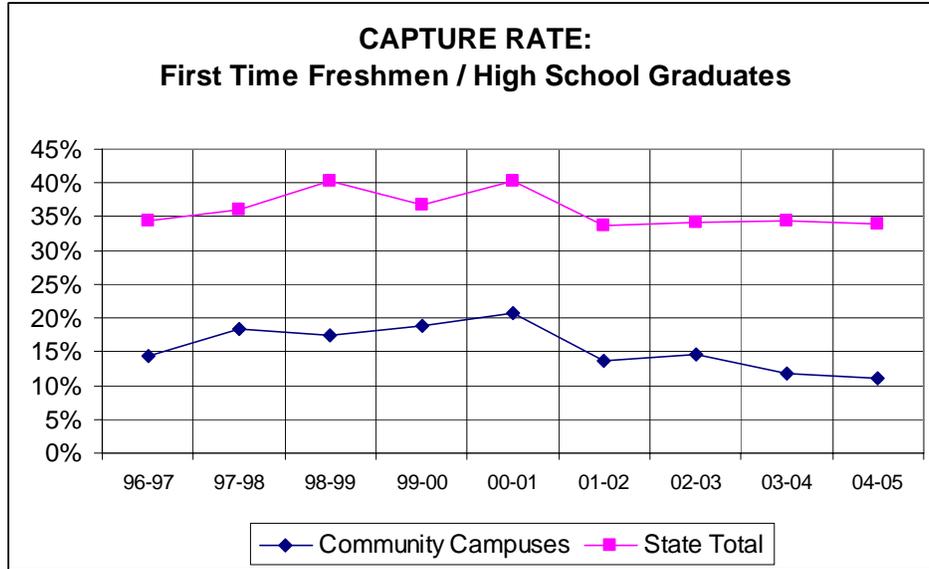
Participation Rates

Participation rates, here defined as enrollment as a share of regional population, show little if any pattern across regions or over time.



Capture Rates

The share of recent Alaska high school graduates enrolling at the University, the capture rate, has declined in the last two years for the community campuses, but the total has remained constant, because the main campuses have experienced an increase in their combined rate.



Summary

The growth rates of the various enrollment and credit hour indicators are summarized for the period 02-03 to 04-05 in the next table, and compared to growth during the two years prior to the introduction of the tuition hikes starting in 03-04. Although any comparison of this nature is somewhat arbitrary, it does provide another method of summarizing the information we have presented in this chapter.

The growth indicators for the community campuses are consistently lower for the more recent period, except for the capture rate (still negative, but less so.). The drop is most pronounced for Non-Degree Seeking credit hour production. However across the three community campus regions there is considerable variation in the grow rates as well as the differences between the earlier and later periods.

Growth Rate for Indicators: Tuition Increasing during 2002-03 to 2004-05							
	Enrollment	Credit Hours	CH Associate	CH Non-Degree Seeking	First-Time Freshmen	Participation Rate	Capture Rate
Anchorage CC	-18.1	-7.4	+0.4%	-16.4%	- 8.4	-19.7	
Fairbanks CC	+16.9	+1.4	-15.8%	-3.8%	-25.8	+16.1	
Southeast CC	-10.1	+7.9	+10.2%	-12.9%	-14.3	- 7.0	
Total CC	- 2.1	-1.9	-5.9	-11.7	-19.1	- 3.0	-23.7%
Main Campuses	+ 1.4	+6.7	+13.0	-13.2	+11.7	- 0.8	
System	+ 0.0	+4.4	+4.0	-14.3	+ 4.2	- 1.5	

Growth Rate for Indicators: Tuition Constant (real \$) during 2000-01 to 2002-03								
	Enrollment	Credit Hours	CH Associate	CH Non-Degree Seeking	First Time Freshmen	Participation Rate		Capture Rate
Anchorage CC	+19.3	+11.3	+15.5	+13.8	-13.6	+13.7		
Fairbanks CC	+11.8	+19.5	+22.5	+19.4	-41.3	+10.2		
Southeast CC	+5.7	+15.5	-14.0	+20.3	-3.4	+9.2		
Total CC	+14.2	+15.2	+15.8	+16.6	-32.5	+11.4		-29.2
Main Campuses	+ 8.8	+ 9.8	-8.4	+10.8	- 1.7	+ 5.7		
System	+11.0	+11.2	+1.8	+ 6.7	-11.6	+ 8.0		

5. Other Factors Influencing Enrollments

The review of quantitative information suggests that general economic and demographics as well as tuition explain only a small part of the change from year to year in enrollment and credit hour production at the community campuses—both in the aggregate, and individually. Many other factors, as well as characteristics specific to individual campuses, help to drive enrollment and credit hours.

