

At Our Doors

The Demand for Post-Secondary Education in the Fraser Region of Southwestern B.C.



A collaborative report to the Ministry
of Advanced Education from:

- Douglas College
- Kwantlen University College
- Simon Fraser University
- University College of the Fraser Valley



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Summary

This report identifies the amount of additional enrolment capacity that will be required over the next decade to serve the Fraser Region's growing population and to meet its need for higher levels of educational attainment. (The Fraser Region consists of those Lower Mainland school districts that lie outside the urban core. It includes the North Fraser districts of Coquitlam, New Westminster and Maple Ridge/Pitt Meadows. The South Fraser comprises the Fraser Cascade, Chilliwack, Abbotsford, Mission, Langley, Surrey and Delta districts.) The report represents the first phase of collaborative planning by the four public postsecondary institutions located in this region.

Population projections recently produced by the BC government show significant variations in growth rates by school district and age group across the Lower Mainland. The proportion of the adult population enrolled in postsecondary educational institutions, as reflected in the participation rate, proved to be central to forecasting enrolment demand; a small change in the participation rate of a large population can have a huge impact on enrolment. The participation rate is the most challenging aspect of the analysis, and is the topic to which this report devotes the most space.

The conclusions are consistent with a similar study the four institutions conducted in 1990. The 1990 report, *Findings of the Fraser Valley Access Committee*, laid the groundwork for the addition of over 14,000 Full-Time Equivalent (FTE) spaces in the four institutions over the ensuing decade. The current analysis demonstrates that an equally large expansion will be needed in the next decade.

Three scenarios are presented to illustrate the interaction of the differential demographic trends with differing assumptions about participation rates. The first scenario is simply a baseline, showing the impact of population change alone. The second and third scenarios take changes in the participation rate into account. The more conservative approach, reflected in the second scenario, raises all portions of the Fraser Region to the provincial average for postsecondary participation. The third scenario is the most realistic scenario in that it recognizes a modest growth in participation rates beyond the current provincial average, i.e. it takes international and national trends into account.

In projecting a modest increase in participation rates on age-specific population growth in local regions, the result is that postsecondary enrolment demand in the Fraser Region will increase by about 14,000 FTEs over the next eight years:

Additional FTE Enrolment Demand From 2003 Levels

Source of Demand	2011	2016
North Fraser	3,400	4,200
South Fraser	10,500	12,700
Total Fraser Region	13,900	16,900

The above table is conservative in that it does not take into account the possibility that the participation rate for 30 – 54 year olds will grow differentially compared to 18 – 29 year olds. Lacking adequate data and a technically defensible rationale for projecting a change in the enrolment patterns of 30 –54 year olds, we have chosen not to incorporate such a change in the above table. Our judgement, though, is that it would be prudent to allow for an additional 1400 FTEs by 2011 to reflect changing patterns of lifelong learning and the growing need for mid-career upgrading.

The next steps in the planning process are to identify which campuses are best positioned, given fiscal realities, to respond to the growing enrolment demand and to allocate enrolment growth among program clusters and level of study.

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At Our Doors

The Demand for Post-Secondary Education in the Fraser Region of Southwestern B.C.

Introduction and Problem Definition

With over half the population of British Columbia concentrated in Greater Vancouver and the Fraser Valley, provincial postsecondary enrolment demand and capacity are determined in large measure by circumstances in these regions. Although the Lower Mainland is geographically compact, the rates at which its subpopulations participate in postsecondary education vary considerably. The educational needs and characteristics of Lower Mainland residents who live away from the urban core, a subregion referred to here as the *Fraser Region* and described in detail below, represent a distinctive challenge for educational planning.

Issues of geographic access and mobility might not be expected to be significant factors in such a relatively small area, yet the barrier of the Fraser River, the limitations of public transit in suburban and rural areas, and an increasingly congested road network to institutions that are not equitably dispersed among today's population centres are proving to be important. Furthermore, the population of the Fraser Region continues to grow rapidly, resulting in increasingly rationed access to a number of institutions and programs.

This report addresses the question of how much additional enrolment capacity will be needed over the next decade to serve the Fraser Region's growing population and its need for higher levels of educational attainment. It sets the stage for more detailed planning to allocate the additional capacity among institutions, fields of study and level of study. It does not consider the enrolment demand the four participating institutions will face from elsewhere in British Columbia or beyond.

Because the enrolment pressures are so acute and because many residents potentially have access to more than one postsecondary institution, four institutions serving the Fraser Region have come together to plan collaboratively towards meeting the population's future postsecondary needs. Rather than focusing on the boundaries that have been associated administratively with each institution, i.e. the school districts traditionally comprising each college region, we have found it more helpful for the purposes of this analysis to divide the Lower Mainland into three functional regions.

Regions Used in this Analysis

The **Fraser Region** consists of the suburban and rural communities of the Lower Mainland. It excludes the **Urban Core** communities to the west of Vancouver, the North Shore, Burnaby and Richmond.

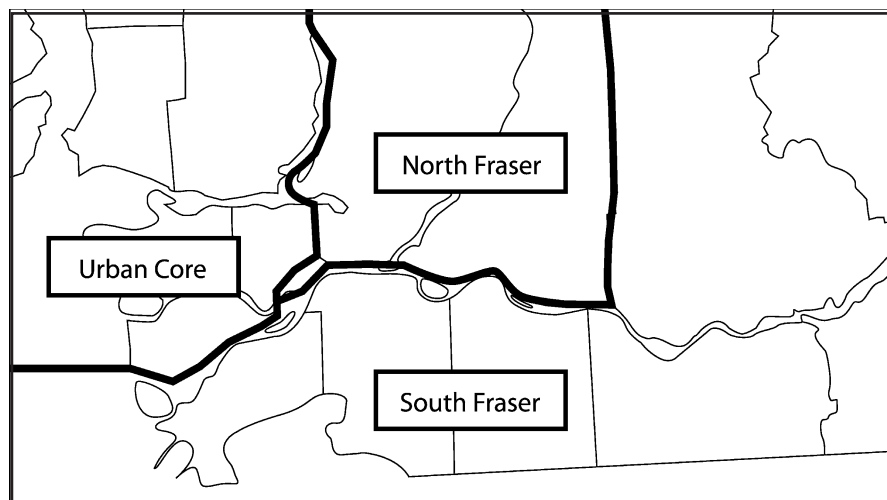
Although the peripheries of the Urban Core are suburban in character, the majority of residents in the Urban Core already have high levels of postsecondary attainment, have the choice of several nearby postsecondary institutions to attend, and are well served by public transit. In contrast, the combination of these three attributes describes only a small minority of residents in the Fraser Region.

