Okanagan College Environmental Scan November, 2010

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Sage Transitions

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Preface

This document is designed to be used in its entirety, or for specific sections of interest. Section 1 provides an overview of the most important information contained in the document, with specific reference to how it relates to Okanagan College. All other sections are discrete, so it is not necessary to read this document chronologically. Each section is a summary of the relevant information, and the resource section links (hyperlinks, where possible) to more comprehensive information. However, the complexity and interrelatedness of some information means that some sections will link to other sections and reading several sections will provide a more comprehensive understanding of the topic.

Most sections are structured to begin with a national and international perspective, then describe the region-specific differences and unique attributes. This is important because many issues, from sustainability to demographic trends to post-secondary education reforms, are global issues. However, British Columbia is very different from other jurisdictions in Canada and these trends may have very different implications for Okanagan College regions.

Information specific to different regions and Okanagan College was included to complement the information gathered from the 2010 Strategic Planning Process. This was an iterative process where secondary research (provided in this document) was conducted to inform research and consultation sessions, and the specific information provided by students, faculty and community was used to create an environmental scan that would be most useful for the Okanagan College community.

Executive Summary

Introduction

The Okanagan College Environmental Scan was developed in 2010 drawing primarily from recent secondary research. The research included several topics important to Okanagan College in revising its strategic plan.

Okanagan College

Okanagan College was established in 1965. In the past five years Okanagan College has successfully exceeded FTE targets, funded the development of the Centres for Learning and Excellence and expanded the scope of courses and programs throughout the region.

Economic

Nationally Canada faces significant economic challenges, however its economy remains stronger than the OECD average. National and provincial budget reductions will impact post-secondary funding, however the provincial government has emphasized the importance of post-secondary education, so the college sector may be less affected than others. Provincially, the post-secondary system will receive short-term funding increases in 2010/11 but provincial budget suggests financial limitations in 2011/12 and the years following.

Labour Market

Nationally and provincially, unemployment increased sharply at the end of 2008. Unemployment appears to have stabilized, however public spending cuts after this fiscal year may affect the labour market and unemployment rates.

Population

National population projections suggest ‘baby boom’ and ‘echo boom’ will lead to reduced post-secondary enrolments after 2013 in British Columbia and Canada. However, regional population and enrolment characteristics suggest Okanagan College regions will be less affected than Canada and other parts of BC. Immigration is increasingly affecting Canadian population. More New Canadians are seeking Canadian credentials and education. New Canadians tend to be better educated, but may have difficulty obtaining the necessary qualifications to work in Canada. Aboriginal populations are growing at three times the rate of non-Aboriginal populations.

Social Trends

Women now outnumber men in post-secondary education nationally, provincially and regionally; there are significant gender differences between programs and disciplines. Aboriginal students have much lower transition rates than non-Aboriginal students. The Okanagan has one of the narrowest gaps between Aboriginal and non-Aboriginal transition rates in British Columbia.

As student populations become increasingly diverse in ethnicity and age, the 21st century learning institution will need to be increasingly adaptable to a broader range of needs, abilities and knowledge from a more diverse population of learners. In addition, post-secondary institutions will need to collaborate to increase student mobility between institutions, jurisdictions, programs and life long learning.

Enrolments and student participation rates

Post-secondary enrolments and participation rates have been steadily increasing in the past five years. Okanagan College has increased FTEs from 5022 in 2005/06 to 7198 in 2008/09; an increase of 43 per cent. However, Grade 12 transition rates in the Okanagan are one of the lowest in BC. Okanagan College has one of the largest shares of FTEs of BC colleges at 14 per cent of the provincial share of FTEs among community colleges. Aboriginal students in the Okanagan College school district regions make up 9.9 per cent to 38.7 per cent of the K-12 student population.

Greying of the employee population

Student populations are growing faster than faculty recruitment, which leads to larger class sizes. In addition, many faculty will retire soon (21,000 in Canada in the next decade). Women and minority groups are still under-represented in the highest ranks of faculty and administration in post-secondary institutions across Canada.

Post-secondary education trends

Colleges will need to expland teaching skills and systems to provide additional education access and to meet the needs of diverse learners. Educational institutions will need to develop more flexible programs and supports for Aboriginal students, international students, mature and upgrading students. Internationally, PSE institutions are increasing their focus on student mobility and program transferability. (Eg. Bologna Process, European Union) to provide seamless transitions and flexibility for learners.

Colleges in BC may only offer applied degrees. Determining the role of these programs in a college may mean addressing different roles for faculty and employees and meeting different expectations of learners and communities.

Technology

Most students expect technology to be integrated into their classes/programs and to have faculty and instructors use the technology effectively. Yet, the diversity of student populations means students will have a broad range of expectations and training needs. Web 2.0 and E-learning tools provide opportunities for students to become more collaborative in an on-line environment. Distance education can be used to engage students and communities' and to provide more access to education opportunities.

Sustainability

Sustainability policies and initiatives has received relatively low funding and support from the federal government. British Columbia is one of the leading jurisdictions for sustainability funding and policy in North America. Sustainable development and participation in the "green economy" contributes to BC's economy and labour market.

1. Okanagan College

1.1 Introduction

Okanagan College was established in 1965, and enroled its first university studies and career transfer students in 1968. During the period 1970 to 1974, the College was melded with the B.C. Vocational School, and Okanagan College assumed responsibility for Adult Education programs. In 2004, Okanagan College was formed from Okanagan University College. Okanagan College now offers a wide variety of career, continuing education, degree, developmental, trades and technologies, university studies, and vocational programs.

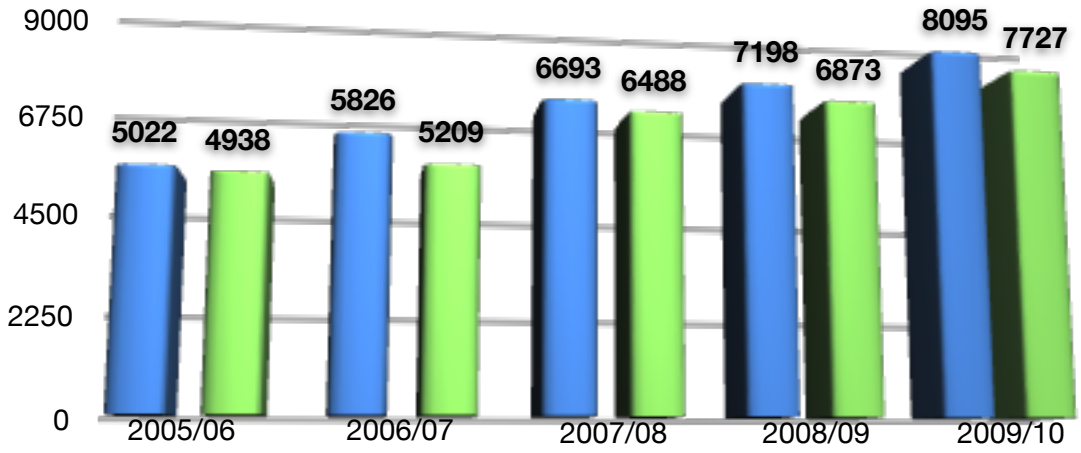
1.2 Quick Facts

Okanagan College operates four regional campuses, and several leased continuing studies centres and trades training facilities. In 2010/11 the College's operating budget is $88.1 million, with salaries and benefits of $62.2 million, grant-related revenue of $54.6 million and program-related revenue of $24.5 million. In 2009/10, Okanagan College exceeded its full-time equivalent (FTE) student target of 7,727 with 8,095 FTEs. It is the fifth year since inception that Okanagan College has exceeded its FTE target.

In April 2009, Okanagan College announced the development of a $28-million Centre for Excellence at its Penticton campus, funded through $22.6 million from the federal and provincial governments. The remaining funds will be obtained from fundraising and institutional commitments. The objective is to gain Living Building certification for the Centre for Excellence, which is based upon a set of environmental standards that exceeds LEED Gold and Platinum standards. Construction of the facility will create approximately 304 jobs: 278 associated with construction and 26 full-time jobs at the College after completion.

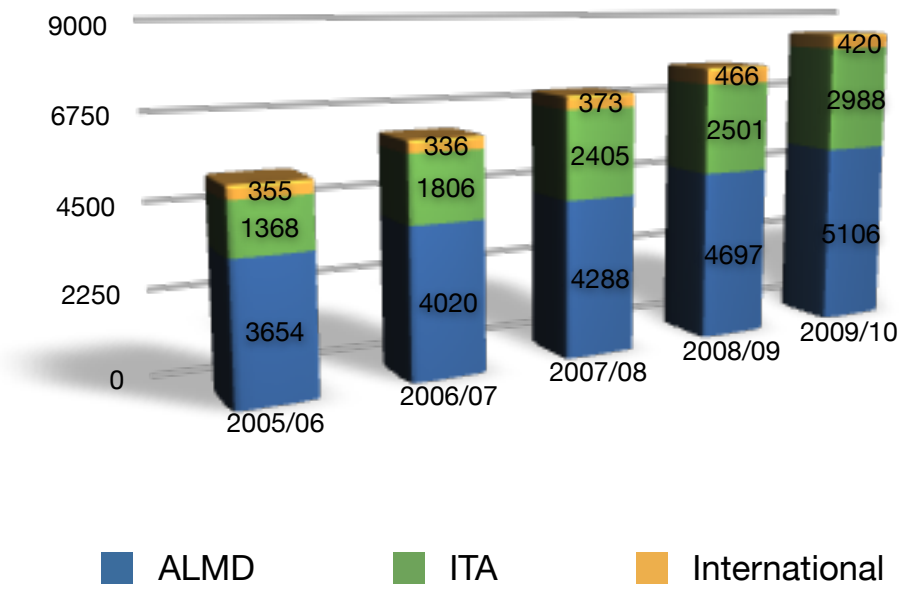
In August, 2009 students and staff moved into the $28 million, 6,360 square-metre Centre for Learning on the Kelowna campus. The building includes 21 classrooms with seating for 757 students, an expanded library, a digital media shop, a professional development centre and student and food services.

Figure 1.11 - Okanagan College FTE Performance against targeted FTE's



Source: Okanagan College Institutional Research, 2010

Figure 1.12 Okanagan College Audited FTE's 2005/06 to 2008/09



Source: Okanagan College Institutional Research, 2010

1.3 SWOT Analysis

Strengths (Internal)

Okanagan College has exceeded its FTE targets in each of the past five years, demonstrating demand for its programs. The number of awards won by students across disciplines, and through the scholarly activity and teaching excellence of the faculty, is an indicator of the high quality of teaching and learning at Okanagan College.

Employees' commitment to quality and service enabled Okanagan College to meet the demands associated with increasing enrolments, and adding new building and facilities. In the strategic plan consultation process, students confirmed that the Okanagan College library provided excellent service at all its locations. Students reported Aboriginal and Student Success Centres were supportive of student success and the majority of faculty and employees were caring and helpful. Students, employers and community members in the strategic planning consultation process provided many examples of the caring, welcoming and supportive culture that is a hallmark of the college. Students wanted ways to stay at Okanagan College and to continue their education with the college as long as possible. Many employees used the phrase "we are proud to work for Okanagan College" in their responses, both in focus groups, on-line dialogues and the employee survey. Employers and community members confirmed that Okanagan College graduates are prized demonstrate the high quality education provided by the institution.

Community members and employers confirmed the reputation and credibility enjoyed by Okanagan College through its connections and involvement with community members, organizations and businesses. Aboriginal educators and students confirmed Okanagan College has expanded its services and supports for Aboriginal students. International students reported many positive experiences and commented on the teaching and support; and their interest in remaining at Okanagan College and in Canada.

Okanagan College has worked hard to develop partnerships with other secondary and post-secondary institutions to ease the transitions to and from Okanagan College. Students were positive about their ability to take distance education courses and programs from other institutions and to receive credit at Okanagan College. The transferability of credits and credentials and the flexibility of Okanagan College was commended by students, community members and employers.

Okanagan College has successfully provided access through its many campuses and centres. The variety of programs offered through these locations is appreciated in those communities and regions. Okanagan College has developed student and Aboriginal centres in each campuses, as well as spaces and support for International students, and on-campus day care in Kelowna. The resources were appreciated and praised.

Weaknesses (Internal)

Okanagan College has grown quickly and has worked hard to meet the varied demands of a diverse student and employee population. In this consultation process, employees expressed concern about continuing to provide quality teaching, education and service if growth continues at the same pace. Employees want to: feel appreciated and rewarded for their contributions; have career development plans and opportunities; and access professional development that supports them in meeting the needs of a growingly diverse student body. Employees suggest more comprehensive retention strategies are required.

Okanagan College's growth has expanded the disparity between newer, higher-functioning, buildings and older, higher-maintenance, facilities. Some employees and students expressed concern about the advanced age and state of repair of some buildings. Many buildings at the Kelowna campus were built 1960s and 1970s.

Many students and employees said challenges with inter-departmental communication and collaboration create difficulties for students and employees to obtain necessary information and services. Some departments were identified as needing improvement in customer service and support. Many consultation participants confirmed the need for systems and policies that encouraged and required better inter-departmental cooperation.

Affordability was the most frequent issue raised by students. Students wanted reductions in tuition fees (passed for some programs in a board meeting, March 2010), free parking, reduced costs of books and student resources, transit passes, less expensive food at on-campus facilities and the opportunity to opt out of health benefits.

There were many comments about the challenges inherent in running four campuses. Community members, students and employees were positive about the access provided by these campuses, however they suggested these unique regional operations also caused competition for resources and programs, and were sometimes divisive rather than collaborative.

While Okanagan College has accommodated its diverse student culture in many ways, participants asked for more focus on recognizing and appreciating diversity. Aboriginal students would like more curriculum focused on aboriginal history and tradition, international students wanted more campus-wide recognition of their diverse ethnicities and culture and mature students wanted more access to day-care and other services. Many continuing studies students stated that there were few services available to them because of their course schedules. They suggested they did not truly feel part of Okanagan College.

Opportunities (External)

The federal and provincial funding situation may not allow for continued growth and expansion of facilities and programs. However, there are myriad opportunities to work with current revenues to focus and strengthen Okanagan College by:

- Enhancing employee development and appreciation
- Providing more cultural, social and recreational events for students, employees and community members
- Working with Aboriginal communities and students to increase their visibility and culture at Okanagan College
- Building and implementing a comprehensive sustainability program

Okanagan College has a lack of grant funding for program growth. However, Okanagan College has the opportunity to partner with organizations and institutions to continue to react quickly to labour market and community needs. Communities and employers have felt the impact of downsizing and changes in labour market requirements, and Okanagan College has demonstrated its ability to be responsive and nimble responding to these changes. Potential students are increasingly aware of the need to continually upgrade their skills, acquire credentials and shift careers. Okanagan College has successfully accommodated these needs by:

- Expansion of trades programs
- Alternate delivery of health programs
- Certificate programs in continuing studies
- Flexibility adapting programs in other disciplines to meet labour market needs.

Okanagan College also has the opportunity to lead nationally, provincially and regionally to promote collaboration with other institutions and to improve transferability of credentials. The college can continue to celebrate and promote colleges as a place for innovation, applied research and scholarly activity. Okanagan College can lead by example in environmental sustainability, innovation and applied research with The Centre for Learning and the Centre for Excellence.

The strength of employee and student achievements positions Okanagan College to lead provincially and nationally. Okanagan College leadership team members occupy significant roles in, and contribute to, many affiliated organizations, creating further opportunities to influence post-secondary organizations and provincial government ministries.

Partnerships with regional school districts are important to encourage increased participation rates at Okanagan College, especially when secondary school enrolments are declining in most regions. These partnerships combined with increased services and

supports for, Aboriginal, international and mature students will be necessary to maintain FTEs. A further opportunity to maintain or grow enrolment for the College exists as the region experiences lower-than-provincial average transition rates between Grade 12 and post-secondary education. Increasing regional participation rates is a potential source of expanding enrolments and social mobility.

There are significant, and increasing, numbers of Aboriginal students in the K-12 system and birthrate in the Aboriginal community is three times the national average. However Aboriginal students have lower transition rates to post-secondary education. Okanagan College has recognized, and is beginning to capitalize on, the substantial opportunities to work with Aboriginal communities and organizations to increase post-secondary enrolments. New Canadians also provide a recruiting opportunity given the higher education levels and need for credentials in this group. The recent economic downtown has resulted in high youth unemployment rates and mature adults seeking career changes and upgrading provide additional recruitment opportunities.