To collect more information about these other factors we interviewed the current directors of 5 of the community campuses—Kenai, Matsi, Ketchikan, Kuskokwim¹⁸, and Tanana Valley—as well as two former campus directors. Prior to conducting each interview we send each of the directors a “Campus Brief” containing historical information on economics, demographics, enrollment, and credit hours associated with their own campus. The purpose of these background papers was to help to focus the interviews on the long term trends in enrollment at their institution and the factors they felt to be most important in driving those trends. These “Campus Briefs” are included as an appendix to this report.

The interviews focused on local market characteristics, cost factors, and campus characteristics. In this section we summarize the responses to those interviews and the viewpoints they represent. Of course because someone failed to mention something does not mean it is not important. The transcripts of the interviews are in an appendix.

The most important conclusions to draw from these interviews are that each campus faces a unique set of challenges, and the small size of each campus means that seemingly insignificant unique events can make a big difference in enrollments and at least in the short run swamp the influence of economics, demographics, tuition or other factors. As indicated by the Kuskokwim respondents, “We are small enough that very small things affect our enrollment. If a student goes back to the village and gets their buddies to come, for example.”

General Data Caveat

Nearly everyone expressed some concerns about interpretation of the data presented in the “Campus Briefs”.

Changes in enrollment and credit hours can be the result of reclassification of programs or the classification of programs in different units. For example the developmental courses offered at the Tanana Valley campus were recently switched to the College of Rural and Community Development. The director felt that in the absence of that change, the trend for Tanana Valley in the last couple of years would have been positive rather than negative.

¹⁸ At the time of the interviews Kuskokwim community campus was between directors. We instead interviewed the Distance Education Coordinator and the Emerging Scholars Coordinator on that campus.

Several directors indicated that the distinction between degree seeking and non-degree seeking students was not useful. This is because many students will wait to be accepted into a degree program until they have completed their coursework, often because there is a fee associated with the declaration.

Another factor mentioned in being able to track activity levels more accurately is the notion of creating occupational certificates to increase the visibility of these classes within the system. The Kenai director mentioned the fact that the mining and petroleum training services (MAPTS), because they are non-credit, are not tracked.

Another challenge mentioned by the Kuskokwim respondents was that students who apply to the University on line in villages with the intention of going to Kuskokwim might be counted as having their home campus at Fairbanks. This could happen if they specified a course of study not offered at the Kuskokwim campus. (However most data on enrollment and credit hours is reported when the student is currently attending school.)

Market Characteristics

Market factors include the particular economic and demographic characteristics in the communities served by the campus. As expected we found considerable variation among the campuses in the markets they served.

Market Area. The population in the census area within which the campus is located is a poor measure of the market area of the institution, because of physical constraints, students drawn to the campus from other parts of the state, proximity to other regions, and competition for distance delivery credit hours.

Although Tanana Valley campus serves primarily the Fairbanks North Star Borough, it also offers a 1 year program in aviation maintenance that draws students from throughout the state. Its market area includes a large and transient military population with educational demands different from the population at large.

The Matsu campus serves the large Matsu Borough and the cost and time of commuting for outlying students (and perhaps for potential students in more central areas as well) may be hampering enrollment growth.

Access and commute time and cost is even more of a concern for the Kenai campus which has five separate facilities in Soldotna (2), Homer, Seward, and the University Center. Students commute up to 70 miles each way to attend classes and rising gasoline prices are making it more difficult for students to afford such long commutes.

The Kuskokwim campus serves a large number of villages scattered geographically. Face to face contact with current and potential students is a continuing challenge for this campus.

In contrast, the director of the Ketchikan campus, which serves the far southeast corner of the state, did not mention any issues associated with access to their student population.

Proximity to Other UA Campuses. Three of the directors mentioned relations with other campuses of the University. The Ketchikan director characterized their campus as contributing to a strategic plan involving the entire region. The Matsu director also mentioned the role of his campus as a “feeder” of degree seeking students to the main campus of UAA at Anchorage. He also spoke of the fact that with community campus tuition at the same level as the main campuses, his campus seemed to be losing first time students to the main campus in Anchorage. The same concern was expressed by the director of the Kenai campus.

Distance Delivery. Distance delivery offers the potential of expanding the market area of a campus, but also the possibility of increased competition from outside the region. Of course, as indicated by the Tanana Valley director, much of distance delivery is simply a more convenient method of reaching your own geographic market. He indicated that their credit hour numbers are sensitive to the military in his region because of the distance delivery courses they take.

The Ketchikan director also spoke of distance delivery courses as an opportunity to fill niches and to provide a convenient product to students throughout the system, which they are doing. Ketchikan was also partnering with the Tanana Valley campus to jointly offer a technical program in CISCO programming, using distance course delivery.

Distance delivery was mentioned by both the Ketchikan and Kenai directors as a way to offer a course that could otherwise not be offered because of insufficient local demand. A course may now have 5 face to face students and a larger number of distance delivery students.

The Kenai director talked about distance delivery as a way to build economies of scale and connect his local market, but saw the main campus at Anchorage drawing student credit hours from his campus. This was because of the greater resources that the main campus could devote to developing such courses.