The Fraser River bisects the Fraser Region, forming a major barrier to the movement of people within the region. The **South Fraser** consists of the school districts from the Strait of Georgia to Hope (Delta, Surrey, Langley, Abbotsford, Chilliwack and Fraser Cascade), a distance spanning approximately 160 kilometres. Mission has also been included in the South Fraser, despite its location to the north, because its bridge gives it much better access to Abbotsford and the southern region than to the more distant communities north of the Fraser River.

The **North Fraser** stretches from the Tri-Cities (Coquitlam, Port Coquitlam and Port Moody) to Maple Ridge inclusive. The small city of New Westminster has been included here, rather than in the Urban Core, because the Douglas College campus in New Westminster plays an important role in serving a number of the communities in the North and South Fraser regions.

A new bridge between Maple Ridge and Langley, slated for completion in 2007, will strengthen the linkages between the North and South Fraser regions, but transportation and traffic congestion will remain problematic.

Lower Mainland Regions



Previous Study

The issues and conclusions presented in this report are not new. The last thorough examination of postsecondary enrolment demand in the Fraser Region was also conducted jointly by Simon Fraser University, Kwantlen University College, Douglas College and the University College of the Fraser Valley over a decade ago. In many respects, the current study validates and refines the June 1990 *Findings of the Fraser Valley Access Committee: A Report Submitted to the Minister of Advanced Education, Training and Technology*.

The goal of the 1990 study was to analyze the increased enrolment needed for the Fraser Valley between 1989 and 1999 to meet the Canadian average for postsecondary participation. In other words, what would be the needed full-time equivalent (FTE) enrolment capacity per 1000 population taking into account projected population growth?

It was assumed that the number of Fraser Valley residents attending BCIT, UBC, Vancouver, Langara, and Capilano colleges would remain constant. (In actual practice, some Valley residents have had to migrate out and attend these institutions.) While this assumption had the effect of emphasizing growth needed in other institutions located in the eastern region, it also helped to offset the conservative assumption that the Canadian participation rate would stop growing and would remain at the 1989 level for a decade.

The conclusion was that an increase of 30,000 FTEs would be needed over the next decade to meet the goal of meeting the national average. Considerable enrolment expansion did in fact occur, but the rate slowed in the latter half of the 1990's due to the deteriorating financial circumstances of the provincial government. Nevertheless, close to half the recommended undergraduate FTE spaces have been added since 1989 in the four institutions.

The proposed allocation of the 30,000 FTEs among institutions reflected the greater population growth and lower participation rates in the South Fraser Region, e.g. Surrey municipality alone was projected to add the equivalent of the population of Kamloops during the 1990's. The report recommended the following expansion:

FTE Growth , 1990 – 2002

Recommended	Actual	Institution
3,300	4,000	SFU Burnaby
4,300	400	New Fraser Valley degree granting institution (now SFU Surrey)
5,800	2,500	Douglas College
12,300	4,300	Kwantlen College (now KUC)
4,900	3,100	Fraser Valley College (now UCFV)
30,600	14,300	Total increase in FTEs

Source: Ministry budget letters 2003-04 and 1990 Findings of the Fraser Valley Access Committee

The population projections used in the 1990 study slightly underestimated the actual population in the 2001 Census. Thus the above recommended FTE growth is less than what was really needed to achieve the goal set in 1990 of meeting what was then the Canadian average for postsecondary participation.

Private Institutions

Some of the post-secondary enrolment demand from the Fraser Region will be met by private institutions, but their role will be minor over the next decade. Trinity Western University in Langley has around 3000 part-time and full-time students, including many from the USA. With tuition fees of over \$10,000 per year and its explicitly Christian ethos (“The mission of Trinity Western University, as an arm of the Church, is to develop godly Christian leaders...”), it appears that TWU will continue to serve more of a niche role than a mass role for Fraser Region residents.

Some private, for-profit universities, such as the University of Phoenix and City University, serve Fraser Region residents from campuses in Vancouver, Burnaby and Abbotsford. These universities also have small enrolments and expensive tuition, tending to offer niche programs in such fields as business and education that are attractive to older, working adults.

A number of private organizations, some of which are non-profit, offer Adult Basic Education and English as a Second Language programming of various lengths and formality, often dependent on fluctuating grants or on student financial aid from public sources. They serve an important role, especially at the lower levels, but tend not to facilitate the transition to college-level studies especially well. (In public institutions, students have the option of taking one or two remedial courses while concurrently taking other courses.)

Certain applied fields of study at the certificate and diploma level, such as aviation and hairdressing, are well represented in the private sector. By way of illustration, CDI College of Business and Technology has campuses in Surrey and Abbotsford, while the Canadian Picture Framers School and the RCABC Roofing Institute are located in Langley. It is in these programs of short duration, and with specific occupational goals, that the private sector is likely to make its distinctive contribution in serving Fraser Region residents. Many are small in size, operate quite independently, and come and go, making it difficult to forecast exactly what their role will be.

We are not aware of any substantial new private institutions, comparable or larger in scale to the proposed new university in Squamish, planned for the Fraser Region.

In the short to medium term, it appears that the role of the private sector in the Fraser Region will be in niche programming, leaving the bulk of the service to be provided by public institutions. No further reference to the private sector will therefore be made in this overview analysis of enrolment demand. While we do not anticipate a noticeably bigger role for private institutions in this region, the participation data used later in this analysis implicitly takes current levels of enrolment in private institutions into account.

Methodology

A number of factors such as reputation, program mix and economic cycles affect the demand for post-secondary education, but the focus in this paper is on two major determinants: the size of the population (especially the traditional undergraduate age group of 18 – 29) and the proportion of the population that seeks a higher education (the participation rate.) All the other factors are refinements that are not examined here.

Changes in enrolment demand arising from changes in the size and age composition of the population are easy to comprehend. The significance of rising participation rates is sometimes insufficiently appreciated. Thus, a number of projections of declining post-secondary enrolment in various North American jurisdictions over the past 30 years have proven wrong because the negative impact of demographic trends have been more than offset by rising participation rates.