The four regional campuses have begun to offer unique programs and services that meet unique regional needs. There may be additional opportunities to access community support and funding to continue to build on the unique nature of each region.

Threats (External)

As the provincial government and Industry Training Authority (ITA) restrain or reduce funding Okanagan College may feel increased pressure on the suite of programs and services offered, especially in disciplines where some courses have few students.

Greying of the population will affect the focus of recruiting and retaining employees and students. There will be increased opportunities to recruit mature students and to increase participation rates from students transitioning from the K-12 system.

Students and employees will continue to require advanced technology to enhance their learning and teaching. Technology is continually adapting and changing, and this requires continued investment by Okanagan College. Maintaining updated technology requires a long-term investment strategy.

Competition will continue from other public and private post-secondary institutions and universities are expected to feel enrolment declines more quickly and substantially than colleges. There may be increased marketing from universities targeting groups who typically enrol in colleges.

Alumni and Okanagan College Foundation Board members are excellent resources for attracting and retaining students and fundraising for Okanagan College. Both groups feel

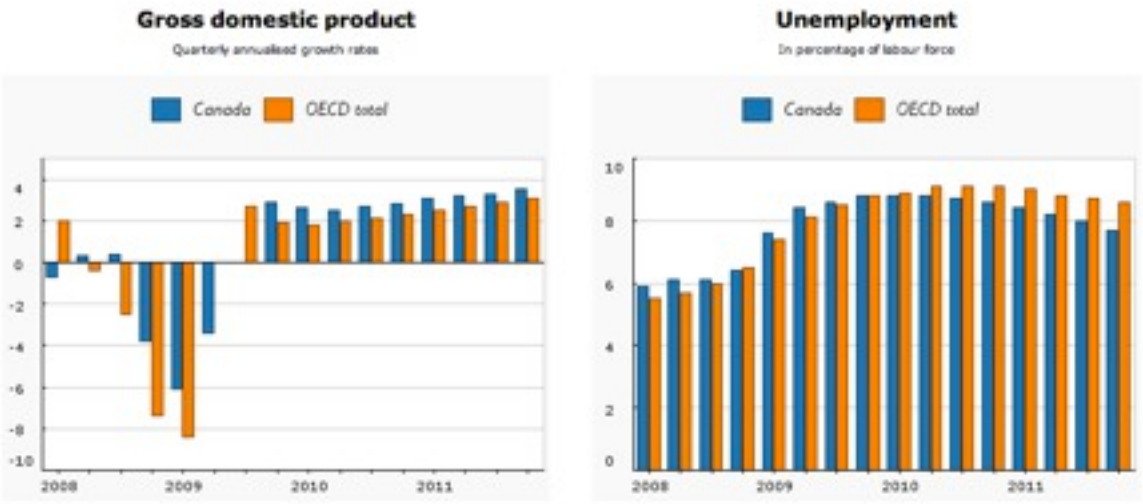
they have not been fully utilized, and are eager to help and support. A concentrated effort is required to develop and implement a plan that takes full advantage of the resources available from these groups and individuals.

2. Economic Trends

2.1 National

The economic contraction, which started in the final quarter of 2008, appears to have subsided in the last half of 2009. Indicators such as gross domestic product, housing starts, exports and retail sales and unemployment suggest the national economy may have recovered from the downward trend. OECD reports predict an increase in Canadian GDP greater than the OECD average and decrease in unemployment in Canada greater than the OECD average through 2010 and 2011 (see Figure 2.11). External demand and internal investment in Canada appear to be increasing however fluctuations of external demand and internal investment pose the greatest risk to Canada's recovery.

Figure 2.11 - Economic Indicators for Canada and OECD region



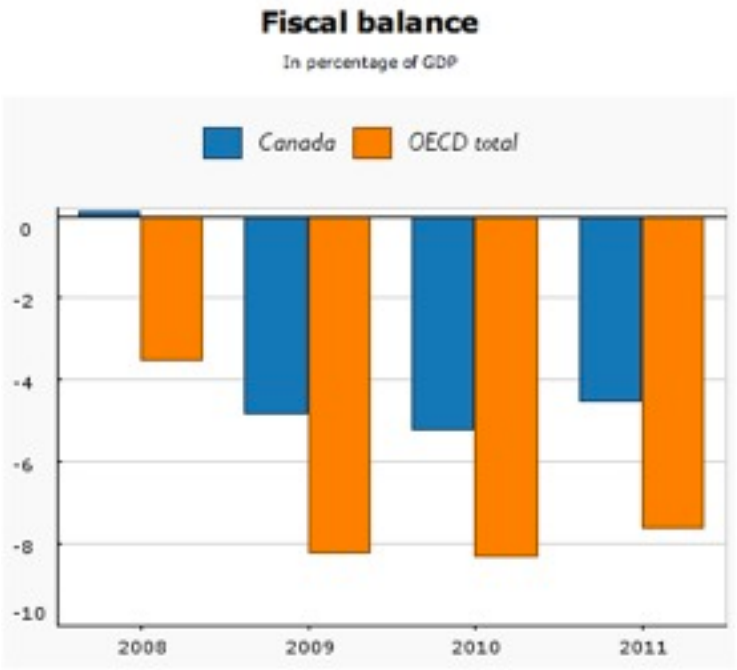
Source: OECD

In 2009, the Canadian government introduced a large economic stimulus spending plan. This large-scale spending was carried out, in concert with the G20 nations to combat the effects of a global recession. The most important aspect of this for post-secondary education is significant national funding to provide and enhance the accessibility of training. This measure includes two-year plans to:

- Invest in Aboriginal skills and training initiatives
- Respond to labour skill shortages
- Support older workers
- Help young Canadians find summer work
- Support skills upgrades for individuals using EI, and those who do not qualify for EI
- Develop highly-skilled post-secondary workforce

However, these economic stimulus measures are short-term increases in funding. Economic stimulus funding is already being curbed, and the OECD has recommended that no further expansionary measures should be developed, and that future economic direction should focus on "medium-term fiscal consolidation plans to be announced soon and be implemented when the recovery is firmly underway." It is likely that, although there may be short-term funding available, medium- and long-term federal government funding may be reduced. Figure 2.12 shows that although the Canadian fiscal balance (as a percentage of GDP) is stronger than the OECD average, the economy will face economic challenges that were not present in Canada during mid-2000s.

Figure 2.12 - Canada and OECD fiscal balance, as percentage of GDP



Source: OECD

2.2 Provincial

Economic Indicators

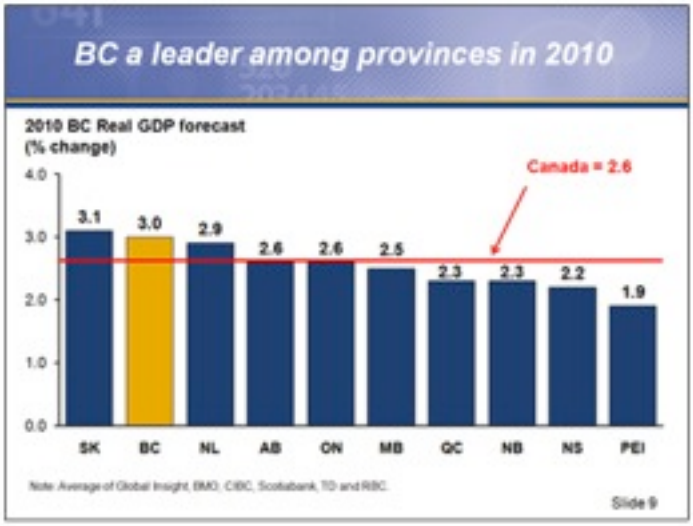
British Columbia's economy experienced a wave of economic growth, as the province benefited from high energy prices, booming construction, and preparations for the 2010 Winter Olympics.

Although British Columbia's economy contracted significantly in late 2008 and early 2009, indicators suggest the provincial economy has started to recover. During the economic contraction exports fell 36.3 per cent, housing starts fell 71.9 per cent, employment fell by

3.5 per cent and retail sales fell 11.9 per cent. British Columbia's economy showed signs of growth before the overall Canadian economy. Indicators such as employment, housing starts and retails sales have been increasing since March 2009 and exports have been increasing since September 2009.

Forecasts for British Columbia's economy are optimistic. British Columbia's GDP is expected to grow by three per cent in 2010, which is one of the highest provincial growth rates in Canada, and higher than the overall Canadian growth rate. (see Figure 2.21). One significant contributor to BC's strong recovery is strong trade ties with Asia. This factor helped to mitigate reduced US demand, and will likely contribute to a speedier recovery.

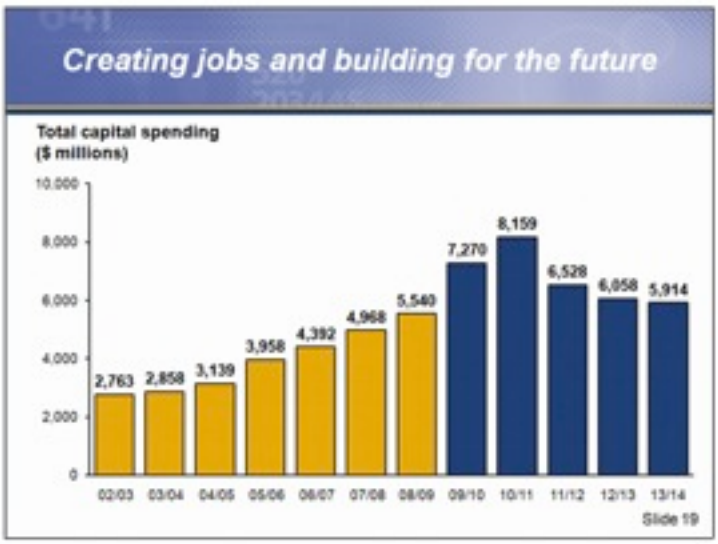
Figure 2.21 - GDP forecast for Canadian provinces in 2010



Source: BC Budget 2010

British Columbia's economic stimulus plan provided significant sources of funding through 2009/10 and 2010/11. However, like national and most international stimulus funding, this provided a short-term influx of money, with medium- and long-term funding reduced, and more difficult to obtain (see Figure 2.22). This means that post-secondary institutions will have be cautious about funding longer-term projects, because of funding reductions in future years.

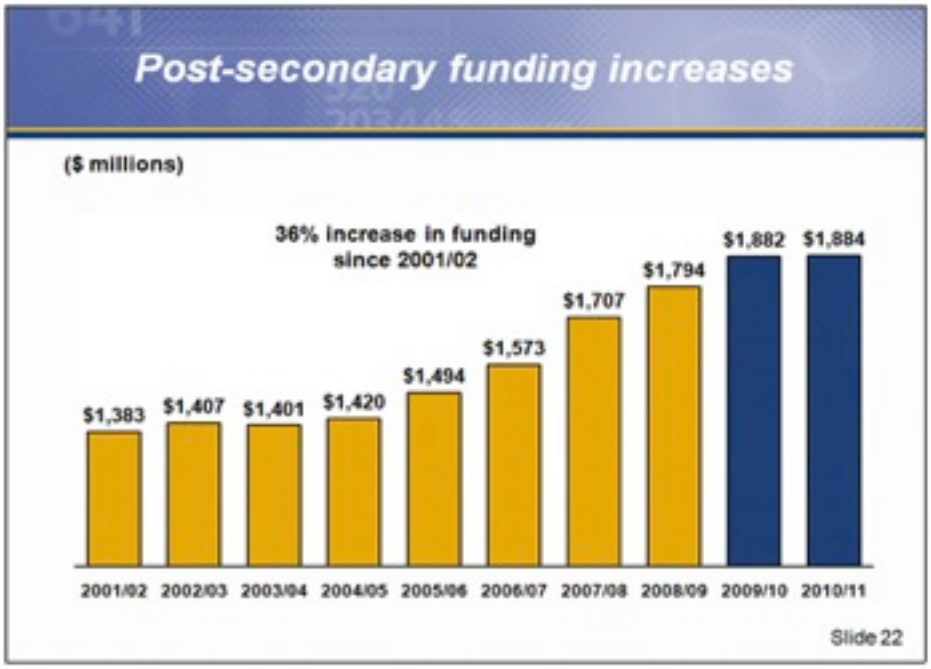
Figure 2.22 British Columbia total capital spending projections



Source: BC Budget 2010

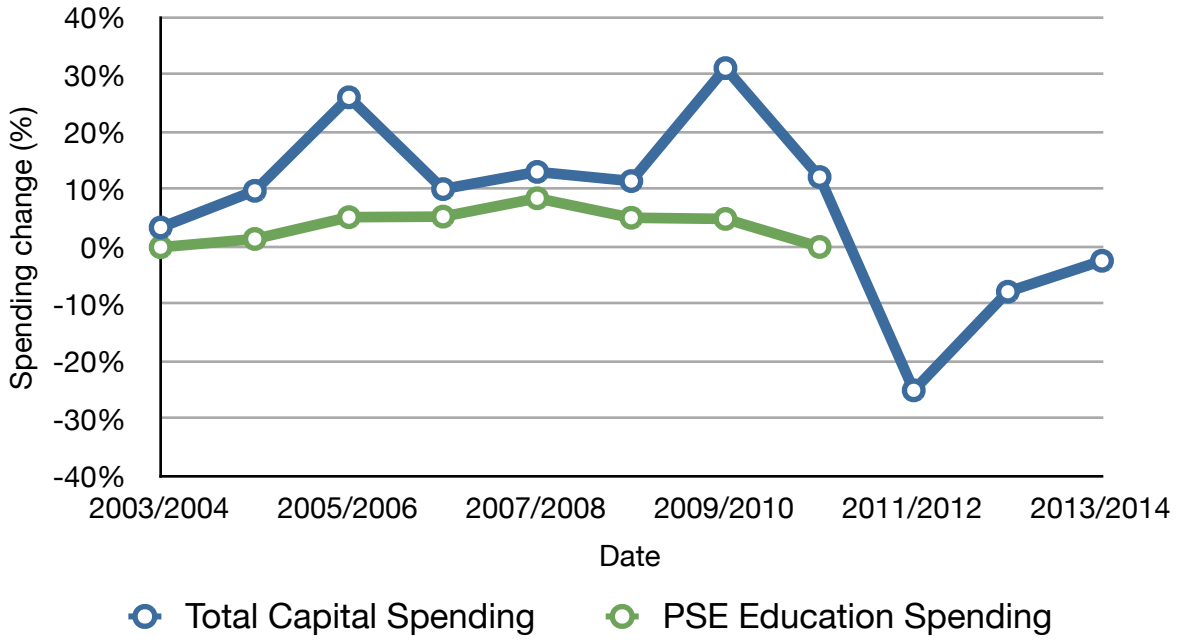
Post-secondary funding increased in 2009/10, but will be followed by a smaller increase in 2010/11. Provincial capital spending increased by 31 per cent in 2009/10 while post-secondary education funding increased by 5 per cent in 2009/10. Capital spending will increase by 12 per cent in 2010/11, while post-secondary education funding will increase by about 0.1 per cent. Finally, capital spending will be cut by 25 per cent in 2011/12, and continue to be reduced in 2012/13 and 2013/14. This suggests it is important for Okanagan College to budget strategically for the next year, it is likely that resources will become increasingly scarce after, 2011/12. This may be an even more significant concern when combined with both short- and long-term demographic and labour market shifts (see Section 3 & 4).

Figure 2.23 British Columbia post-secondary education funding projections



Source: BC Budget 2010

Figure 2.24 Change in provincial total capital spending and post-secondary education funding from previous year (%)



Economic contribution of colleges in British Columbia

The provincial economy benefits from BC colleges. Colleges, as post-secondary institutions, provide critical economic benefits in the short- and long-term. Robison & Christophersen (2007) outline four different ways colleges contribute to the provincial economy.