A concern the Kenai director expressed with the main campuses drawing away student credit hours, and the tuition that goes with it, is that the community campuses are left to provide the other services to these students who still use the facilities of the community campus. Over time the community campuses would become “facilitators of education rather than providers”.

Competition from Other Educational Institutions. The campus directors are aware of the competition from other educational institutions in their regions. The Kenai director mentioned a positive relationship developed with a one-year college in his market area—Alaska Christian College (ACC)—whereby students could use the dormitory facilities at ACC and take classes at Kenai community campus. He did not think that AVTEC was in

competition for students with his institution and did not mention other possible competition.

The Matsu director mentioned Wayland Baptist University that recently started a campus in his market area. They cater to working adults and offer courses in business, justice and human services. Their tuition is higher than UA and they are “doubling every semester” “They tell us their best advertisement is UAA (they have bad experiences with UAA). They are not competing with Matsu campus, but rather advise their students to start out at Matsu and then transfer into their programs. They are flexible and get people through their programs.

In the Kuskokwim region, competition comes from the military and the job corps. In addition the campus is developing new partnerships with vocational education centers in the region.

Economic Conditions. Because of the size of Anchorage, information about the state economy tends to reflect what is happening in Anchorage. However what is going on in individual communities is often at variance with the statewide conditions and trends. Furthermore the economic data tends to be available with a considerable time delay. Consequently the effect of local economics on community campuses can vary considerably from community to community.

In Fairbanks the specific economic consideration mentioned was the presence and condition of the military. Ketchikan was hit by the closer of the pulp mill in 1996 and the economy is slowly coming back, but the director did not mention its impact on enrollments and credit hours.

In the Matsu region the construction industry is booming and this is drawing potential and actual students away from school because of the wages they can get in construction trades. The economy in the Kenai area has not been growing as fast as Anchorage or Matsu and according to the director, this has constrained the ability of students to pay for higher education.

Student Characteristics. The differences here are dramatic. In the Kuskokwim region formal education is a relatively new concept. It was not until the 1960s or later than the high schools started producing graduates. Consequently the concept of higher education is relatively new with most of the population. But that is changing and young people are now more likely to continue on to college. However the pass rates in the high schools are still a problem.

Both Fairbanks and Ketchikan have a more traditional student population based in a single urban community. In Ketchikan however there is no local competition from a 4 year institution, so the student population is somewhat younger, and apparently getting younger over time. Some of this trend toward a younger population might be due to success in competition with colleges Outside that might otherwise draw students from Southeast Alaska.

The Kenai director indicated that his core student body has in the past been non traditional aged students 30-50 who would take 3-7 credits. Although growth of the population of the Kenai Peninsula has been slow he feels tuition and other cost increases as well as other factors are reducing the number of these students. He is trying to target a younger student population.

The Matsu campus is more of a feeder of younger students to the main campus in Anchorage or to 4 years institutions outside.

In general several campus directors remarked that their student population was getting younger, indicating that more students were beginning their college close to home, or were returning to pursue degrees closer to home.

Cost Factors

Residency Requirement. The new residency requirement introduced in the fall of 2004 requiring 2 years of residence to qualify for the instate tuition rate has had an impact on enrollments particularly in communities like Matsu with high growth from new migrants to the state and Kenai.

Tuition and Fees. Tuition increases were mentioned by several of the directors as being important in determining enrollment. The Matsu director mentioned the fact that students pay the same tuition as at the main campuses but get fewer services and that the loss was concentrated among men over 40 taking 6 or fewer credits. The same phenomenon was mentioned by the Kenai director who suggested higher tuition made it more difficult for 30-49 year olds to take classes for either a degree or enrichment. These students, typically taking 3-7 credits, were identified as the core of the student body. The Tanana Valley director also suggested that non-traditional students were more responsive to tuition hikes, for example single mothers.

He also suggested that for many workforce development courses fees were a significant part of the out of pocket cost of classes. For example in culinary arts there is a \$200 fee and in automotive or diesel classes the fee may be \$50 or \$75.

The Ketchikan director mentioned tuition in passing but seemed to think that the characteristics of the campus were more important than either tuition or economic conditions in determining enrollments.

The Kuskokwim respondents indicated that tuition was not an important consideration for their enrollments. Grant aid was much more important.

One former director suggested that if tuition were lower at the community colleges for the same course offered at the main campuses, students would perceive the class to be of lower quality.

This former director made two other interesting observations about tuition. First, students do not adjust for inflation when thinking about tuition. What this may mean is that a student taking classes over a period of years might be more sensitive to increases in tuition than someone just entering college. The second is that parents tend to underestimate the cost of college Outside. Rising costs of higher education Outside could then be a factor explaining the number of traditional students returning to their home communities to pursue their education.

Other Out-of-Pocket Costs. The increasing cost of gas associated with commuting to campus by car was mentioned by the Kenai director and the Matsu director also mentioned the distances that separated his campus from parts of his market area. The cost of textbooks was also mentioned by the Kenai director. He suggested that the cost of a 3 credit course was now \$500 including tuition, fees, and text books.