This analysis makes a concentrated effort to consider the interaction of participation trends and population projections. Because participation is more difficult to forecast than demography, a conservative approach regarding participation rates is used. The resulting conclusions about future enrolment demand should thus be conservative.

Population Trends

Data Sources

The population projections used in this report are the most recent ones produced by the provincial government's central statistical agency, namely BC Statistics' 2003 Population Extrapolation for Organizational Planning with Less Error ("PEOPLE 28") broken out by local health areas and single year age groups. (Local health areas are synonymous with school districts in the Lower Mainland.) These projections include historical data from 1981, incorporate data from the 2001 census, and provide projections to the year 2031. Using a methodology that considers trends in particular regions for all ages ranging from under 1 year of age to 90 and over, they are produced by demographers with considerable expertise about the province and its regions, and are updated regularly. No set of projections is ever perfect, but the use of projections from a single source means comparable data are available for all geographic areas and the risk of double counting migration or the impact of changing economic activity is minimized. Needless to say, the long-term estimates are more speculative than the ten-year projections on which we focus.

The annual projections in PEOPLE are based on a component/cohort-survival method which requires separate projections for each of three components:

- fertility (birth rates)
- mortality (death rates by age group)
- and migration (domestic relocation as well as immigration).

Assumptions about each of these components for local areas that often coincide with school districts boundaries are based on past conditions. While these assumptions are

modified to take into consideration potential changes in the future, there is always the possibility that unforeseen changes in such factors as land use or economic development will affect future populations in specific areas. According to a 1999 report outlining the methodology in the PEOPLE projections, the majority of BC's net migration has historically occurred in the mainland-Southwest region of BC (i.e., including the North and South Fraser regions), accounting for 55 to 65 percent of provincial net migration and up to 80 to 90 percent of international migration¹. Thus the greatest risk to the accuracy of the PEOPLE projections used here arises from assumptions about future migration patterns.

PEOPLE 28 (August 2003) forecasts less population growth than did the previous version, PEOPLE 27 (2002). In the Lower Mainland as a whole, the growth in the total population from 2003 to 2011 has been revised down to 12.4 percent from 13.4 percent.

**Comparison of PEOPLE 27 and PEOPLE 28 Population Projections
All Ages in Lower Mainland**

Year	PEOPLE 27	PEOPLE 28
2003	2,436,000	2,436,000
2011	2,761,000	2,739,000
Growth, 2003 - 2011	325,000(13.4%)	303,000(12.4%)

In addition to the PEOPLE 28 projections, this analysis also draws upon data from the Ministry of Education. Specifically, two reports, Report 1558A (September Grade 12 Public School Enrollment Projections) and Report 1561 (Grade 12 Graduates as a Percentage of September Enrolment by District), are used to develop projections for current and future post-secondary demand for students entering directly from secondary school into the post-secondary system. The Ministry of Education data is compiled from enrolment and graduation counts of students attending either public or private schools, but does not include those Grade 12 students who were enrolled in either distance or continuing education. These school data are thus slightly conservative for the purposes of estimating future postsecondary enrolment demand.

Units of Analysis

Two units of analysis are used here: geographic and age groups. Population projections at the school district level were grouped into larger geographic regions, i.e. the Urban Core, the South Fraser Region, and the North Fraser Region.

The second unit of analysis, age groups, identifies three distinct age cohorts: youths and Grade 12 students, young adults between 18 and 29 years of age, and mature or life long learners between the ages of 30 and 54. Using these three cohorts allows this analysis to account for future demand from traditional college age students, as well as from a projected increased demand by lifelong learners who are likely to return to post-secondary education for retraining or upgrading in their careers.

¹ *PE.O.P.L.E. Methodology (1999). BC STATS, Ministry of Finance and Corporate Relations (p. 12).*

Analysis

Census data and population projections are readily available and well known. This section will present only the highlights from PEOPLE 28 and from Ministry of Education Grade 12 projections, in contrast to the greater detail in the next section about the less familiar participation rates.

- **The population of the Lower Mainland will continue to grow, but differentially**

The variations in population growth by geographic area and age group can be illustrated by looking only to the immediate future. Almost two thirds of the Lower Mainland's population growth of 303,000 between 2003 and 2011 will be in the Fraser Region, with virtually all of the growth in the prime college-attending age cohort of 18 – 29 occurring in the Fraser Region.

The total population of the North Vancouver and Abbotsford school districts are similar, at 136,000 and 127,000 respectively. North Vancouver, however, is projected to grow by only 4 percent to 2011 whereas Abbotsford will grow by 14 percent. In the same vein, the 209,000 people currently living in the Coquitlam school district will grow by 19 percent to 2011. Richmond, with a little smaller population today of 177,000 will grow by only 9 percent.

The variations by geographic area are compounded by variations among age groups. The 18 – 29 age group will shrink in some school districts but grow rapidly in other districts. The net effect is no growth in this age group to 2011 in the Urban Core, 17 percent in the North Fraser and 14 percent in the South Fraser.

- **The child and youth population is static or declining in most areas of the Lower Mainland**

Due to such factors as a falling birth rate and a rising average age for childbearing, the size of the population aged 0 – 17 years will be static or declining in most Lower Mainland school districts for at least the next decade. In the Fraser Region, the size of this age group will remain static and then start growing around 2016. The projections for the Urban Core, in contrast, are for a small but steady decline through to 2021, at which time the 0 – 17 population will be 2 percent lower than at present.