1. **Regional Economic Benefits** - colleges hire staff, attract highly skilled workers, purchase goods, attract students who spend money and contribute to the local labour market. Colleges create regional income, BC's economy receives about $288.6 million in labour and non-labour income annually because of BC colleges. This includes attracting students and staff from outside the province. It is estimated that students from outside BC, attending BC colleges contribute about $23.9 million annually.
2. **Student Perspective** - attending college dramatically increases lifetime earnings. Every credit hour equivalent (CHE) results in, on average, $111 more annual earnings, or $3,335 annually for every full-time year at a BC college. This means that BC colleges provide a 14 per cent return on investment. The average payback period of college education is 10 years (after 10 years, students' improved earnings have covered their education expenses). These earnings also benefit the provincial economy. Higher earnings for all existing students in BC are about $219.3 million for each year they remain in the workforce.
3. **Taxpayer Perspective** - during the year this study was conducted, taxpayers contributed $468.6 million to colleges in BC. The provincial economy receives important economic benefits from this investment in colleges, but also important social benefits. Overall, the province benefits from $19.6 million annually for every year students remain in the workforce. This is realized as: improved health (lower healthcare costs, fewer sick days); reduced crime (fewer criminal offenses, less prosecution, rehabilitation, legal and victim costs); and reduced welfare/unemployment (fewer drawings on unemployment)
4. **Investment Analysis** - Accounting for all economic, social and labour market benefits of participation in college in British Columbia, it is estimated that taxpayers receive a 1900 per cent return. Every $1 of tax invested in BC colleges provides an overall return to the public of $19 throughout the students' working career.

Economic contribution of Okanagan College

Robison & Christophersen (2007) also significant economic contributions of Okanagan College:

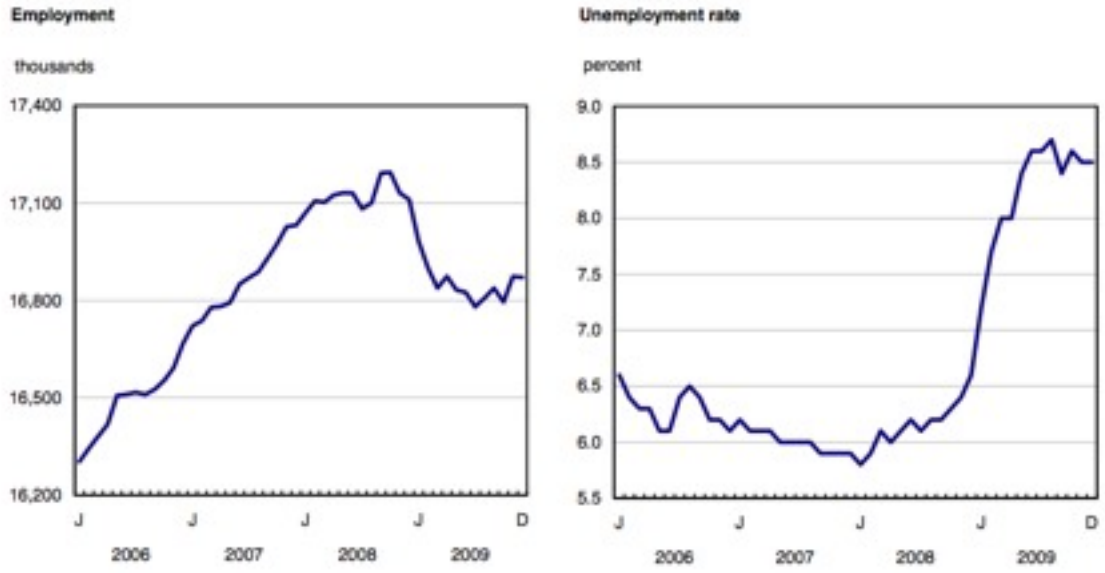
1. For every $1 students invest in education at Okanagan College, they receive a cumulative $4.30 in higher future earnings over the course of their working careers.
2. Taxpayers see an eleven per cent rate of return on their annual investments in Okanagan College
3. The regional economy receives roughly $542.6 million in income each year due to the annual activities of Okanagan College and the cumulative effects of its past students. This figure amount to 4.4 per cent of the total income in the economy.

3. Labour Market Trends

3.1 National

Employment in Canada increased steadily in the mid 2000s, until late 2008. Employment dropped substantially in late 2008 and early 2009. Employment stabilized in the last nine months of 2009, but remains nearly 2 per cent below the 2008 peak (see Figure 3.11). The number of people who are self employed has increased substantially since the 2008 employment peak, but the number of people working as employees fell (see Figure 3.13). This fall in employment was especially marked in the private sector, which was the last to recover, and is only now beginning to stabilize.

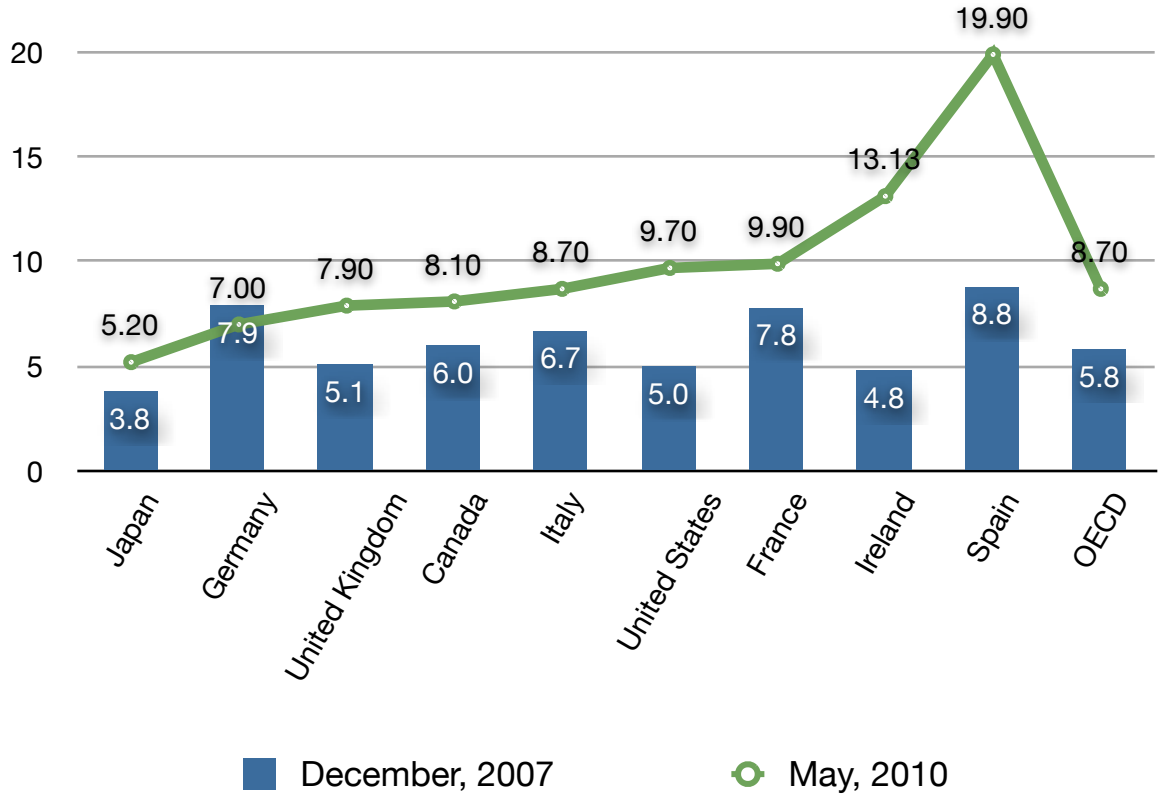
Figure 3.11 - Employment and unemployment rates in Canada, seasonally adjusted, 2006 - 2009



Source: Statistics Canada

Figure 3.12 shows that Canada's unemployment rate has followed a similar trend to most OECD countries in recent years. Although increased employment is cause for concern, Canada's situation is similar to most industrialized nations. This international increase in unemployment means that more people will be looking to participate in post-secondary education nationally and internationally. Thus, this international financial and labour trend may provide short-term benefits for post-secondary institution through increased applicants and potentially higher enrolments.

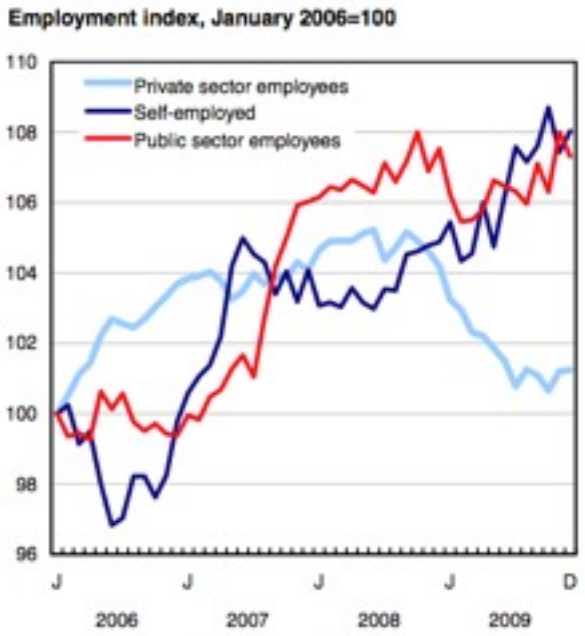
3.12 - National unemployment rates by OECD country in December, 2007 and May, 2010



Source: OECD

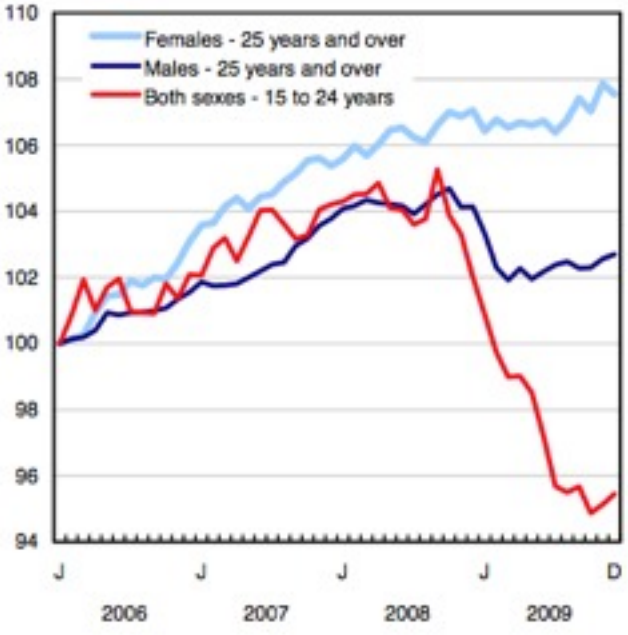
Significant sectoral and demographic factors emerge from recent increases in unemployment. The economic downturn most affected private sector workers (see Figure 3.13), with the most pronounced impact on younger workers (see Figure 3.14). The employment index for younger workers (under 25) continued to decline after employment for older works stabilized. As younger workers tend to be more vulnerable to difficult economic times, more students in the short term may be seeking training and education.

Figure 3.13 - Employment indicators in Canada, by sector, seasonally adjusted, 2006 - 2009



Source: Statistics Canada

Figure 3.14 - Employment index, by age and gender, January 2006=100

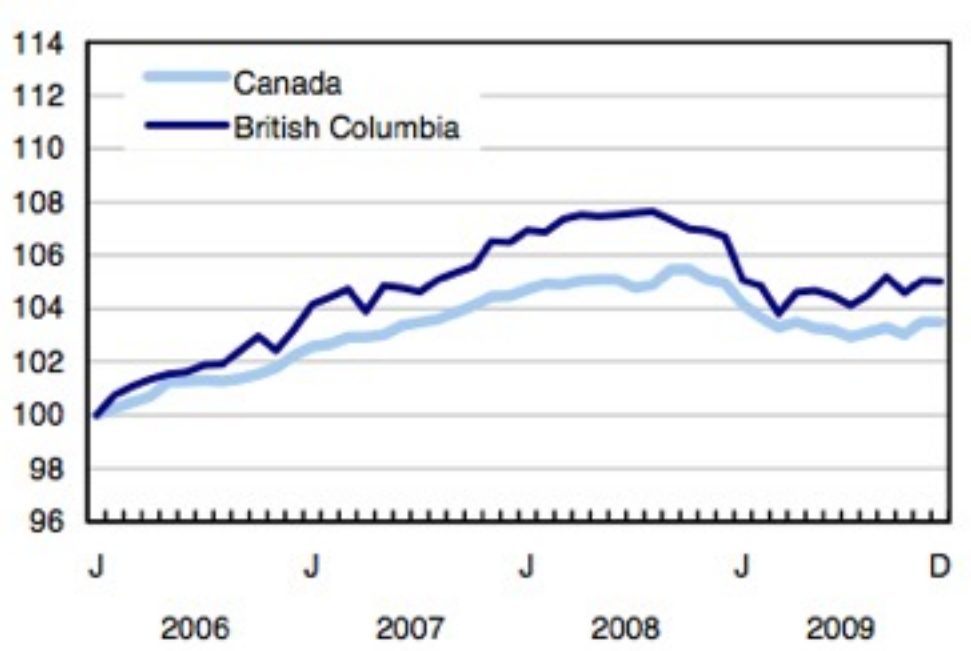


Source: Statistics Canada

3.2 Provincial

British Columbia is currently emerging from the worst economic conditions since 1982. The recession, which began in fall 2008 increased in unemployment rate in British Columbia by 3 per cent in 2009. However, BC Statistics predicts labour markets will begin to recover throughout 2010 and in later years. Figure 3.21 shows British Columbia's employment index for 2006-2009.

Figure 3.21 - Index of employment, seasonally adjusted



Source: Statistics Canada

British Columbia's economy has many similarities with the Canadian economy. However BC has fared slightly better than the overall Canadian economy. BC Stats predicts the future of British Columbia's economy will be characterized by:

Long-term employment growth in the economy over the next decade. Between 2009 and 2019, 1,126,000 job openings are expected. About 40 per cent (450,000) of these will be newly created jobs, while the remaining 60 per cent will be job vacancies resulting from retirements and deaths.

Regionally concentrated job growth in three main regions. About 60 per cent of job openings will be in the Mainland/Southwest region, about 18 per cent in the Vancouver Island/Coast region and 10 per cent in the Thompson/Okanagan region.

Shifts in industry composition away from primary industry, manufacturing and culture. BC Stats predicts the most job openings will be in:

- Sales and Service Occupations
- Trades, Transport, Equipment Operators and Related Operations
- Business, Finance and Administration Occupations

The highest growth rates will be in:

- Health Occupations
- Trades, Transport, Equipment Operators and Related Operations
- Natural and Applied Sciences and Related Occupations

The lowest growth rates will be in:

- Occupations Unique to Primary Industry
- Occupations Unique to Processing, Manufacturing and Utilities
- Occupations in Art, Culture, Recreation and Sport

For a detailed of description these occupations, see the National Occupational Classification.

Need for post-secondary education or higher training for a majority of job openings over the next decade. Seventy-seven per cent of job openings will need higher education and training.

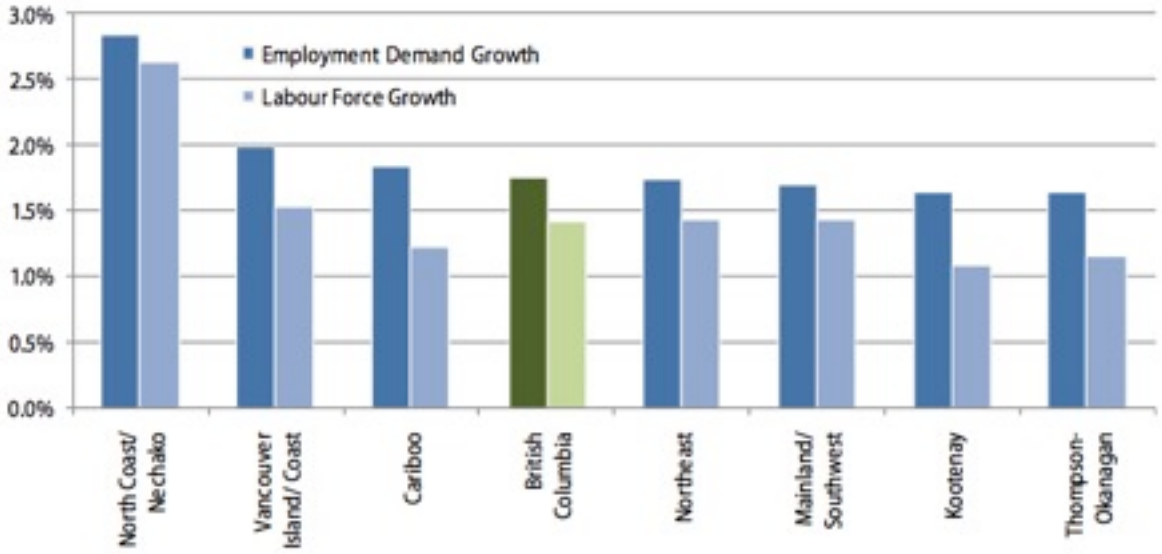
Labour demand will be a challenge for British Columbia. An aging workforce means that over 60 per cent of job openings will be replacing workers. Most regions in British Columbia will have difficult labour market conditions. However the Thompson-Okanagan region will not feel this, to the same extent, until later in the decade. During the next decade labour market demand in British Columbia is predicted to rise by 80,000 more positions than labour market supply.