Financial Aid. In general students must be degree seeking in order to be eligible for financial aid such as Pell Grants and student loans. However it is not necessary to be a full time student to receive aid. The directors did not have a lot to say about financial aid or tax credits for education.

Most students at Kuskokwim qualify for Pell grants and the next largest source of aid has been scholarships from Native Corporations and others. The respondents felt that lack of organization and dissemination of information about the availability of aid was the biggest challenge.

Financial aid was also mentioned by the Kenai director as a problem for his core student population that was part time and had an income that was too high to qualify for traditional types of aid.

Other Cost Related Factors. The Kuskokwim respondents felt that a new policy requiring students to pay their tuition bill in full at the time of registration was negatively influencing their enrollments. At the Kenai campus on the other hand a deferred payment plan (the KPC EZ Payment Plan) has been helpful in recruiting students and increasing student credit hours.

Campus Characteristics

Supply of Faculty. Ketchikan indicated they had a solid core of faculty. Matsu mentioned difficulty finding qualified adjunct faculty to augment what was seen to be an insufficient number of full time faculty. This may be a function of the rapid growth and turnover of the population in the region and the growing economy. The Kenai director also mentioned the challenge associated with finding qualified adjuncts.

Other Supply Issues. The Kenai director also mentioned a shortage of classroom space as a constraint on supply. The Ketchikan director mentioned declining financial resources, but in the context of developing alternative and competitive delivery systems.

Course Offerings—Special Programs. The Ketchikan campus strategic plan includes both being a feeder to the main campus and also serving the needs of the local community. As part of that vision they have responded to pressure from the community in recent years to build both a forestry and fisheries program, both largely grant funded. The forestry program has not attracted students but the fisheries program has seen slow steady growth. They are also developing an AAS certificate in marine technology. These are some of the examples of how their programs are responding to the local needs of the community which are changing over time. These changing needs will in turn be reflected in changes over time, both positive, and negative in enrollments as demand for these programs fluctuates.

Examples of this responsiveness were also noted by the Kuskokwim respondents who suggested that the growth in the health care sector and the passage of No Child Left Behind have both led to the development of new programs, as for example the upgrading of teacher aides.

In contrast the Matsu director indicated that he was instructed in 2002 to reduce the number of upper division classes offered through his campus. He estimated this reduced his FTE by 50 over a 3 year period.

Class Scheduling. Because of the composition of the student population, it has been suggested that how courses are scheduled can be an important factor in determining how many students take a course. The Matsu director mentioned some changes that they have recently introduced that seem to be having a positive effect on enrollments. One was to start classes in refrigeration and heating two weeks after labor day to accommodate students who were working the construction season. He felt this change led to a doubling of enrollment. Another is the idea of “mixed delivery” which is a part classroom and part web based class. This seems to appeal to people and saves on classroom space.

Another concern is the scheduling of classes in the evening and on the weekends. For the non-traditional working student evening classes may be more attractive, and a shift in enrollments towards younger students might be partly indicative of class scheduling that is not convenient to older students.

Grants and Other Funding Sources. The implementation and delivery of some programs depends upon the availability of grant funding. In fact the Kuskokwim respondents indicated that “within our region of the state, little campuses and school districts and organizations live and die by grants”. This source of revenue both pays directly for students and for administrative personnel to provide basic services that the institution could not otherwise afford. Spikes in enrollment were specifically identified with variation in the level of grant funding to the campus. The Tanana Valley director indicated that workforce development money is harder to get than in the recent past.

Another funding source that can result in variation in activity from year to year is initiative money. For example some of the recent growth in Tanana Valley could be traced to the development of the allied health programs funded by initiative money. This

can lead to a sharp increase from the existence of a pent up demand for a newly established program.

Finally, variations in employer based funding can influence enrollment growth. This was specifically mentioned by the Kuskokwim respondents.

Student Housing. Only Kuskokwim has student housing and this has contributed to growth in the number of resident students at that campus. The Kenai director suggested that student housing at his campus would increase enrollments.

Marketing. Although the Ketchikan director did not specifically discuss marketing, she did mention the strategic plan that provides a clear sense of the mission of the campus. The Tanana Valley director also indicated the direction of their marketing efforts which is to prepare Alaskans for Alaska's jobs through technical training. One important avenue to accomplish this is through the secondary schools.

The Kuskokwim campus markets stresses that its success depends upon face to face marketing with potential students in the many villages that feed students into its programs. This program is gradually helping to increase the demand for higher education within the region.

The Matsu director indicated that they have not had a consistent marketing and recruitment effort in the past, and that they need to institute a branding campaign. He did not know whether changes in their marketing over time have negatively impacted their enrollments in the last year.