- **Grade 12 enrolment will grow for at least the next decade**

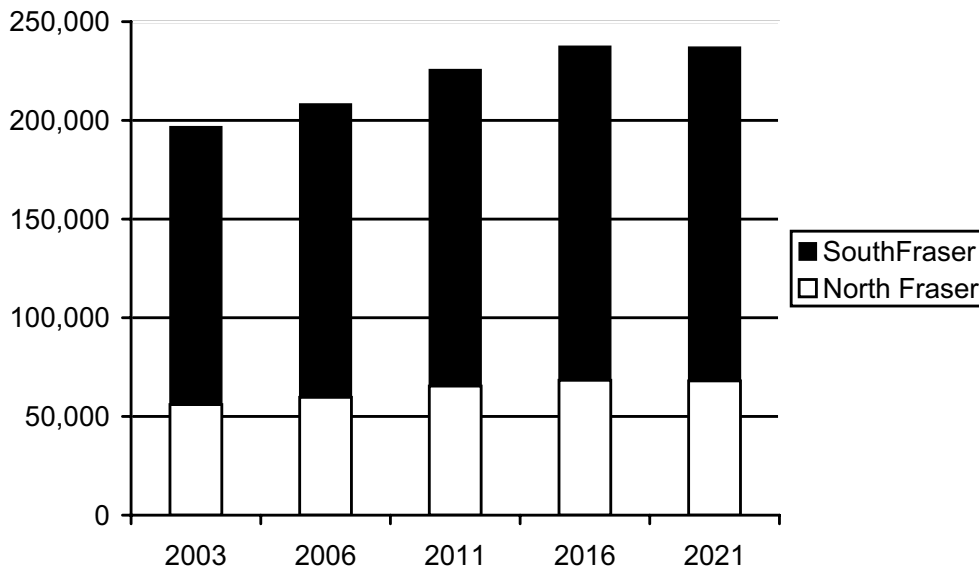
The assumption might be that the demographic dip in the child and youth population will be mirrored in due course in Grade 12 enrolments and the young adult population. However, because of such factors as school completion rates and migration, the overall declining school enrolments across the province do not translate into lessening demographic pressure on Fraser Region postsecondary institutions.

In 2003, the Ministry of Education updated its Grade 12 enrolment projections by school district to the year 2012. Whereas the provincial total drops for the next few years and then recovers by 2012, the Lower Mainland's Grade 12 enrolment will grow by about 7 percent. Once again, the variations by geographic area are considerable, e.g. Kwantlen University College faces a 15 percent decline (358 Grade 12 students) in Richmond but a 22 percent increase (1,017 Grade 12 students) in Surrey.

- **The Fraser Region's 18 – 29 population will grow by 20 percent to 2016**

The North Fraser's 18 – 29 population will grow at a little faster rate than the South Fraser, but the South Fraser is starting with a much large population. Overall, the number of 18 – 29 year olds in the Fraser Region will grow by 29,000 to 2011 and 41,000 by 2016.

18 - 29 Population, Fraser Region

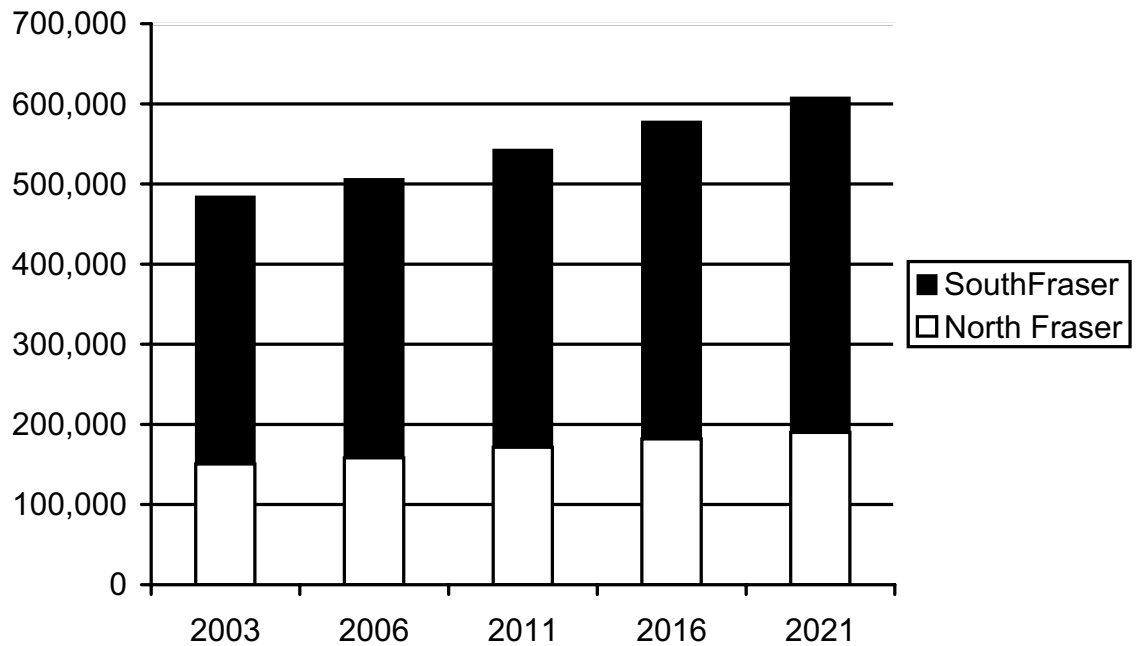


- **The Fraser Region's 30 – 54 population will also grow by 20 percent to 2016**

Mid career students interested in educational upgrading are often drawn from the 30 – 54 population, and almost one third of provincial college sector enrolment is drawn from this age group. Given the large size of this population in the Fraser Region, roughly 485,000 in 2003, even a slight increase in the participation rates of this age group can have a huge impact on postsecondary enrolment demand.

The projected 20 percent growth to 2016 means that the Fraser Region will be home to about 95,000 more residents in this age group. The trend will be for continued growth of 30 – 54 year olds in every school district except on the peripheries in Delta and Hope.

30 - 54 Population, Fraser Region



Participation Rates

Participation rates are key indicators of access to postsecondary education and are central to projections of future postsecondary enrolment demand. The concept is simple – the proportion of a population enrolled in postsecondary education – but the definitional details and obtaining the needed data can be complex and problematic. Furthermore, participation rates are influenced by a variety of supply and demand considerations, making it difficult to forecast changes in the rate. Dealing with participation rates proved to be the most challenging aspect of this analysis.

In any analysis of participation rates, the devil is in the details. Participation rate calculations can differ dramatically depending on the definitions applied. The conventional standard is to divide the headcount of full-time university and college credit enrolments (all ages) by the provincial population aged 18 to 24. This traditional method of calculation often excludes part-time students and older students. It does not provide an accurate picture of BC's postsecondary activity due to structural differences in the college system across Canada and different enrolment patterns. Some provinces do not provide university transfer in their colleges, the ratio of full to part-time students varies (making exclusion of part-time students problematic), and the enrolment of 25 – 29 year olds is more significant in some provinces than other. We have therefore considered alternative definitions of participation rates, as described below.

Our discussion of participation rates begins at the international and national levels for two reasons. As the region of focus gets smaller, student migration becomes an important factor in calculating regional participation rates. This problem is especially acute in the Fraser Region because of the existence of a number of adjacent educational institutions. The second reason is that the comparative experiences of other jurisdictions are the best basis for anticipating future participation rates locally.