Labour supply will be a challenge. Provincially, the number of new labour market entrants will begin to decline. Migrants are predicted to make up an increasing proportion of the new labour market supply.

3.3 Regional

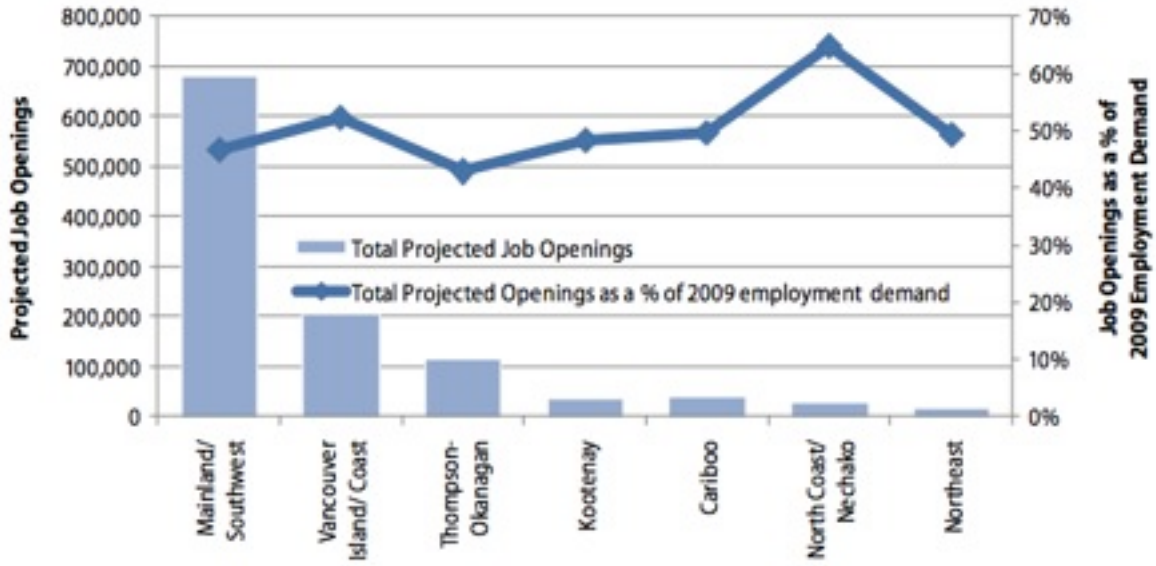
Figure 3.31 shows regional employment gaps forecasts over the next 10 years. The Thompson-Okanagan region will have the lowest annual employment growth rate (1.6 per cent), yet labour supply growth will not meet labour demand growth.

Figure 3.31 - Growth in employment demand and labour force, regionally, 2009-2019



Source: BC Stats

Figure 3.32 - Projected job openings, 2009-2019, regionally



Source: BC Stats

The following charts report regional differences in labour market distribution by occupation and industry. Values are provided as the per cent of people working in the industry, in relation to the total experienced labour force 15 and over. This format is used so regional differences in the labour market distribution are more apparent. This is important, because regional post-secondary training needs will be affected by regional labour market needs. The total labour market population is provided at the bottom of each chart.

Figure 3.33 - Regional occupation distribution in Okanagan College regions, 2006

Occupation	North Okanagan	Central Okanagan	Okanagan-Similkameen	Columbia Shuswap	British Columbia
Management	9.2%	11.4%	9.8%	9.7%	10.5%
Business, finance and administration	14.3%	16.8%	14.3%	12%	17.2%
Natural and applied sciences and related occupations	3.9%	4.5%	3.6%	4.6%	6.3%
Health	6.3%	5.8%	6.5%	5.3%	5.5%
Social, science, education, government service and religion	7.5%	6.5%	5.7%	5.6%	8.1%
Art, culture, recreation and sport	2.1%	2.8%	2.1%	2.5%	3.5%
Sales and service	23.9%	26.4%	25.7%	23.9%	25.3%
Trades, transport, equipment operators and related	19.1%	17.6%	17.6%	23.2%	15.5%
Occupations unique to primary industry	7.8%	4.4%	9.7%	7.7%	3.9%
Occupations unique to processing, manufacturing and utilities	5.8%	3.8%	5.0%	5.5%	4.2%
Total experienced labour force 15 years and over	38,915	85,630	37,225	25,455	2,193,115

Source: Statistics Canada

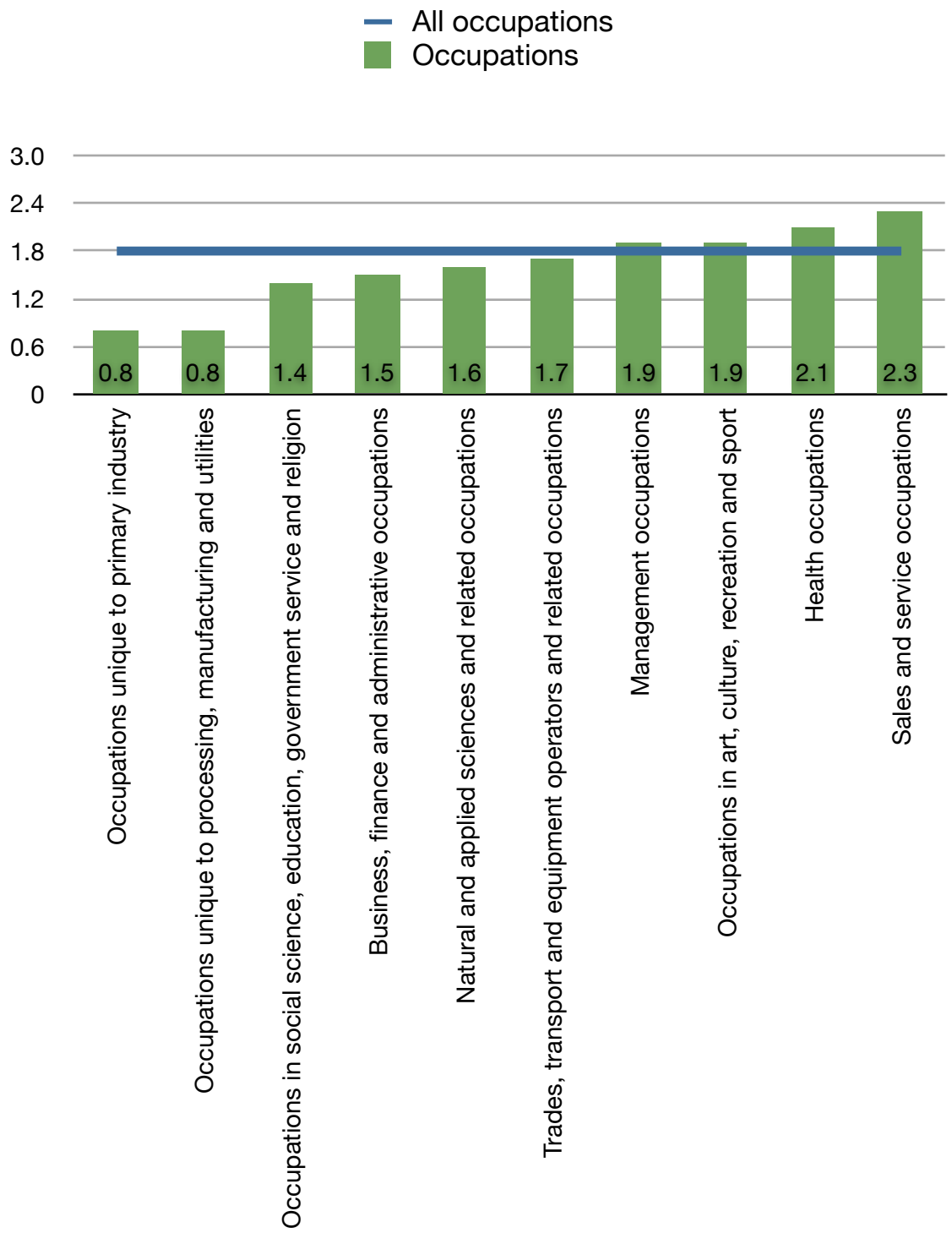
Figure 3.34 - Regional industry distribution in Okanagan College regions, 2006

Industry	North Okanagan	Central Okanagan	Okanagan-Similkameen	Columbia Shuswap	British Columbia
Agriculture and resource based	9.3%	4.5%	10.5%	9.3%	4.9%
Construction	10.4%	11.6%	9.5%	11.9%	7.6%
Manufacturing	11.2%	8.1%	10.3%	11.7%	8.6%
Wholesale trade	3.5%	3.8%	2.6%	1.8%	4.2%
Retail trade	12.9%	13.1%	12.7%	11.0%	11.4%
Financial and real estate	4.7%	6.4%	5.0%	4.7%	6.2%
Health care and social services	11.4%	10.7%	11.4%	8.8%	9.7%
Educational services	6.1%	5.5%	4.8%	4.9%	6.9%
Business services	13.9%	17.4%	12.5%	14.9%	19.9%
Other services	16.6%	18.9%	20.7%	21.0%	20.6%
Total experienced labour force 15 years and over	38,915	85,630	37,225	25,455	2,193,115

Source: Statistics Canada

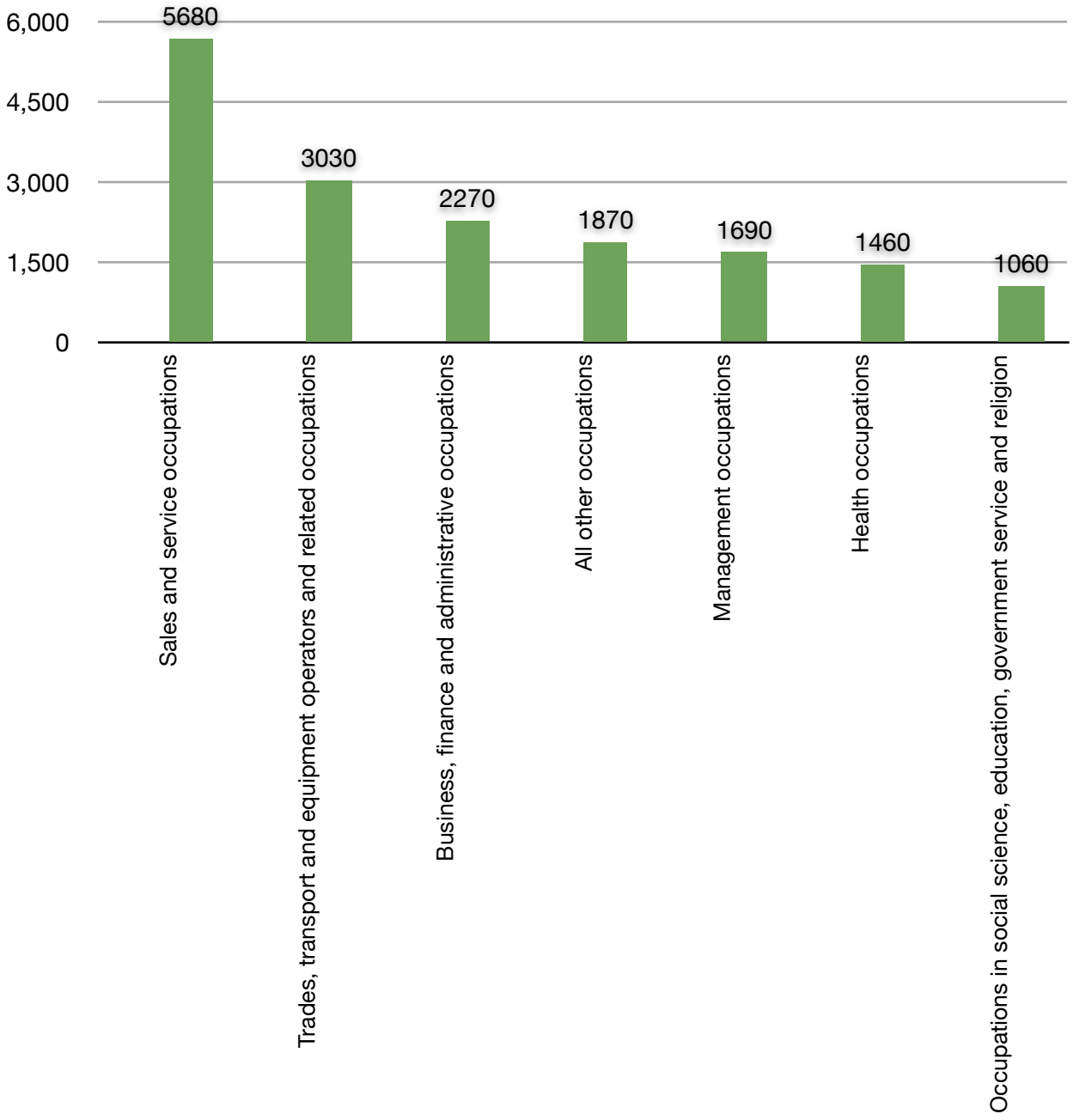
The above charts give a detailed breakdown of the labour market composition by industry and occupation in Okanagan College's regions. Figure 3.35 displays growth trends, by occupation in the next decade. Figure 3.36 displays the occupations that are projected to have the most employment growth in absolute numbers over the next decade (only occupations projected growth of more than 1,000 openings are included, the remaining occupations are grouped together).

Figure 3.35 - Projected labour market demand growth (%) in Okanagan College region, by occupation, 2009-2019



Source: BC Stats

Figure 3.36 Projected labour market demand growth (absolute) in Okanagan College region, by occupation, 2009-2019



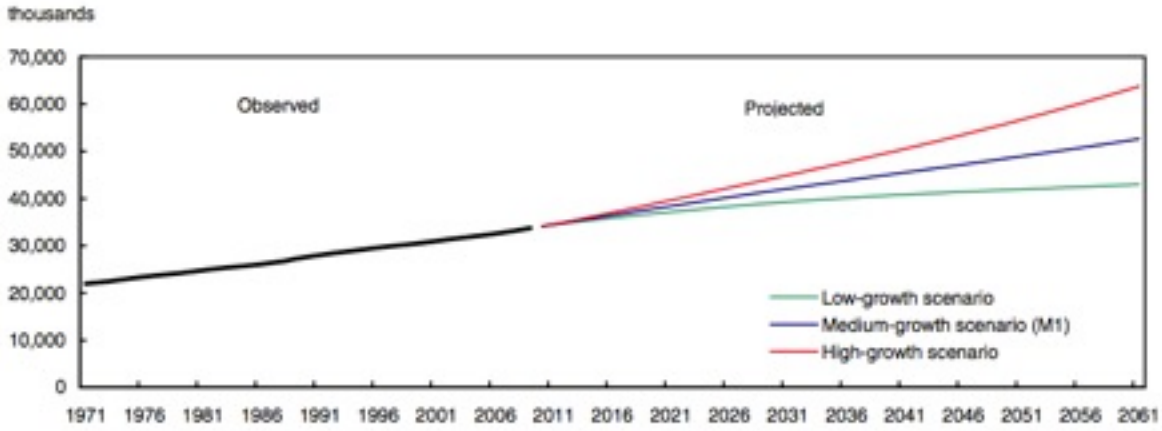
Source: BC Stats

4. Demographic Trends

4.1 National

Canada's population has grown nearly 10 per cent in the past decade, from 30.7 million in 2000 to 33.7 million in 2009. Statistics Canada suggests this growth will continue over the next fifty years.