The Kenai director has two marketing strategies corresponding to his two groups of students—young people just coming out of high school and the older non-traditional students that have historically been the majority of his enrollment. For both groups he has worked to identify the strengths of his campus and to provide the types of programs that the community needs. He feels that the strategy has been more successful for young traditional students who are less influenced by tuition and more by programs. He has been less successful with non-traditional students because “non-traditional students are less impacted by programs and more by cost.”

A former director commented that there was no overall marketing strategy for the community campuses, and that the establishment of some incentive driven marketing process might be beneficial.

Leadership. The Ketchikan director stressed the importance of good leadership including establishment of a close relationship with the local community. Turnover in leadership was identified as a problem by the Kuskokwim respondents in terms of consistency of mission and program delivery over time. The implication is that some of the variation in enrollment can be the result of this inconsistency or variation over time in the quality of leadership.

Developmental Courses. A growth area identified in Ketchikan was courses that helped prepare recent graduates and older students for college courses. On the other hand the Tanana Valley saw these courses drop because they were transferred to the College of Rural and Community Development.

Other Factors.

Ketchikan—Recent enrollment growth has been concentrated among younger students who have different characteristics and expectations than older non-traditional students. Some of this growth might be due to students who went Outside deciding to return to further their education at home. Although not suggested by the director, this might in part be due to increases in the cost of education Outside the state.

Another area of expansion in recent years in Ketchikan has been in distance delivery classes reflected in the relatively more rapid growth in non home degree seeking and non degree seeking students compared to home students. The director mentioned their strategic approach in this regard and the notion that “students are shoppers now”.

Kuskokwim—The nature of the university is changing particularly with the advent of distance education. It may be time to consider some type of consolidation. This would not mean the closure of campuses, since face to face contact with students, particularly in the smaller rural villages is critical for getting them successfully into the higher education pipeline. This involves things like recruiting, which is very sensitive actually getting out into the villages, advising, and financial aid.

6. Quantitative Studies of Price Responsiveness of Higher Education

A large number of academic studies have been published in books and journals that estimate the responsiveness of participation in higher education to changes in its price. These studies differ in many respects including geographic coverage, the time period covered, the type of institution, the type of student, and the extent to which other factors, such as tuition at competing institutions, financial aid, and public expenditures on higher education, are held constant as tuition is changing.

Although each study consequently reaches somewhat different quantitative conclusions, there is general agreement among them on a number of important points as follows¹⁹:

1. As tuition rises, people are likely to consume less higher education, other things being equal.
2. As real income rises, people are likely to consume more, other things being equal.
3. Low income students tend to be more responsive to price.
4. Certain minority students (afro-Americans and Hispanics) tend to be more responsive to price.
5. Enrollment at community colleges tends to be more price sensitive than enrollment at four-year institutions.
6. Tuition and financial aid policies in one college sector can influence enrollment in a different sector. (Within a state if tuition increases only at the community college level, some students will shift to the four year institution.)
7. Tuition price changes and financial aid changes do not always have the same effects on students. (The majority of studies that considered the effect of equivalent and offsetting changes in tuition and financial aid concluded that enrollment would fall in such a case. However, none of these studies were able to consider the effect of targeted financial aid.)
8. Different types of financial aid have different impacts on college enrollment behavior. In general grants tend to have a stronger influence on college enrollment than loans or work-study.

The easiest way to characterize the responsiveness of participation to price is using a measure known as price elasticity which is defined as

$$\text{Elasticity} = \% \text{ change in participation} / \% \text{ change in price}$$

where participation can be measured as enrollment, credit hours, the participation rate, or some other metric and the price is the tuition rate, adjusted for inflation. As indicated, the academic studies have all concluded that the real price elasticity is negative, and

¹⁹ “The Effects of Tuition Prices and Financial Aid on Enrollment in Higher Education”, by Donald Heller, Center for the Study of Higher and Postsecondary Education, University of Michigan, 2001.

generally less than 1. That means that a 1% increase in the real tuition rate would result in a decrease in participation of less than 1%.

The number of studies that have analyzed participation at community colleges is a small subset of the total and the quantitative results differ in each case.²⁰

A recent study conducted for the Oregon Community College Council of Institutional Research reported a tuition elasticity of $-.59\%$ on headcount and $-.41\%$ on full-time equivalent (FTE) enrollment²¹ (Curiously that study goes on to say that the FTE decrease in response to tuition increases persists for a least 2 subsequent years.) A study of participation in California reported an elasticity of $-.153$ for the community college system (compared to $-.05$ for the University of California).²²

Another study reported that a \$1,000 increase in tuition at community colleges with no change at 4 year public institutions, would reduce the participation rate at the community colleges by 4.7% , but total participation by only 3.5% .²³ This drop in community college participation is approximately equivalent to a price elasticity of $-.2$.²⁴ One other study found an 8% increase in tuition at only the community colleges led to a drop in the community college participation rate of $.9\%$, but a drop of only $.7\%$ for total participation.²⁵ This converts approximately into an elasticity of $-.38$ for the community colleges.