International

Long term historical trends in industrialized countries indicate that participation rates are rising. Do they give reason to believe that Canadian rates might level off in the next decade or continue to rise?

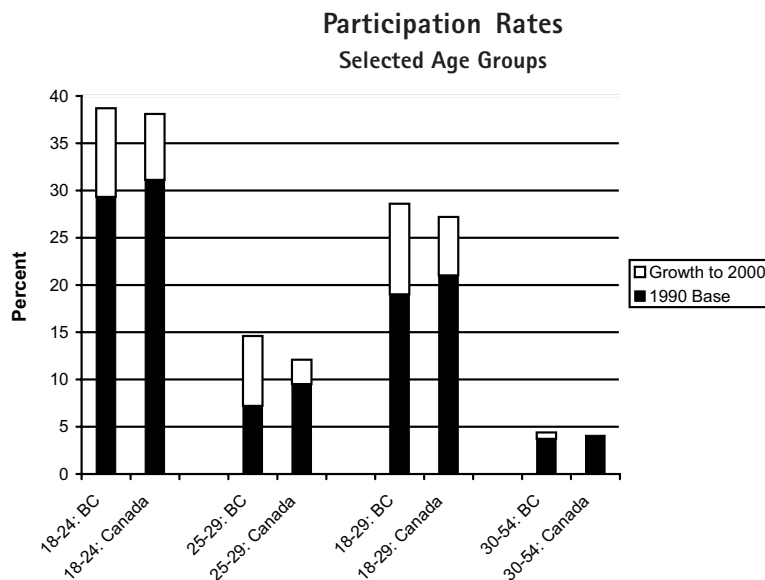
In the 1980s, OECD reported that Canada ranked second in the world, just after the USA, in the percentage of its citizens attending university. Canada's participation rate has continued to rise, but a number of other countries have risen at even faster rates and have over taken Canada. The result is that Canada's rate trails well behind the top ten nations. A higher participation rate is clearly feasible in Canada.

National

The national enrolment data Statistics Canada collects about colleges is of uneven quality and has historically classified enrolments in ways that have not reflected the structure of the BC college and institute system, e.g. treatment of university transfer students and part-time students. We have therefore turned to another Statistics Canada data set, the Labour Force Survey, in our review of interprovincial participation rates. This large-scale survey asks respondents whether they were participating in public or private postsecondary education at the time of the survey.

Two important findings emerge from the Labour Force Survey:

- participation rates have risen over the past decade
- BC's participation rate has risen faster than the national average, resulting in British Columbia having achieved its 1990 goal of meeting the national average by 2000. (This is for the province as a whole. Different regions of BC have varying levels of access.)



Data for previous graph:

Age Group		BC	Canada
		Percent	Percent
18 - 24	1990	29.3	31.1
	2000	38.7	38.1
25 - 29	1990	7.2	9.5
	2000	14.6	12.1
18 - 29	1990	19.0	21.0
	2000	28.6	27.2
30 - 54	1990	3.7	4.1
	2000	4.4	4.1

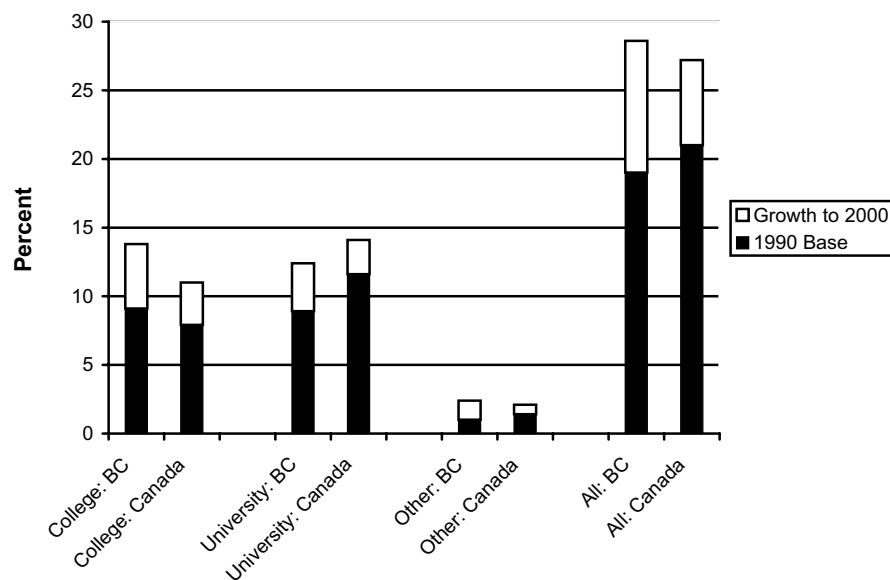
Statistics Canada, Labour Force Survey

This growth in participation rates is reflected in the educational attainment data collected in the census. The 1991 census found that 49 percent of Canadians aged 25 – 34 had some form of postsecondary education. In 2001, 61 percent had some postsecondary education, distributed as follows:

- 28% University
- 21% College
- 12% Trades credential
- 61% All forms of postsecondary education (population aged 25 – 34)

All postsecondary sectors – college, university and other – have shared in accommodating the rising rates of participation.

Participation Rates of Population Aged 18 - 29
By Postsecondary Sector



Data for previous graph:

		BC	Canada
Sector		Percent	Percent
College	1990	9.1	7.9
	2000	13.8	11.0
University	1990	8.9	11.6
	2000	12.4	14.1
Other	1990	1.0	1.4
	2000	2.4	2.1
All	1990	19.0	21.0
	2000	28.6	27.2

Statistics Canada, Labour Force Survey

These national data do not necessarily mean that participation rates will continue to rise, but they certainly demonstrate that significant changes can occur in the span of a decade.

Statistics Canada *Youth in Transition Survey* found that in December 1999, British Columbia had a lower proportion of its 18 – 20 year olds enrolled in postsecondary institutions than the national average. The participation rate of recent high school leavers thus has the potential to rise.

Education Status of 18 – 20 Year-Olds Who Were No Longer in High School

	BC	Canada
	Percent	Percent
Postsecondary continuers	50.5	52.2
Postsecondary graduates	3.5	4.3
Postsecondary leavers	4.2	5.7
Total postsecondary	58.2	62.2

British Columbia

FTE Enrolment per 1000 Population

A useful starting point for establishing the context for more sophisticated measures of regional participation is institutional capacity as reflected in FTE enrolment in colleges and university colleges per 1000 population. This indicator assumes that regions with bigger populations need bigger institutions, i.e. institutional capacity should be proportional to the population. It is a simple, basic measure that does not take into account student migration or the differing age structures of regional populations.