Figure 4.11 - Population observed (1971 to 2009) and projected (2010 to 2061) according to three scenarios, Canada

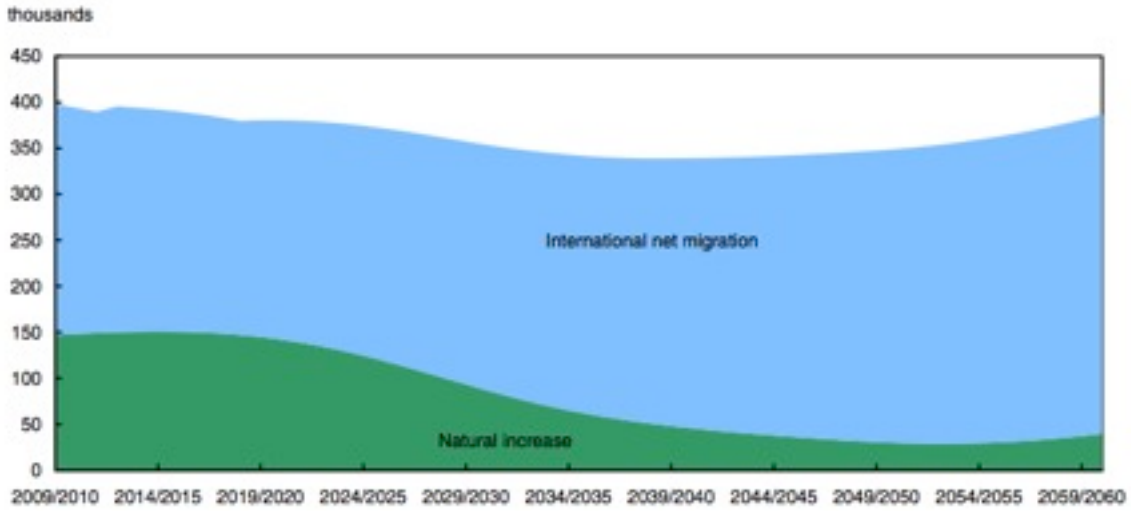


Source: Statistics Canada54

Statistics Canada predicts the population growth rate will remain constant, then increase around 2054. These changes are related to two components of population growth:

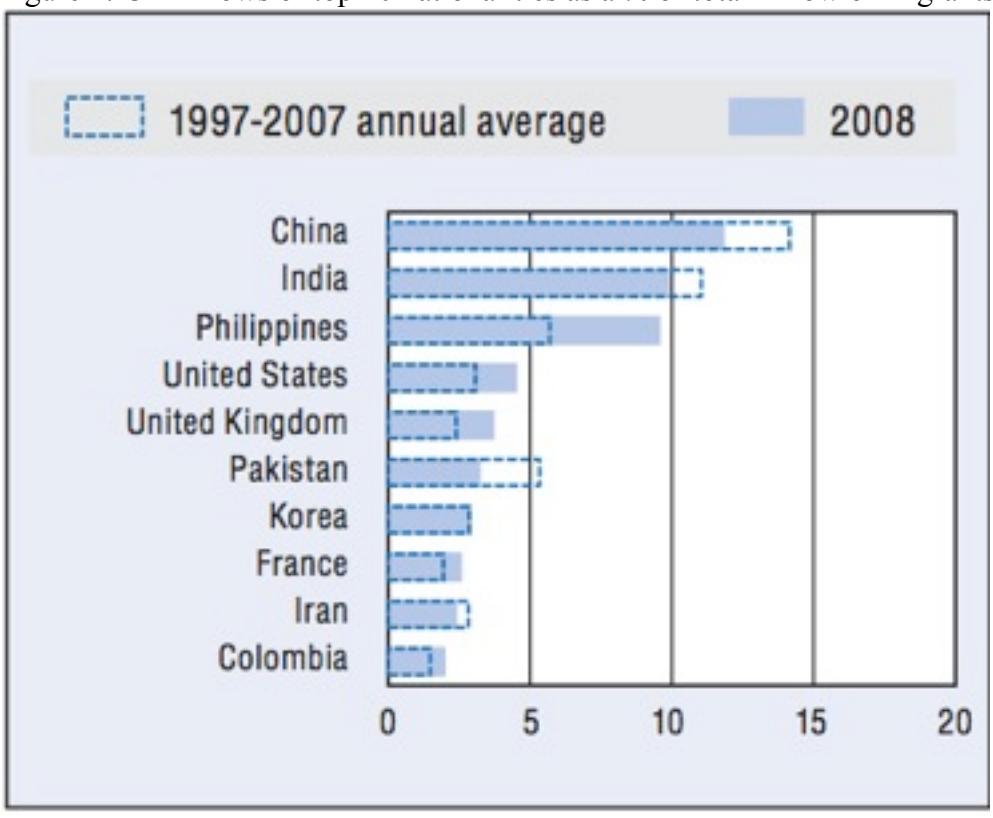
1. **Natural Increase** represents the difference between the rate of fertility and mortality rates (births and deaths). This was the main source of Canadian population growth until the early 1990s. It is predicted that the death rates in Canada will increase substantially, reflecting both the aging population and a larger population. Fertility rates are expected to remain relatively stable. However, large numbers of immigrants have the potential to increase national fertility rates because a large proportion of immigrants tend to be of childbearing age.
2. **Migratory Increase** is the number of migrants coming to Canada. Migratory growth is expected to increase, and Canada's population growth will benefit increasingly from migratory increase (see Figure 4.12). The top three countries migrants arrive from are China, India and the Phillipines (see Figure 4.13).

Figure 4.12 - Demographic growth of the Canadian population projected according to the natural increase and international net migration - 2009/2010 to 2060/2061 - Medium growth scenario



Source: Statistics Canada

Figure 4.13 - Inflows of top 10 nationalities as a % of total inflow of migrants

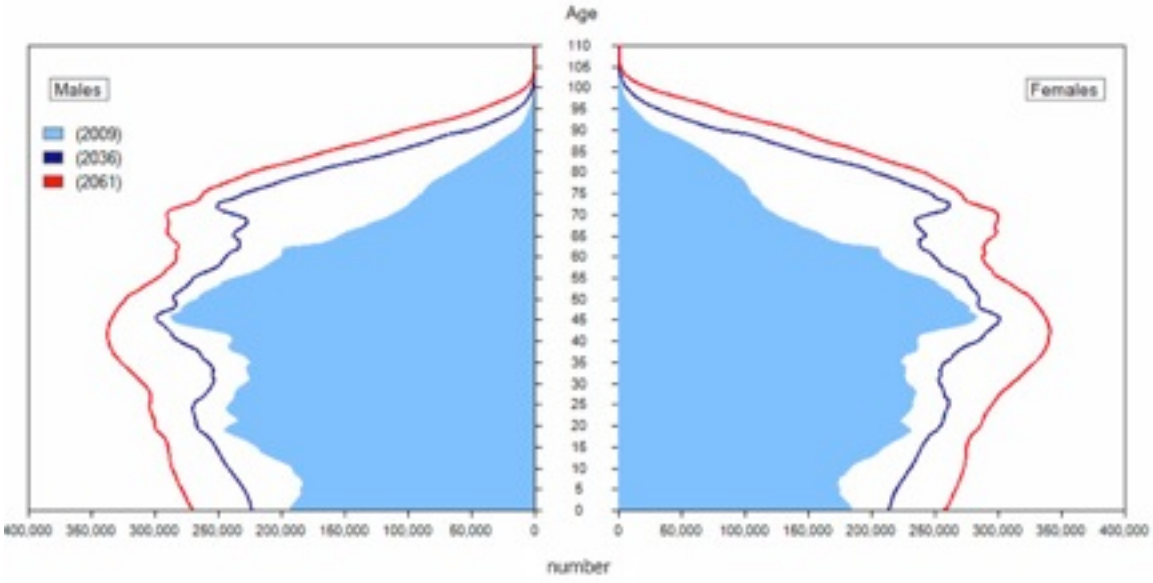


Source: International Migration Outlook, OECD

The age composition of the Canadian population will shift in the coming decades resulting from declining fertility rates after the baby boom cohort and increasing life expectancies. The greatest effects of this will occur between 2010 and 2031. However there are pronounced regional differences in population compositions (which will be described in the following sections).

Figure 4.14 shows the current, and projected age composition of the Canadian population. There will be long-term population growth for all ages. However, growth will be most pronounced in the older cohorts.

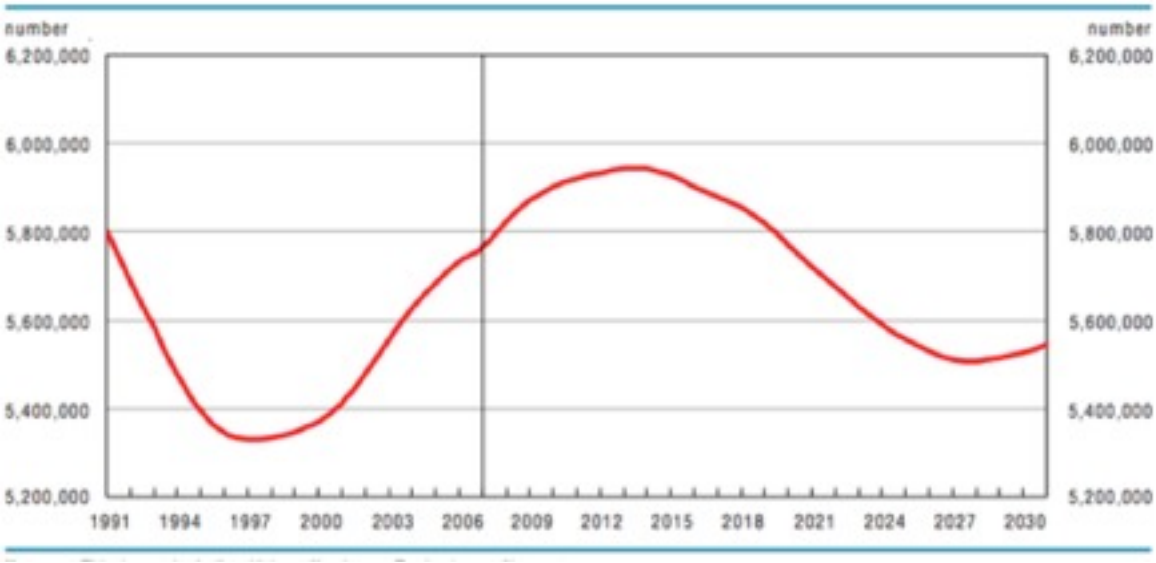
Figure 4.14 - Age pyramids (in number) of the Canada population, 2009, 2036 and 2061 (medium growth)



Source: Statistics Canada

Figure 4.15 shows the changes in absolute numbers of 17 to 29 year olds in Canada. These rates are import because this group makes up the largest proportion of college populations. More information is provided about this cohort in later sections. While the general Canadian demographic trends are mirrored in most regions, there are marked regional differences in population composition and projected population change.

Figure 4.15 - Population age 17 to 29, Canada, 1991 to 2031



Source: Statistics Canada

4.2 Provincial

One of the most important demographic factors is the ‘baby boom’, a demographic challenge faced by most of the developed world. Younger age cohorts in British Columbia are declining because of lower birthrates and lifestyles shifts. The ‘baby boom echo’ generation has temporarily bolstered the labour market and post-secondary enrolment. This trend is currently affecting the K-12 system, and the post-secondary school system will start to be affected by this demographic trend in 2010.

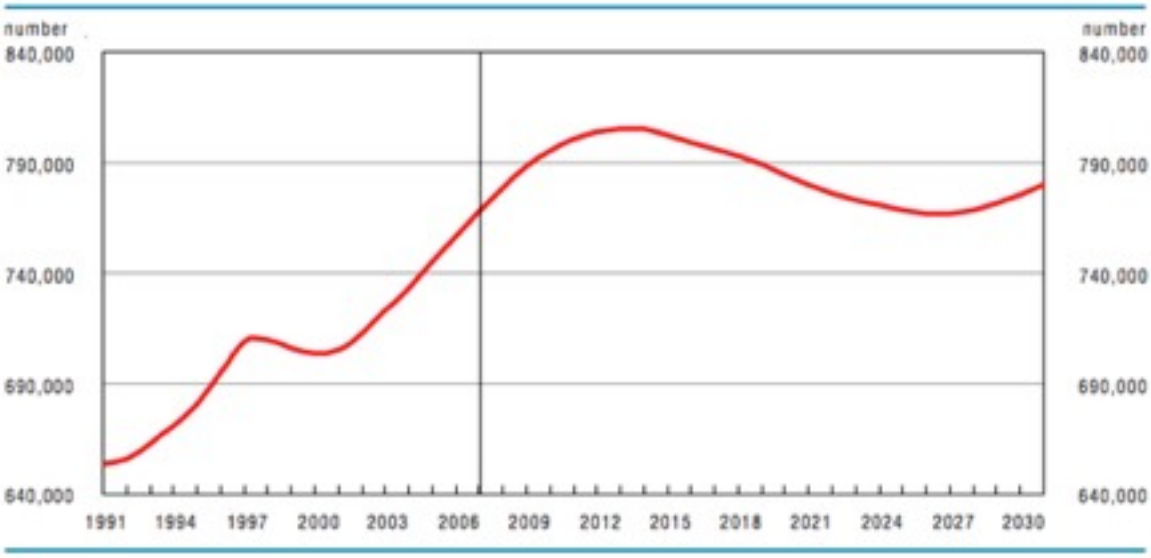
International and inter-provincial migration have played a key role in British Columbia’s labour market for the past century. However, inter-provincial migration has been volatile, and fluctuates with BC’s export-dependent economy. This has the potential to make British Columbia’s demographics and labour force more vulnerable to economic shifts.

Fertility has been declining in British Columbia since the 1970s. This mirrors a general trend in most of the OECD region. This low birth rate is related to the economic costs of raising children, increased gender equality (and thus, increased female participation in the workforce), and an increasing desire for individual autonomy, instead of marriage and fertility. The K-12 system has already been affected by these trends, and post-secondary institutions will see declining high school transitions unless participation rates increase.

Projections developed by BC Stats project significant rises in the 40+ cohort. The median age is projected to rise from 28 (2001) to 47 in 2036. Projections indicate by 2013 the 65+

cohort will outnumber the 18-29 cohort for the first time in BC's history. This has important economic consequences. The province's income tax base, which is necessary to sustain public services, will shrink. Public funding demands will increase in the health care sector. However, Figure 4.21 shows that in British Columbia, the decrease in post-secondary education's largest cohort (17-29) will be much less pronounced than in Canada overall (see Figure 4.15). This also means post-secondary institutions in British Columbia may face increasing competition from post-secondary institutions outside of the province.

Figure 4.21 - Population age 17 to 29, British Columbia, 1991 to 2031



Source: Statistics Canada

The labour market will become more competitive as increasing numbers of workers retire, with lower numbers of new workers entering the labour pool. Mandatory retirement has been lifted to ease this pressure. However, this is a temporary measure that will slow job vacancies, but will not stop labour market pressures

Immigration provides a strong contribution to British Columbia's economy and labour market. BC has maintained immigration from Europe, the United States and East and South Asia. Until the 1920s, over half of the population of BC was born outside the province. Immigrants are critical to BC's labour market development, but immigrants need time to adapt to the labour market. New immigrants have a high unemployment rate, despite high educational credentials. For example, in 2007, 54 per cent of recent immigrants held university degrees, compared to 26 per cent of working-age Canadian born (18 per cent of new immigrants had graduate degrees, compared with 7 per cent of working-age Canadian born). However, new immigrants with university degrees were three times more likely to be unemployed than Canadian-born workers. Recognition of foreign credentials is a challenge for labour force participation of skilled immigrants. Recognition

of these skills will bolster BC's labour market and colleges will be a vital part of this process.

4.3 Regional

The following charts show demographic information for the four regions (in Okanagan College's district).

Figure 4.31 - Okanagan College regional population distributions, compared to BC.