The results of these studies all confirm a negative relationship between tuition and participation, demonstrate that the size of that relationship, as measured by the elasticity, can vary considerably based on the circumstances where and when the study was conducted, and that the elasticity is between $-.155$ and $-.5\%$. The studies show that the elasticity is greater if tuition at competing institutions is held constant, and suggest that differences in the characteristics of students, programs, and financial aid can influence elasticity.

Nonetheless, differences in the way these studies have been conducted, and differences in the composition of the student population at Alaska community campuses compared to other places, suggests that these results have only limited value for explaining Alaska enrollment patterns. At best they confirm a negative relationship between tuition and participation, and underscore the fact that many other variables, such as financial aid and

²⁰ Most studies have concentrated on the participation rate of the 18-24 population in higher education and report what is known as a student price response coefficient (SPRC). This is the percent change in the participation rate in response to a \$100 increase in tuition.

²¹ Cited in "Tuition Increases at University of Alaska Community Campuses", by Gary Turner, Kenai Peninsula College, Director, March 2005.

²² Heller, *Ibid*.

²³ "Student Price Response to Higher Education: An Update Leslie and Brinkman", Donald E. Heller, *The Journal of Higher Education*, Vol. 68, No.6., December 1997.

²⁴ Assuming that the average tuition rate were \$1500 at the time of the study and the participation rate was 33% .

²⁵ Heller, *The Journal of Higher Education*, *Ibid*.

public expenditures on higher education, are also important factors in determining participation.

7. Quantitative Analysis of Alaska Data of Price Responsiveness of Higher Education

We constructed a data set of historical information on participation in higher education in Alaska and variables likely to influence participation. We used the data to conduct a regression analysis to test the hypothesis that participation is influenced by the tuition rate and if possible to estimate the elasticity measure—the percent change in participation resulting from a 1 percent change in tuition.

The results were inconclusive and can best be described as exploratory. This conclusion is due to shortcomings in both the quantity and the quality of the data. (This database is contained in an appendix.)

Although we had aggregate participation data (credit hours) covering a 15 year historical period, for much of that time the tuition rate, adjusted for inflation, changed little if at all. When we tried to subdivide the credit hour data by type of credit, we were forced to work with a shorter time period of 12 years that included fewer years when the tuition rate was changing. The reporting of credit hours was also not consistent over time either by campus or by definition.

Quality problems were also associated with the primary explanatory variables—population and the unemployment rate. Regional age specific population data is not available for the first part of the 1990's and had to be interpolated. The definition used in the calculation of the unemployment rate has also not been consistent over this entire historical interval, and in fact the Department of Labor was in the process of revising the regional unemployment rate data for recent years as we were conducting our analysis. Personal income data, which we wanted to include in the analysis, is not yet available at the regional level for 2004 and 2005. Since these were two of the important years during which tuition increased we chose to drop this variable rather than have a regression that did not include these important years.

An additional shortcoming of the data is that the population and unemployment information is available only at the census division areas. Census areas, or aggregates of several census areas, do not necessarily provide a good estimate of the relevant market area for each community campus. We developed an estimate of the market area for each community campus based on proximity, but realize they are less than perfect. The advent of distance delivery courses further complicated the challenge of defining the appropriate market area for each community campus. The census area assignments are contained in an appendix.²⁶

²⁶ We combined Kenai Peninsula and Kachemak Bay campus enrollments in order to have a single consistent data set across the model years. We could not model the College of Rural Alaska or the Interior Aleutians Campus because there was no logical census area to use for those campuses explanatory variables. We also had to exclude Tanana Valley Community Campus because it had even fewer years of data than the other campuses.

Furthermore we identified several explanatory variables that we were unable to quantify that may be correlated with tuition increases. If this is the case then any measured effect of tuition on credit hours would be overestimated. As a simple example, since a tuition increase happened in the same year that certain grant funds to the community campuses were phasing out, it would be impossible to determine how much of any credit hour drop was due to tuition and how much to reductions in programs necessitated by resource constraints.

Finally, the small size of each of the community campuses means that much of the variation in credit hours from year to year will be due to what are essentially random, rather than systematic, factors. For example, credit hour production in a semester could be (and apparently has been) heavily influenced by the health at an admissions officer. At a larger institution the influence of one person or a random event would have a smaller impact on variation in credit hours over time and it would be easier to identify variation due to systematic changes.

For participation in higher education we used both enrollment and credit hours, although we found credit hours to be a superior measure since it avoids a problem of double counting associated with students simultaneously taking courses from more than one campus of the University. Credit hour data also gave us the opportunity to consider whether there were differences in responses among “degree seeking” and “non-degree seeking” students.

As indicated, the explanatory variables used in the analysis included the tuition rate, adjusted for inflation, population, and the unemployment rate. With the exception of the tuition rate, this information is available by calendar year. We associated this calendar year data with the school year starting in the second half of the calendar year. Thus the economic and demographic data aligned with the 04-05 school year was calendar year 2004.