Because universities and institutes have a provincial mandate, the following data reflect only enrolment in colleges and universities colleges. The three institutions located in the Fraser Region (Douglas, Fraser Valley and Kwantlen) collectively enrolled about 13 FTEs for every 1000 people living in the region in 2002. This is considerably lower than the provincial average 18 FTEs in the college and university college sector per 1000 population.

It seems reasonable that FTEs per 1000 population in the Fraser Region colleges should be lower than in some other regions because other institutions, such as SFU and BCIT, also serve the Fraser population. The point here is simply that the colleges serving the Fraser Region are modest in size. The inadequate capacity is reflected in the growing number of qualified Grade 12 and college transfer students who annually are not being admitted to university (2500 – 3000 according to studies from the BC Council on Admission and Transfer) and in the large number of students (surveys show up to half in some Fraser Region institutions) who are not able to obtain the full number of courses they want each semester.

Labour Market Pressures

Recent occupational employment projections on the Ministry of Advanced Education’s website, those of May 2003, show that 72 percent of the projected job openings in BC over the next decade will require some form of postsecondary education. In contrast, only 66 percent of the employment in 2001 required postsecondary education. These and other labour market studies suggest continuing pressure for the population to enrol in postsecondary education.

BC Projected Employment Openings, 2001 – 2011 By Education/Training Required

13%	Some secondary school
15%	High school completion
44%	Non-university or industry training
28%	University

Ministry of Advanced Education and Human Resources Development Canada

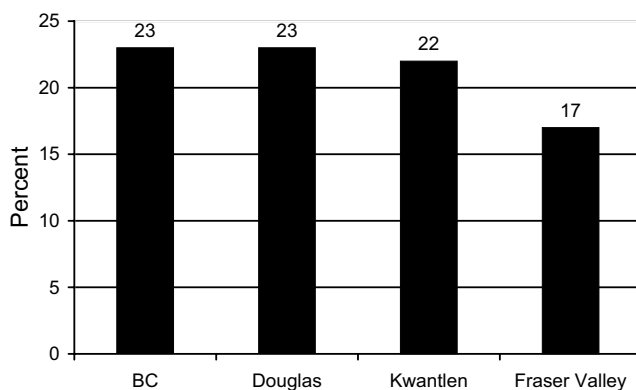
Regional Participation Rates

We had hoped that the college system’s central data warehouse would be an important source of enrolment and address information for tracking student migration to calculate regional participation rates. However, a number of data quality concerns are still associated with the warehouse and the data are stored in a raw form that requires a sophisticated set of skills to query accurately. We therefore turned to a special study conducted by the Ministry of Advanced Education in 1999 as an alternative data source.

The Ministry’s 1999 study pooled enrolment data from each BC postsecondary institution with school district graduation data in order to determine what share of each institution’s enrolment came from each district. Several steps were required in the analysis, but this data set enabled the Ministry to estimate migration patterns to develop participation rates for each college region in BC. It found 230 FTEs per 1000 18 –29 year old headcount

(“23 percent”) living in the Douglas College region attended Douglas College or some other postsecondary institution, a figure very close to the provincial average. The comparable figures for Kwantlen University College and the University College of the Fraser Valley regions were 22 percent and 17 percent respectively.

**1999 Participation Rates with Student Flow
18 - 29 Population**



Source: BC Ministry of Advanced Education

These are the participation figures used below in the *Analysis and Scenarios* section of this report.

Lower Mainland

Levels of educational attainment vary dramatically across regions of the Lower Mainland. As the following table shows, rates in the Fraser Region are much lower than in the Urban Core.

**Percentage of Adult Population (age 15 and over) with a University Degree
2001 Census**

Percentage	Urban Core	South Fraser	North Fraser
50 or higher	West Vancouver (54%)		
40 - 49	North Vancouver District (41%)		
30 - 39	Vancouver (39%) Richmond (32%) Burnaby (31%) North Vancouver City (31%)	White Rock (31%)	Port Moody (32%)
20 - 29		Delta (24%)	Coquitlam (27%) New Westminster (24%)
10 - 19		Surrey (19%) Langley District (17%) Abbotsford (17%) Langley City (15%) Chilliwack (13%) Mission (12%)	Port Coquitlam (17%) Maple Ridge (15%) Pitt Meadows (14%)

While it is difficult to quantify the extent, it is quite probable in light of the above table that participation rates will rise in the Fraser Region, compounding the enrolment demand arising from population growth alone.

The experience across Canada is that higher levels of parental education and family income are associated with higher rates of postsecondary participation. Census data show that as the Fraser Region shifts from a rural area to become suburban and semi-urbanized, education and income levels are rising in many communities. This suggests greater enrolment pressure should be expected in the future from communities with historically low educational levels.

Rising educational aspirations associated with higher socio-economic status are being compounded by immigration patterns. The Lower Mainland is one of Canada's main destinations for new immigrants, who then disperse to other regions with the passing of time. Current regulations require immigrants to possess high levels of education in their country of origin, although they may require upgrading upon arrival in Canada before entering the Canadian workforce. Furthermore, a significant share of immigration is from countries whose culture places a high value on education.

Conclusion about Participation Rates

There is no reason to believe that participation rates will decline in the Fraser Region. At a minimum, they will stay constant. Our expectation is that they will actually increase because of trends in high school graduation rates, skill and knowledge needs in the labour market, the experience of other jurisdictions, and the rising economic and social status of the population in the Fraser Region.

Analysis and Scenarios

Labour Market Conditions

Before modelling enrolment demand, a brief explanation of why this analysis does not take labour market conditions into account may be helpful. Occupational projections are more germane to next phase of planning, i.e. when programming decisions will have to be made, than during this phase concerning the overall size of enrolment demand.

The industrialized world demonstrates that countries with quite different mixes of graduates by field of study are able to operate fully functioning economies. This is because well-educated graduates are flexible and are able to adapt to specific, short term labour market needs through targeted training (see appendix.) Thus this introductory phase of planning does not need to be unduly concerned about occupational mix or specific occupational trends.