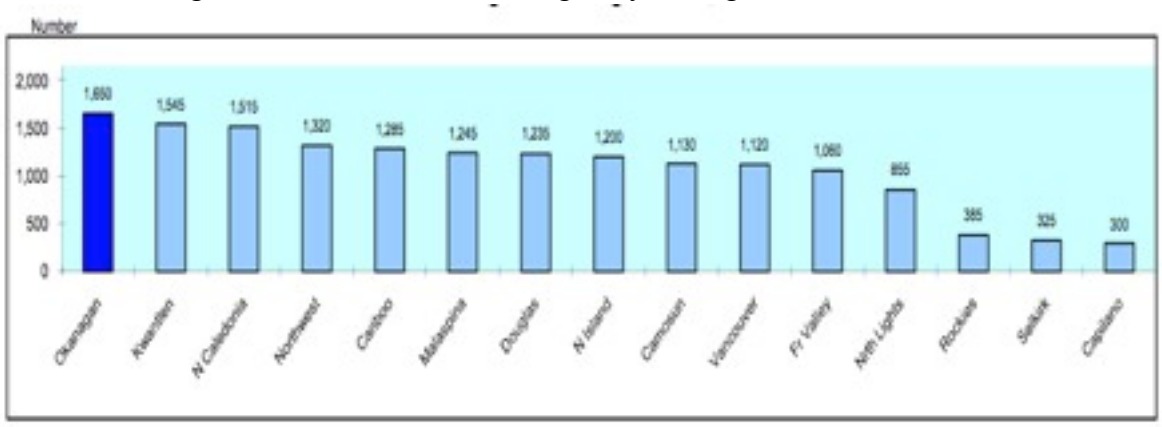
Age Range (years)	North Okanagan	Central Okanagan	Okanagan-Similkameen	Columbia-Shuswap	British Columbia
0 - 4	4.5%	4.4%	3.5%	4.2%	4.9%
5 - 9	5.3%	5.1%	4.4%	4.8%	5.4%
10 - 14	6.6%	6.2%	5.5%	6.4%	6.2%
15 - 19	7.0%	6.6%	5.9%	6.7%	6.7%
20 - 24	5.0%	6.5%	4.3%	4.8%	6.5%
25 - 29	4.3%	5.1%	3.7%	4.3%	6.0%
30 - 34	4.7%	5.1%	3.9%	4.4%	6.2%
35 - 39	5.5%	5.3%	4.6%	5.5%	7.1%
40 - 44	7.5%	7.7%	6.7%	7.5%	8.1%
45 - 49	8.4%	8.2%	7.9%	9.1%	8.1%
50 - 54	8.0%	7.5%	7.9%	8.2%	7.8%
55 - 59	7.6%	7.0%	8.1%	8.2%	7.0%
60 - 64	6.3%	5.7%	7.2%	7.0%	5.2%
65 - 69	5.5%	5.2%	6.7%	5.6%	4.1%
70 - 74	4.6%	4.6%	6.3%	4.9%	3.5%
75 - 79	3.9%	3.9%	5.6%	3.8%	2.9%
80 - 84	2.9%	2.9%	4.1%	2.4%	2.2%
85+	2.3%	2.3%	3.5%	1.9%	1.8%

Age Range (years)	North Okanagan	Central Okanagan	Okanagan-Similkameen	Columbia-Shuswap	British Columbia
Total Pop.	77,300	162,275	79,475	50,140	4,113,485

Source: BC Statistics

The Okanagan College region also has the highest number (1,650) of 18 - 24 year-old Aboriginal people off-reserve of any region in British Columbia (see Figure 4.32). This group represents 82 per cent of the Aboriginal age 18 - 24 population in the Okanagan. Also, 18 - 24 year olds are a much larger portion of the Aboriginal population (11.2 per cent) than the non-Aboriginal population (7.7 per cent) in the Okanagan.

Figure 4.32 - Number of Aboriginal youth age 18 - 24, off reserve



Source: BC Statistics

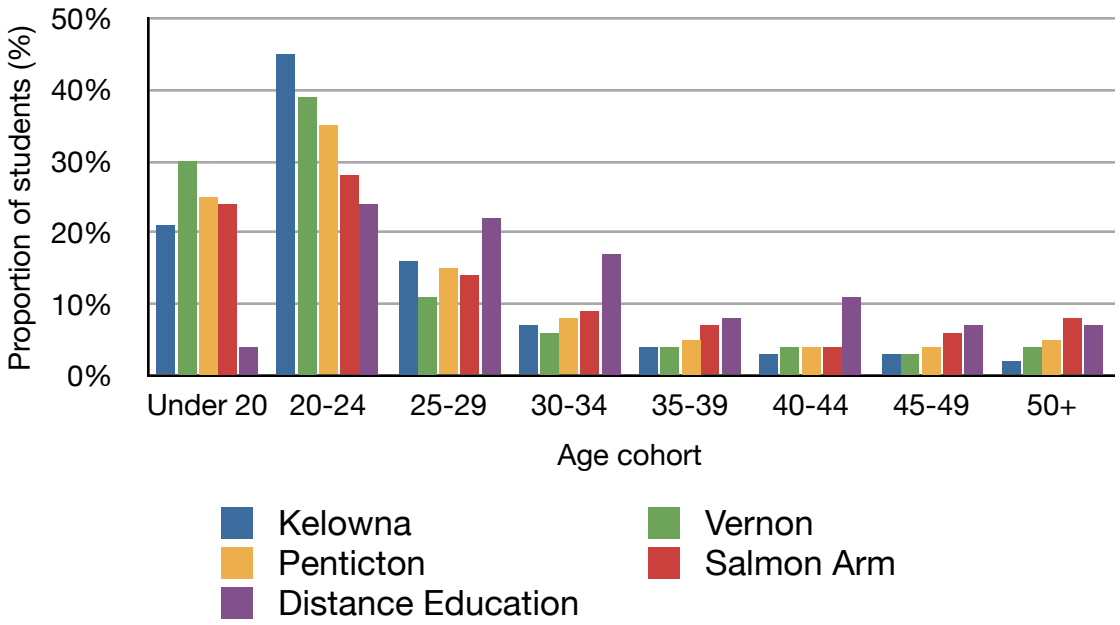
4.4 Okanagan College

The following demographic information for the Okanagan is based on Okanagan College Institutional Research's Fall 2009 Report. In Fall 2009, 5,915 students were enroled at Okanagan College, and 163 in Distance Education. Sixty per cent were classified as full-time students, having an 80 per cent course load. The average age of students was 25.5 per cent and the largest cohort was 20-24 year olds (41.3 per cent of the student population). A large majority of students (85 per cent) were from the Okanagan region. Fifty-two per cent of students were female, with significantly different gender distributions between cohorts.

There are pronounced differences in the Okanagan College regional campus populations. The Vernon and Kelowna campuses have the highest proportion of students under 24. Vernon has the highest proportion of students under 20 and Kelowna has the highest proportion of students between 20 and 24. Salmon Arm had the highest proportion of students in the oldest cohorts. Future demographic shifts, such as the aging population, mean that the regions with students in older cohorts may have competitive advantages over

other regions. A greater proportion of older students means that Penticton and Salmon Arm campuses may be less affected by decreases in enrolments of younger demographics if current programming is already geared to accommodate the needs of these learners. These regions may be strategically poised to benefit from demographic trends (see Section 4). Distance Education students also tend to be older than the general student population. Figure 4.41 shows the proportion of students in each age cohort, and the total student populations are provided in Figure 4.42.

Figure 4.41 - Proportion of students by age cohort and Okanagan College campus, 2009/2010



Source: Okanagan College Institutional Research, 2010

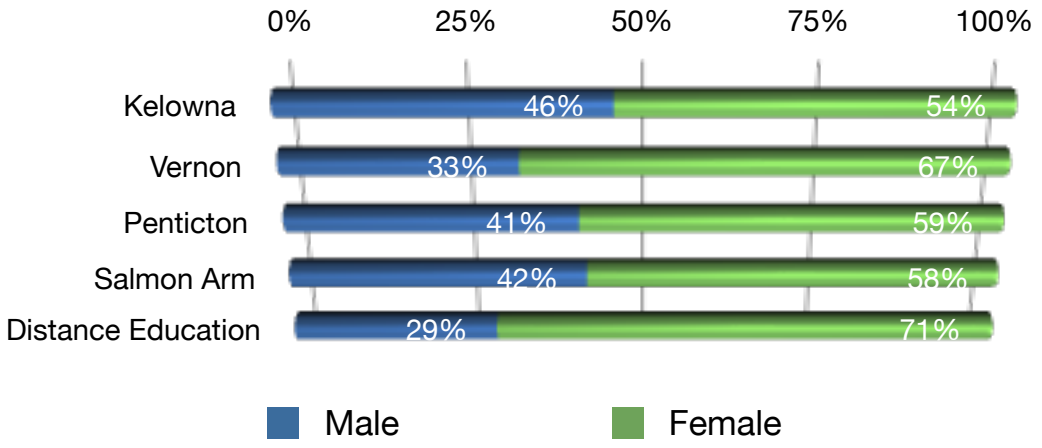
Figure 4.42. Total student population by age cohort and campus

	Kelowna	Vernon	Penticton	Salmon Arm	Distance Education	Exchange from OC
Under 20	844	238	152	98	6	
20-24	1755	307	210	114	39	12
25-29	614	85	89	56	36	2
30-34	272	44	48	36	28	
35-39	164	32	29	30	13	
40-44	105	30	23	18	18	
45-49	104	21	22	24	12	
50+	73	29	31	32	11	

Source: Okanagan College Institutional Research, 2010

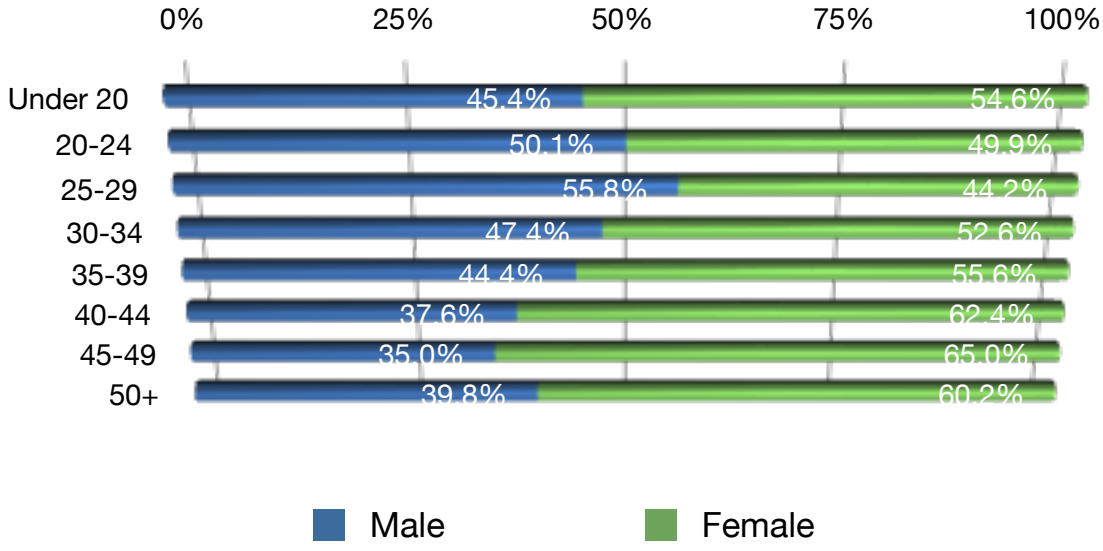
There are also marked gender differences in each cohort and region. Women outnumber men in all regions. Vernon has a highest proportion of women (67 per cent) and distance education also has the highest proportion of women (71 per cent). Women outnumber men in most cohorts, except in 20-24 cohort (50.1 per cent men) and the 25-29 cohort (55.8 per cent men). The highest proportion of women is present in the oldest cohorts. In all cohorts over 40, sixty per cent or more students are women. See Figures 4.43 and 4.44.

Figure 4.43. Gender distribution by campus



Source: Okanagan College Institutional Research

Figure 4.44 Gender distribution by age cohort



Source: Okanagan College Institutional Research

Okanagan College has been very successful attracting Aboriginal students. A significant amount of enrolment growth in previous years has come from substantially increasing Aboriginal enrolments (see Figure 4.45). This is an excellent illustration of how increasing enrolments in previously under-represented groups can contribute to significant overall enrolment growth (see Section 4 & 8).

5. Social Trends

5.1 National

Overall, access to post-secondary education has been increasing since the mid-20th century. This includes a growing diversity of groups represented in post-secondary education. Increasing numbers of female students, students from low-income families, rural communities, minority ethnocultural communities and Aboriginal groups are participating in post-secondary education (Transitions Project: Note 6). However, current growth in post-secondary education tends to come from middle to high income families, while low income and Aboriginal students are still under-represented.

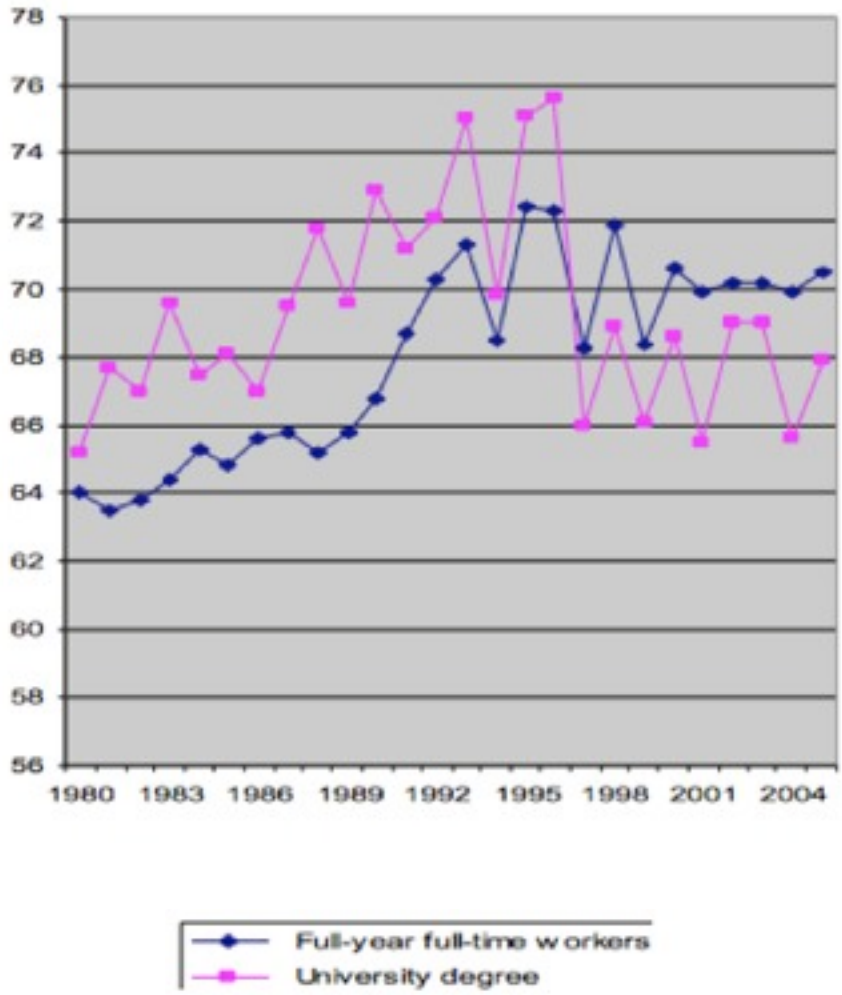
One important consideration is that although post-secondary access has been made more available to all sociocultural groups, colleges tend to be more democratized than universities. Access to university is more likely to be related to social and cultural traits, while access to college tends to be more closely related to quality of previous schooling.

This data suggests a further opportunity to increase recruiting activities among: lower income families, rural communities, minority ethnocultural communities and Aboriginal groups and communities. Students from these groups may require different supports and services and more flexible program offerings than high school transition students.

Gender

Canada has one of the largest gender gaps in the OECD, and the gap has been widening recently. The gender wage gap has not significantly improved since the mid 90s, and on average women earn on average 70.5 per cent as much as their male counterparts. The gap is even greater for university-educated women who earn 68 per cent as much as university-educated men, 7 per cent lower than a decade ago.