Because of the small number of years of historical data, we employed a standard technique used in most analyses of higher education participation. We created a historical data set for each of the community campuses in the University system, although in doing so we were forced to drop some campuses that did not have a complete data set covering the entire historical period.

We combined the data set for each of the campuses and conducted a set of regression analyses using a technique known as “seeming unrelated regression”. The advantage of the “seemingly unrelated regression” technique is that it increases the likelihood that the regression will identify any variables that are significant determinants of credit hours. It does this by looking simultaneously at the historical performance of each of the community campuses rather than individually.

The model we estimated has the following general form:

$$\text{Credit Hours at Community Campus } i = A + B * \text{Tuition (inflation adjusted)} + C * \text{Population } i + D * \text{Unemployment Rate } i + E * \text{Dummy 1} + F * \text{Dummy 2}$$

Where i is a particular community campus or its market area.

Two dummy variables were used to account for definitional changes in credit hours and the unemployment rate in recent years.

All variables were logged and measured as the year to year change. As a consequence the coefficients B , C , D , E , and F can be directly interpreted as the elasticities of credit hours to a 1% change in each of the explanatory variables—in particular tuition, population, and the unemployment rate.

There are several possible responses of credit hours to a change in the tuition rate. Credit hours could decline if current students do not have sufficient income to continue taking classes, or take fewer classes. Credit hours can also decline if potential students chose not to attend school.

However it is possible that credit hours could increase if students decided to accelerate their studies to avoid further anticipated increases. It is also possible that credit hours could increase at some locations perceived to be less expensive, while falling at other locations.

The more likely result, based on many similar studies conducted in other states, is that higher tuition will lead to a decrease in credit hours, other things being equal. This result would be indicated by a negative value for the coefficient B . To have some confidence in the result we would also like the coefficient to pass a “significance test”. Finally we would like the entire regression to have a lot of explanatory power.

We first modeled total student credit hours as the dependent variable, and ran this model with no constraints for 10 campuses. We then constrained the coefficient on tuition to be the same across all campuses. We ran the same two models (unconstrained and tuition coefficient constrained) to predict credit hours of Associate Degree seeking students, and those of “non-degree-seeking” students. We were only able to include 7 campuses in these models.

We were unable to consistently obtain a reasonable coefficient on tuition, significance of the coefficient, or explanatory power for the regression models.

There are two possible conclusions from these inconclusive results. The first is that there is no relationship between credit hours and tuition. The second is that a relationship exists, but the data is not of sufficient quality to allow us to quantify the relationship. Since all the published studies of the relationship between participation in higher education conclude that there is a negative relationship and since economic theory tells us

there should be a negative relationship, we must conclude that it is shortcomings in the data that prevent us from quantifying that relationship.

Unfortunately the shortcomings of the data we have identified are unlikely to be overcome any time soon. However the overall analysis in this report suggests that a single elasticity measure for the entire community campus system is not particularly useful since tuition responsiveness is likely to be related to student income and program of study. To the extent the objective of the tuition analysis is to help develop policies to maximize access to higher education, it is more important to understand how tuition influences the participation decisions of students of different incomes and with different educational objectives. Furthermore in the development of those policies one should consider the entire student body and not only those students enrolled or potentially enrolled at the community campuses.

Tables 1 through 3 summarize our results. R-Squared is a measure of the share of the total variation in credit hours “explained” by tuition, population, and unemployment. (The measure of the “significance” of this result is not reported in the tables.) The coefficient on tuition is a measure of the elasticity of credit hours to changes in tuition (the % change in credit hours for a 1 % increase in real tuition). The p-value for the tuition coefficient is the probability the measured elasticity could have arisen by chance. Thus, small values are good values. Social scientists often look for P-values less than .10, .05 or .01 in order to say that the relationship is statistically significant.

Table 1 summarizes results for models of total student credit hours. The tuition coefficients vary from -2.7 to +8.5. The coefficients on tuition and on the other variables (not shown) are generally not significant (the p-values are high). The R-Squared values indicate that the equations are explaining only a small share of the variation in credit hours. These poor results are likely because 1) there are too few years of data that is of poor quality so that the random variation is large compared to systematic variation; and 2) there are other explanatory factors (such as the usefulness of courses offered or the quality of teaching) that we were unable to model. The unconstrained model of total credit hours accounts for between 7 % (Northwest Campus) and 56 % (Bristol Bay campus) of the total variation in credit hours.

Table 1 also shows the results of regressions when we constrained the coefficient on tuition (the elasticity) to be the same across all campuses. Here the coefficient on tuition is positive (.99) and significant. Economic theory would lead us to expect a negative value—usually increases in price lead to decreases in consumption—so changes in tuition are probably correlated with changes in some other variable that we haven’t measured. In any case, there is no evidence in the total credit hours models that increases in tuition have decreased the credit hours students take, and some evidence that those increases may have had no effect. The low R-Squared values indicate the model explains little of the variation in credit hours.