Although the time has not yet come for careful attention to labour market information, we did check to see if there is reason to believe that past employment trends, such as the continuing growth of the service sector and the rising skill levels of many jobs, are likely to change or to be of such magnitude that they will affect the overall projections of enrolment demand. Rather than information suggesting that labour market trends are changing, the focus of attention in the labour market literature seems to be on shortages at all postsecondary skill levels arising from retirements. The impacts of retirements have been anticipated for a long time, but they are now imminent and are becoming urgent in many people's minds. The message thus seems to be that the province needs to emphasize postsecondary education to a greater extent, and not so much that the character of educational needs is changing.

Scenarios

Although never precisely accurate, the general message of population projections for large populations are usually reliable. In contrast, anticipating future postsecondary participation rates is a challenging task involving not only the demand for education but also the enrolment capacity of educational institutions. While it seems likely that participation rates will rise, for the reasons described above, it is difficult to know to what extent they will rise. Three scenarios have therefore been developed to illustrate the impact of different assumptions regarding future participation rates in the Fraser Region.

The population figures we have used are for 2011 and 2016, i.e. ten and fifteen years since the last census in 2001. The participation definitions and data are those developed in 1999 by the Ministry of Advanced Education based on the 18 – 29 population. We have used the Douglas College rate of 230 FTEs per 1000 18 –29 year old headcount (“23 percent”) as a proxy for the North Fraser region in 2003, and a population-weighted average of the Kwantlen and Fraser Valley rates to arrive at an estimated 21 percent for the South Fraser region. The Ministry figures have the advantages of taking student migration into account and of focusing on the main source of college enrolments, the 18 –29 age group.

We considered various methodologies and approaches in developing the scenarios. Some approaches would have required considerable time and effort to produce results that were likely to be similar to those arising from a simpler methodology. Other approaches required data that are not available. In the end, and lacking a technical basis on which to estimate future participation rates, we did some relatively simple calculations and chose to use scenarios.

Scenario A: "Status Quo"

This scenario takes only population growth into account and assumes that each region's participation rate will remain unchanged from the current level. The assumption that participation will remain unchanged is weak, but it provides a useful baseline.

**Additional FTEs Required
(Status Quo Scenario)**

	2011	2016
North Fraser	2,100	2,800
South Fraser	4,100	5,900
Total	6,200	8,700

Scenario B: "Provincial Average"

Scenario B assumes that the participation rate in the South Fraser Region will rise to the provincial average of 23 percent, which the North Fraser has already achieved, and that all the resulting growth in enrolment will be accommodated within the South Fraser region. In other words, there will be no out-migration to other postsecondary institutions.

**Additional FTEs Required
(Provincial Average Scenario)**

	2011	2016
North Fraser	2,100	2,800
South Fraser	7,300	9,300
Total	9,400	12,100

Scenario C: "Rising Participation"

Scenario C is the most probable scenario in that it recognizes growth in both population and participation rates. There is an element of arbitrariness, however, in choosing how much participation growth to incorporate in the model; only modest participation growth is built into this scenario.

For our purposes here, we have assumed the BC average for postsecondary participation will rise from 23 percent in 2003 to 25 percent in 2011 and then stabilize.

**Additional FTEs Required
(Rising Participation Scenario)**

	2011	2016
North Fraser	3,400	4,200
South Fraser	10,500	12,700
Total	13,900	16,900

The above figures do not incorporate any increase in the participation rate of the 30 –54 age group; this rate is assumed to grow at the same rate as for the 18 – 29 population. This seems too conservative an assumption to maintain, yet we were unable to find a technically satisfactory way of incorporating a differential rate of growth in the 30 –54 participation rate with the data available. Our collective judgement is that it would be prudent to consider an additional allowance for new enrolment demand from the mid-career population along the lines of the following:

**Additional FTEs for 30 – 54 Population
Example**

	2011	2016
North Fraser	500	800
South Fraser	900	1500
Total	1,400	2,300

Adding the 2,300 mid-career FTE enrolment demand by 2016 to the 16,900 FTEs in the Rising Participation Scenario results in a planning target of 19,200 FTEs in 2016.

Conclusion

North Fraser Region

In order to maintain the current level of access in the face of rising population, 2,100 additional FTEs will be needed in the North Fraser region by 2011 (This figure rises to 2,800 by 2016.) If access is to be improved in response to rising participation rates across the western world, then it is reasonable to plan for an additional 3,400 FTEs in the North Fraser region by 2011 (4,200 FTEs by 2016.)

South Fraser Region

The South Fraser region presents a more challenging situation in that it is facing both a large growth in population and currently has participation rates that are below the provincial average. The status quo scenario of adding 4,100 FTEs by 2011 (5,900 FTEs by 2016) really does not address the existing inequity relative to the average participation in British Columbia. Something closer to 7,300 FTEs by 2011 (9,300 by 2016) would be a better planning target.

In order to respond to what are likely to be rising participation rates across the industrialized world, including increased participation from mid career adults, as many as 10,500 additional FTEs will be needed by 2011 (12,700 FTEs by 2016).

Fraser Region Overview

In order to maintain the current BC participation rate in the face of rapid population growth, the Fraser Region will need an additional 9,400 FTEs by 2011 (12,100 more FTEs by 2016). If, however, rising participation rates are to be accommodated, and making an allowance for more rapid growth in the 30 – 54 age group, closer to 15,000 FTEs will be needed by 2011 (19,000 FTEs by 2016).

Next Steps

This report outlines the general size of the enrolment demand the Fraser Region will face over the next decade. The next step in this planning process is for institutions to reach an understanding with the Ministry of Advanced Education to determine, based on available funding, whether each institution should develop plans for meeting all or only a portion of the enrolment demand. Whatever FTE planning target the Ministry would like to see used in the Fraser Region, any parameters it can provide concerning the rate at which those FTEs might be allocated each year, and about the capital funding outlook for facility construction, would be of considerable assistance to the institutions. The collaborating institutions could then begin the next phase of their joint planning to allocate the additional FTEs among institutions, program clusters, and between upper and lower division.

When planning for additional FTEs at each collaborating institution, there may be yet further FTEs needed beyond those documented here for serving the Fraser Region population. Three of the institutions, for example, also serve other regions of the province and some programs, especially at the upper and graduate levels, are more provincial and national in scope than regional.

The mix of programs at each institution, the sequence in which new facilities will open, past allocations of FTEs in response to the 1990 *Findings of the Fraser Valley Access Committee*, the extent to which campuses on one side of the Fraser River can serve populations on the other side, and the negotiation of new transfer arrangements among institutions are all considerations that will enter into the next phase of planning for allocating FTEs among institutions.