Figure 5.11 - Male/female earnings ratio: Full time/full year workers



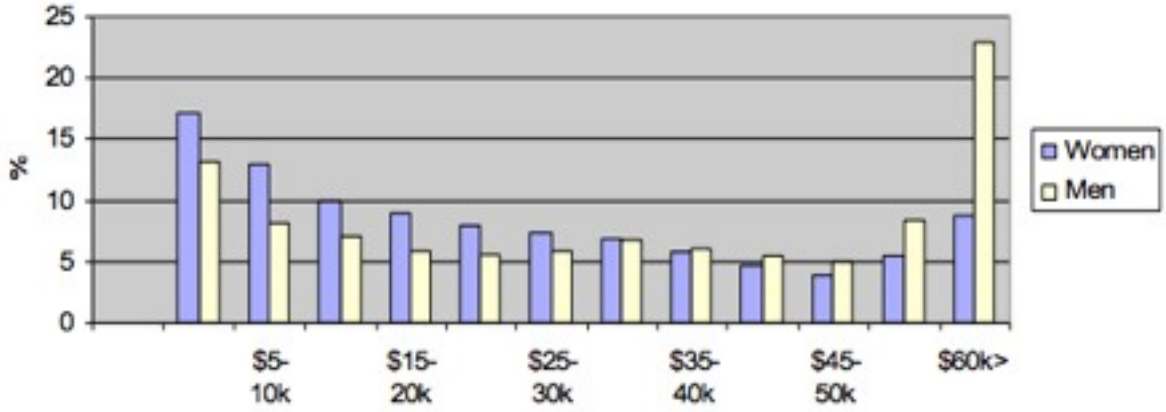
Source: Statistics Canada

Women are much more likely than men to be employed in low-paid, insecure jobs. Women are most under-represented in blue collar jobs (such as trades). Conversely, the wage gender gap tends to be the least pronounced in public-sector jobs, where more women work then men. During the recent economic turmoil, men tended to fare worse than women because of the highest losses in private-sector employment. A second wave of job losses in the private sector may result from public spending cuts in the coming years (see Section 3).

Similar numbers of men and women are participating in the labour market, and participation in education has been reversed: now more women are participating in post-secondary education than men. Unfortunately there is still significant gender economic

inequality. This is partly because of sectoral gender differences. Women are much more likely to work in low-wage, private-sector service jobs. Women are much less likely to be employed in average-pay blue-collar jobs. Although many more women are working in well-paying jobs, one of the most pronounced gaps is in highly-paid and senior-management jobs (see Figure 5.13). Educational institutions are uniquely positioned to impact these trends. Although gender equality has been heatedly debated as a social and political issue for over a century, there is still progress to be made.

Figure 5.12 - Distribution of annual earnings of women vs. men in 2005 (all earners)

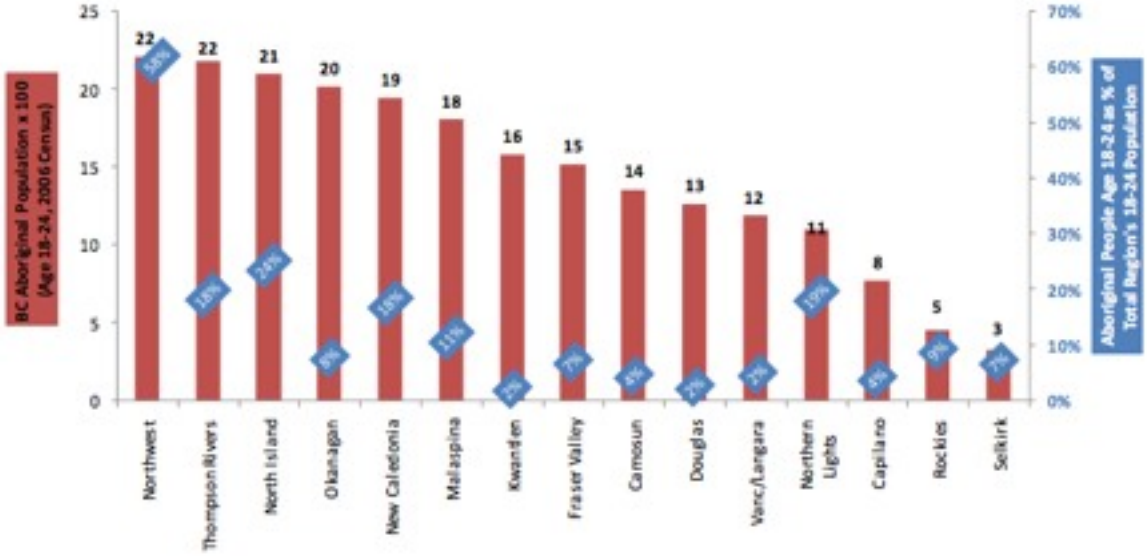


Source: Statistics Canada

5.2 Provincial & Regional

One of the most significant social disparities in British Columbia is between Aboriginal and non-Aboriginal populations. In BC, the Aboriginal population is growing at more than three times the rate of the non-Aboriginal population (15.3 per cent vs. 4.6 per cent). During the 2006 census, 196,070 Aboriginal people reported living in BC, representing 4.8 per cent of the population. However, Aboriginal students represent 10 per cent of the provincial K-12 population. Most Okanagan College regions have a greater proportion of Aboriginal students than the provincial average (except SD 23: Central Okanagan, with 9.9 per cent), with the highest proportion of Aboriginal students in a SD region being 38.7 per cent in the Okanagan-Similkameen region (see Section 6).

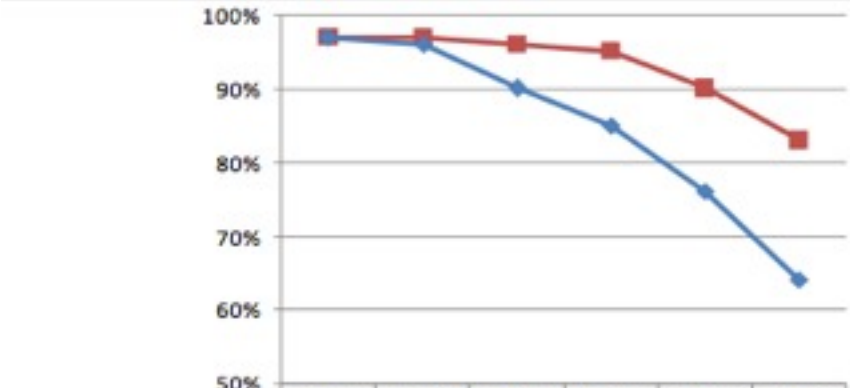
Figure 5.21 - BC Aboriginal population, age 18-24, by college region (2006)



Source: Ministry of Advanced Education

Aboriginal K-12 students have much lower grade-to-grade transition rates, and the gap increases at later grades (see Figure 5.22). However, there are large regional differences in Aboriginal and non-Aboriginal education disparities in British Columbia. For example, the Okanagan has one of the lowest disparities between Aboriginal and non-Aboriginal grade 12 graduates (see Figure 5.23).

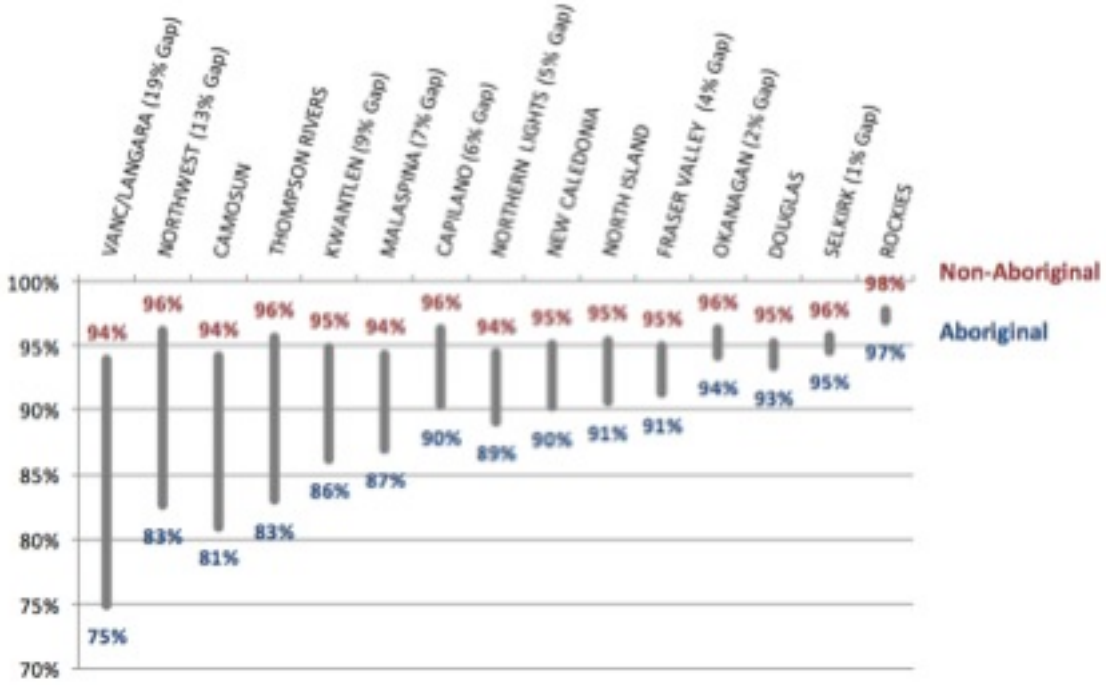
Figure 5.22 - BC transition rates from grade to higher grade



	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11
Non-Aboriginal	97%	97%	96%	95%	90%	83%
Aboriginal	97%	96%	90%	85%	76%	64%
Grade-to-Grade Transition Rate Gap	0%	1%	6%	10%	14%	19%

Source: Ministry of Advanced Education

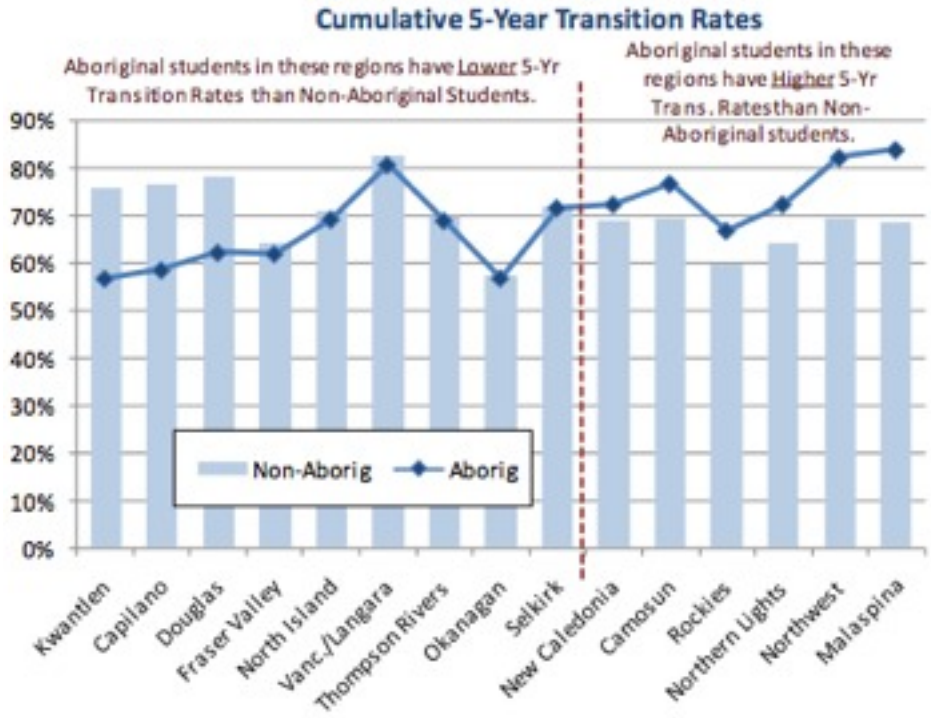
Figure 5.23 - 2005/2006 grade 12 graduates as % of eligible grade 12s: Aboriginal vs. non-Aboriginal



Source: Ministry of Advanced Education

The Okanagan also has a lower disparity between Aboriginal and non-Aboriginal student transition rates. In British Columbia about 9.7 per cent more non-Aboriginal students immediately transition from Grade 12 to public post-secondary institutions than Aboriginal students, whereas in the Okanagan, the gap is 4.7 per cent (the largest gap in BC is in the Capilano region at 28.1 per cent). The disparity is narrower with five-year cumulative transition rates, a three per cent gap provincially and a 0.6 per cent gap in the Okanagan (the widest gap is in the Kwantlan region, at 19.2 per cent).

Figure 5.24 - Transition rates of Aboriginal and non-Aboriginal high school graduates of 2001/2002, by college region



Source: Ministry of Advanced Education and Labour Market Development

Additional differences were present in other demographic characteristics of Aboriginal population. For example, while 69.2 per cent of Aboriginal grade 12 graduates entered post-secondary education within 5 years:

- 71.6 per cent of females and 66.2 per cent of males entered public PSE
- 91.7 per cent who spoke a non-English language at home (compared to 69.0 per cent who spoke English at home) entered PSE

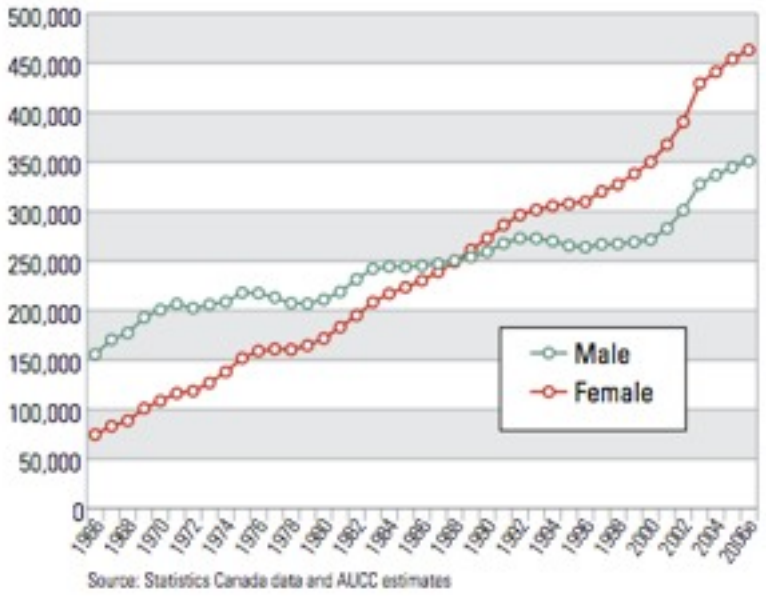
The Okanagan had the second lowest five-year Aboriginal transition rates to PSE, however, the Okanagan also has one of the lowest non-Aboriginal PSE transition rates.

6. Enrolment and Student Trends

6.1 National

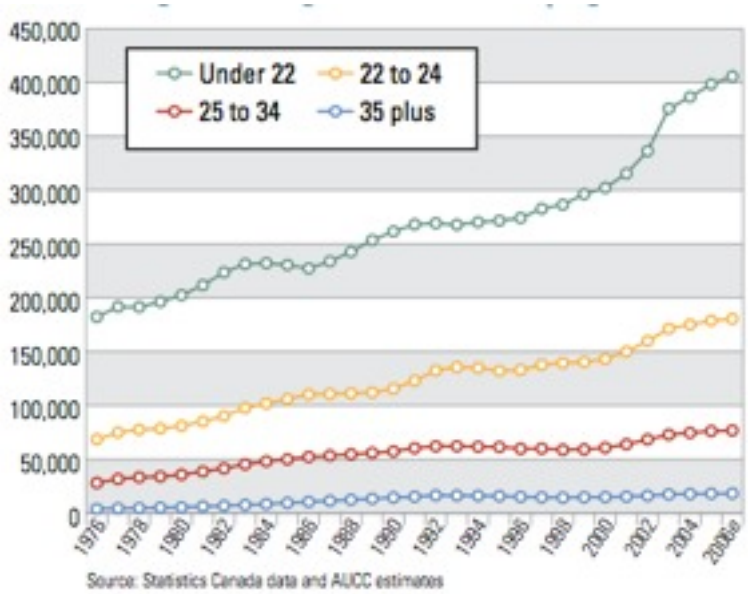
Enrolments in Canadian post-secondary education have steadily increased since the 1950s. This growth relates to population growth, but can also be attributed to increased participation rates and shifts in education demands from the labour market. This means more jobs are requiring higher levels of education, so a higher proportion of people enrol in post-secondary education. Since the 1970s women in Canada, as in many OECD countries, have accounted for a higher proportion of post-secondary enrolments (see Figure 6.11). Higher numbers of female enrolments have been one of the drivers of increased enrolments.

Figure 6.11 Total enrolments in Canada, by gender



Another significant driver of higher enrolments has been in the youngest cohorts (see Figure 6.12). However, there are significant provincial differences in this growth. In most provinces the age distribution has been relatively constant. The enrolment growth of the youngest cohorts are mostly influenced by Ontario, through the removal of the 5th year of secondary school in 2003. Overall, there has been enrolment growth from cohorts.