Table 1. Model Results for Total Student Credit Hours

Campus	Unconstrained Model			Tuition Coefficient Constrained		
	R-Squared	Coefficient on Tuition	P-value for Tuition coefficient	R-Squared	Coefficient on Tuition	P-value for Tuition coefficient
Kenai	0.17	0.684	0.284	0.14	0.992	0.000
Kodiak	0.22	-1.562	0.080	-0.29	0.992	0.000
Mat-Su	0.49	0.045	0.913	0.29	0.992	0.000
PWSCC	0.33	1.391	0.141	0.33	0.992	0.000
Bristol Bay	0.56	-2.727	0.027	0.31	0.992	0.000
Chukchi	0.16	7.564	0.108	0.02	0.992	0.000
Kuskokwim	0.24	8.335	0.183	0.18	0.992	0.000
Northwest	0.07	-3.409	0.189	0.05	0.992	0.000
Ketchikan	0.37	1.035	0.176	0.37	0.992	0.000
Sitka	0.38	-0.803	0.253	0.08	0.992	0.000

We tried to improve the results of the statistical analysis by estimating separate equations for credit hours taken by different types of students—those pursuing an Associate Degree, and “non degree seeking” students. Table 2 tells presents the summarized results for predicting the credit hours taken by Associate Degree- seeking students. These models and coefficients have little explanatory power or statistical significance in predicting those credit hours—we simply don’t have good models for these students. The wide variation in the estimated tuition coefficient across campuses suggests other campus specific factors are influencing enrollments, but in different ways at different campuses.

When we constrain the tuition coefficient to be the same across all campuses, the significance and explanatory power of all the campus models declines, and the tuition coefficient is no longer significant. The results of these models indicate we need additional data and different variables to construct a robust model of Associate Degree-seeking credit hours, and that there is no evidence of changes in those credit hours responding to changes in tuition.

Campus	Unconstrained Model			Tuition Coefficient Constrained		
	R-Squared	Coefficient on Tuition	P-value for Tuition coefficient	R-Squared	Coefficient on Tuition	P-value for Tuition coefficient
Kenai	0.82	-3.366	0.003	0.69	-0.401	0.522
Kodiak	0.19	1.525	0.734	0.19	-0.401	0.522
Mat-Su	0.19	0.102	0.950	0.18	-0.401	0.522
PWSCC	0.22	-1.383	0.514	0.17	-0.401	0.522
Kuskokwim	0.12	5.423	0.706	0.13	-0.401	0.522
Ketchikan	0.59	3.382	0.055	0.46	-0.401	0.522
Sitka	0.29	-1.757	0.440	0.28	-0.401	0.522

Table 3 shows the results of restricting the analysis to credit hours associated with “non degree-seeking” students. These models are generally significant and the higher R-Squared values indicate they explain more of the variation in credit hours. The coefficients on tuition are negative in all six significant models, and those negative coefficients are also significant in three of them. Further, the general model performance improves when we constrain the tuition coefficient to be equal across campuses. The tuition coefficient is negative and significant in the constrained models. Interpreted as an elasticity, the 1.99 value implies that for each 1 % increase in the real tuition price, non-degree credit hours would decrease by 2 %. The significance of all the models increases (not shown in the table) and the amount of variation they explain changes little as reflected by the R-Square values.

Campus	Unconstrained Model			Tuition Coefficient Constrained		
	R-Squared	Coefficient on Tuition	P-value for Tuition coefficient	R-Squared	Coefficient on Tuition	P-value for Tuition coefficient
Kenai	0.88	-1.712	0.019	0.89	-1.997	0.000
Kodiak	0.52	-5.366	0.001	0.32	-1.997	0.000
Mat-Su	0.58	-1.909	0.319	0.59	-1.997	0.000
PWSCC	0.53	-0.379	0.771	0.47	-1.997	0.000
Kuskokwim	0.37	-4.898	0.166	0.32	-1.997	0.000
Ketchikan	0.27	3.064	0.079	-0.40	-1.997	0.000
Sitka	0.96	-1.745	0.000	0.96	-1.997	0.000

We believe these models have too few data points, too few years with substantial tuition changes, too many missing variables, and too many data definitional problems to express confidence in their ability to estimate the importance of tuition to credit hours. At best,

the data suggest that “non-degree-seeking” students reduce their credit hours in response to tuition increases, and that Associate Degree seeking students respond less, if at all, to changes in tuition of the magnitude we’ve seen in the last decade.

The measured size of the elasticity of “non-degree seeking” credit hours of 2 % is unreasonably high. It implies that over a two year period of tuition increase of 14 % (net of inflation), credit hours would decrease by 28 %. This has clearly not been the case during the last two years. Most likely the coefficient on tuition is picking up the effect of other variables, not included in the regression equation. The result is a coefficient on tuition that includes the effect of other variables as well.