Appendix A

Population Projections, PEOPLE 28 (BCStats, Government of BC, 2003)

Age Group	Region	Estimated								% Change 2003-2016	
		1986	1991	1996	2001	2003	2006	2011	2016		2021
0 - 17	North Fraser	51,435	61,722	73,943	78,772	78,500	78,493	78,062	78,828	82,330	0
	South Fraser	144,492	173,308	203,822	212,954	212,412	212,202	211,641	215,751	228,115	2
	Urban Core	170,143	185,100	206,705	212,003	209,837	208,680	205,288	203,686	206,895	(3)
	Lower Mainland	366,070	420,130	484,470	503,729	500,749	499,375	494,991	498,265	517,340	(0)
18-29	North Fraser	45,862	47,755	51,552	53,629	56,035	59,864	65,379	68,340	68,043	22
	South Fraser	98,983	109,838	127,127	134,071	140,795	148,622	160,379	169,218	169,063	20
	Urban Core	203,735	204,253	217,517	222,288	220,072	221,185	221,035	217,307	207,876	(1)
	Lower Mainland	348,580	361,846	396,196	409,988	416,902	429,671	446,793	454,865	444,982	9
30 - 54	North Fraser	73,443	97,371	126,064	145,932	150,602	158,292	171,427	181,863	190,078	21
	South Fraser	171,218	229,745	291,225	325,847	333,853	347,981	371,466	396,207	417,977	19
	Urban Core	309,713	365,488	440,130	494,780	501,784	513,849	536,597	548,713	554,575	9
	Lower Mainland	554,374	692,604	857,419	966,559	986,239	1,020,122	1,079,490	1,126,783	1,162,630	14
55 and over	North Fraser	36,985	43,357	50,991	61,058	67,937	78,701	99,926	124,972	151,630	84
	South Fraser	99,354	127,561	151,878	179,362	196,292	223,148	271,610	327,946	386,453	67
	Urban Core	208,432	213,403	227,907	249,659	267,893	296,127	345,972	401,032	458,065	50
	Lower Mainland	344,771	384,321	430,776	490,079	532,122	597,976	717,508	853,950	996,148	60
All Ages	North Fraser	207,725	250,205	302,550	339,391	353,074	375,170	414,794	454,003	492,081	29
	South Fraser	514,047	640,452	774,052	852,234	883,352	931,953	1,015,096	1,109,122	1,201,608	26
	Urban Core	892,023	968,244	1,092,259	1,178,730	1,199,586	1,239,941	1,308,892	1,370,738	1,427,411	14
	Lower Mainland	1,613,795	1,858,901	2,168,861	2,370,355	2,436,012	2,547,064	2,738,782	2,933,863	3,121,100	20

Appendix B

Higher Education and the Labour Market

Excerpts from a talk delivered by Howard Bowen to the Association of Graduate Schools (USA) in 1974

“In the United States today the free-choice principle is under attack and increasing attention is being given to the manpower principle. Obviously, some degree of balance in distribution of people among vocations and professions is desirable. Nevertheless, I believe these ideas [about centrally planned education designed to supply the “right” quantities of each type of manpower] are riddled with fallacies and misconceptions.

Misconception 1

...the economy requires a more or less fixed inventory of occupational skills at each stage of its evolution. On the contrary, in some cases, if people cannot be found to perform certain kinds of work, the economy can learn to do without and invent. That the skill requirements of the economy are not fixed and predetermined is demonstrated by the amazing speed with which we can mobilize for war and reconvert to peace – conditions that provide quite different lists of jobs. It is also demonstrated by the fact that different countries operate advanced and fully employed industrial economies with quite different inventories of educational backgrounds and occupational skills.

Misconception 2

...we can predict the character of the economy and its skill requirements for periods long enough to be pertinent to educational planning. Education has a time perspective of forty to sixty years.

Our future skill requirements are quite indefinite. The manpower requirements depend on what it is we want to do. Education is an active generator of values, not merely a passive adjuster to them.

Misconception 7

...the market for educated workers should be conceived solely as a national market. Even if the United States became saturated with educated talent, a reverse brain drain, especially if directed towards the developing world, would be extraordinarily constructive.

Community colleges in particular are often consciously geared to supplying manpower for local industries. Such a policy is obviously restrictive, in view of the geographic and occupational mobility of the American people and the change over time in the character of local employment.

Misconception 8

The final misconception is a deeply ingrained one. It is that the basic purpose of education is to prepare people for quite specific jobs, and that it is somehow wrong or wasteful to provide an education that will not be directly used vocationally. This opinion is based in part on the singularly unimaginative concept of a rigid, one-to-one relationship between education and jobs. One of the peculiar myopias of our time is the failure to see that the entry of people of diverse educations and interests and backgrounds into business and public affairs is a source of new ideas and outlooks. It is no mark of failure, rather a mark of success, that education – even strictly vocational education – has wide applicability and produces flexible and versatile people. This is especially so because career change has become commonplace and is desirable in a dynamic economy.

Also hidden within this criticism is the idea that people with college degrees should not be employed at work that is not commensurate with their education. No thought is given to the fact that well educated people have something valuable to bring to the public schools and businesses and to other parts of our social life outside the narrow niches we have conventionally carved out for them.

Conclusion [still quoting Bowen]

I believe that the manpower theory of educational planning is based on a grand fallacy that permeates our culture. This is what I call the input-output or the means-end fallacy. We tend to think of our world as being divided into inputs, primarily in the form of effort or work, and outputs, primarily in the form of economic goods and services. We forget that the so-called inputs are as much of our lives as the outputs.

It may be quite legitimate for people to choose vocations and styles of work that are personally rewarding even if not as productive, in the sense of adding to GNP, as other kinds of employment. This point tends to be lost on those who think of education as producing manpower which should be deployed to maximize the dollar value of output.

Perhaps my most far-reaching conclusion is that education is not designed to prepare people to do whatever work flows from the blind and predestined imperative of technology; rather it is intended to educate people of vision and sensitivity, who will have the motives to direct technology into humanly constructive channels.”

Howard R. Bowen was an economist specializing in the economics of higher education. He was dean of the Business School at the University of Illinois and served as president or chancellor at Grinnell College, the University of Iowa, and the Claremont University Center.