Figure 6.12 - Total enrolments in Canada, by age



Demographic trends affect post-secondary participation rates. The echo boom cohort (children of the post-WWII baby boom), fertility rates, internal migration and immigration will all influence post-secondary participation rates. A study from the Canada Millennium Scholarship suggests enrolments in Canada will peak at 2013, and begin to decline after that.

Statistics Canada has developed three possible projections for future enrolment trends based on potential demographic, social and historical trends:

1. Participation rates remaining at the average level
2. Growth in line with historical trends
3. Closing the gender gap, male participation rates matching that of females

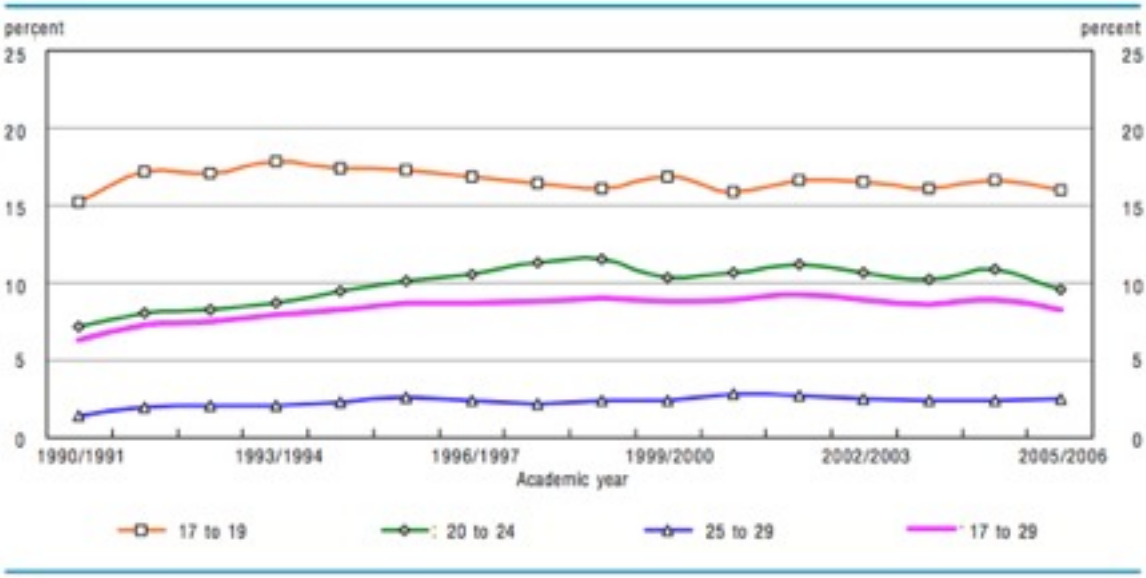
These projections assume moderate levels of fertility, life expectancy, immigration and internal migration persist. The validity of these projections are most threatened by potential changes in interprovincial migration, and it is important to consider the factors that influence interprovincial migration, such as regional economic shifts (see Section 4).

Figure 6.13 and 6.14 display historical full-time and part-time enrolment rates in Canadian colleges for students aged 17 to 29. This age range is used because it has, historically, the highest participation rate in post-secondary education. This population will have the greatest overall impact on post-secondary enrolment rates. However, it is important to

consider that other age groups with lower participation rates may provide growth opportunities, especially to augment lower enrolment rates in younger demographics.

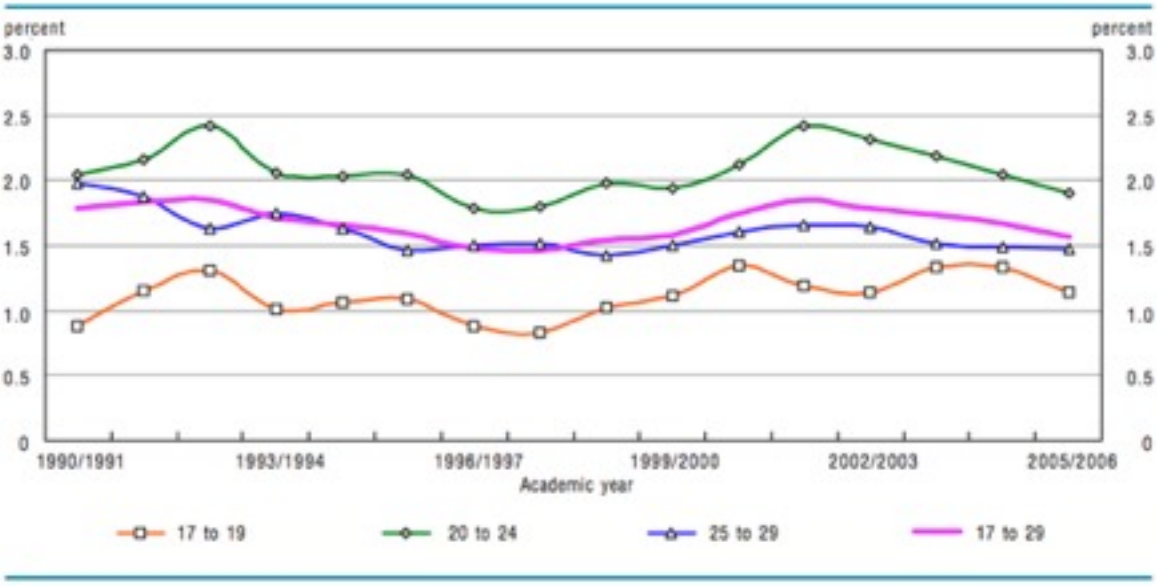
Projection 3, closing the gender gap, is omitted in this report because the effects of this projection would be minimal for Okanagan College. The gender gap is much narrower for colleges, and British Columbia has one of the narrowest gender gaps. Therefore, this projection would not have significant effects on Okanagan College.

Figure 6.13 Full-time college participation rate: Canada, 1990/1991 to 2005/2006



Source: Statistics Canada

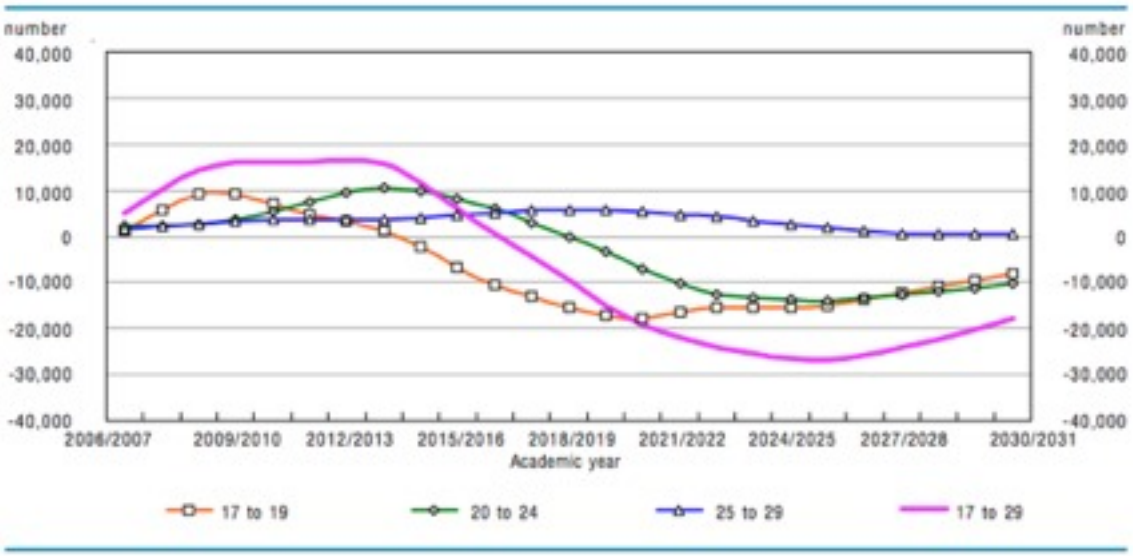
Figure 6.14 - Part-times college participation rate: Canada, 1990/1991 to 2005/2006



Source: Statistics Canada

Projection 1: Participation rates remaining at the average level.
If participation rates remain stable, enrolments will increase until 2012/2013. Then, the shrinking youth cohort will result in steadily declining enrolments. The decreasing numbers in the youngest cohort will begin to cause a decline after 2009/2010. Enrolments will decrease until reaching a low point at 2025/2026, and then begin to increase. Colleges will experience a less drastic decline in enrolments than post-secondary institutions overall, because of lower college participation rates (see Figure 6.15 and 6.16)

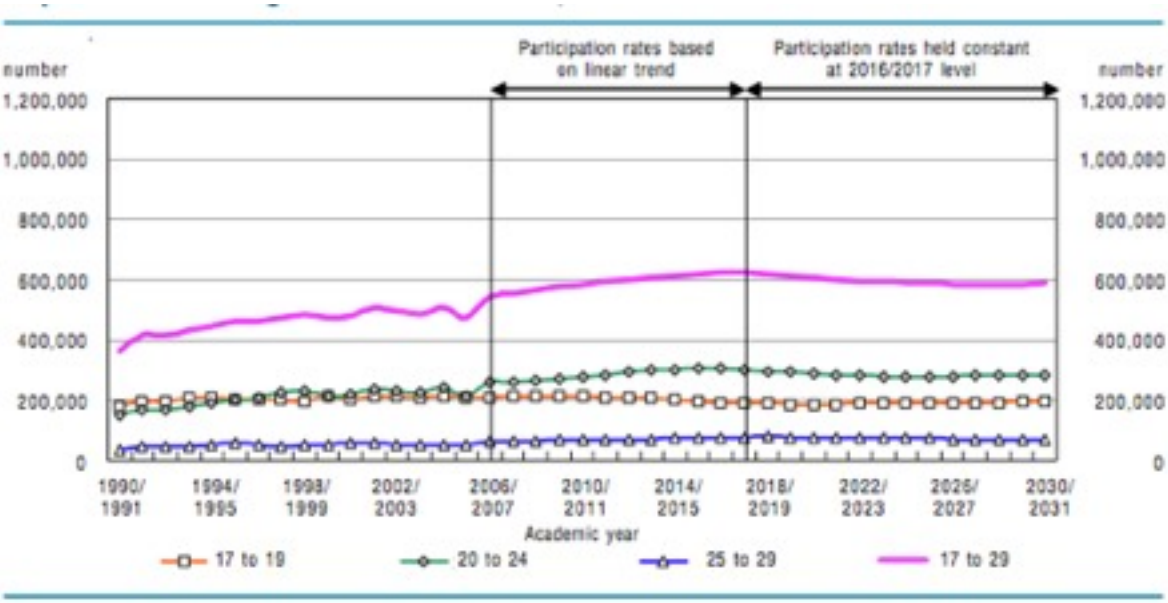
Figure 6.15 - Difference in full-time college enrolment between the 2003/2004-to-2005/2006 average and projected enolment: Canada, 2006/2007 to 2030/2031



Source: Statistics Canada

Projection 2: Growth in line with historical trends
If participation rates continue to increase, as they have previously, college enrolments will increase gradually.

Figure 6.16 - Projected full-time college enrolment to 2030/2031, Canada

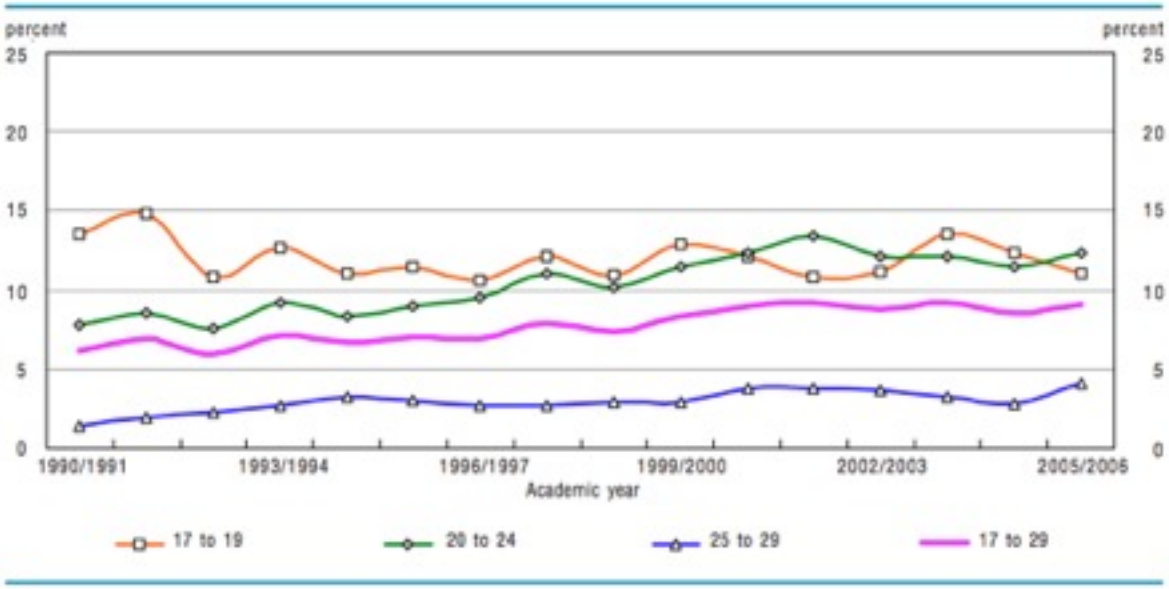


Source: Statistics Canada

6.2 Provincial

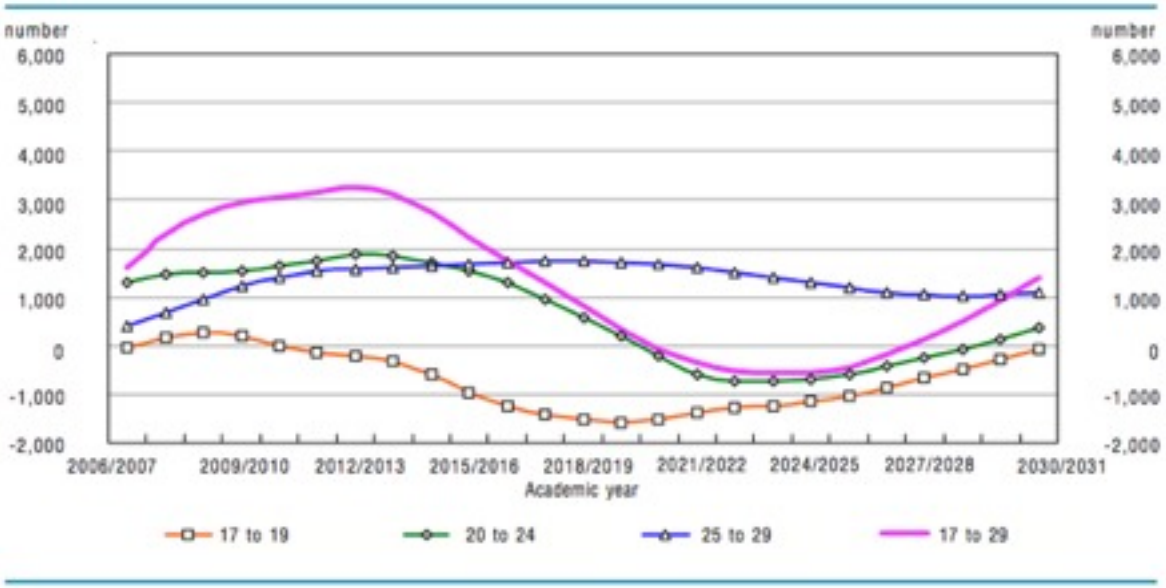
Projection 1: Participation rates remaining at the average level.
British Columbia will be one of the provinces least affected by decreasing enrolments and provincial enrolment variability is among the lowest in the country. If participation rates remain stable, enrolments will only decline slightly in the 17 to 29 cohort in British Columbia. Enrolments will dip only slightly below 2002/2003 levels. This also means attracting groups with historically lower participation rates would help to bolster declining enrolments.

Figure 6.21 Full-time college participation rate: British Columbia, 1990/1991 to 2005/2006



Source: Statistics Canada

Figure 6.22 - Difference in full-time college enrolment between the 2003/2004 to 2005/2006 average and projected enrolment: British Columbia, 2006/2007 to 2030/2031



Source: Statistics Canada

Okanagan College has one of the highest utilization rates of post-secondary institutions in British Columbia. Okanagan College has had full-time enrolments (FTE), over 100 per cent of targets since 2005/2006 and has one of the highest proportions of FTEs of BC colleges.

Figure 6.23 College share of BC college FTEs

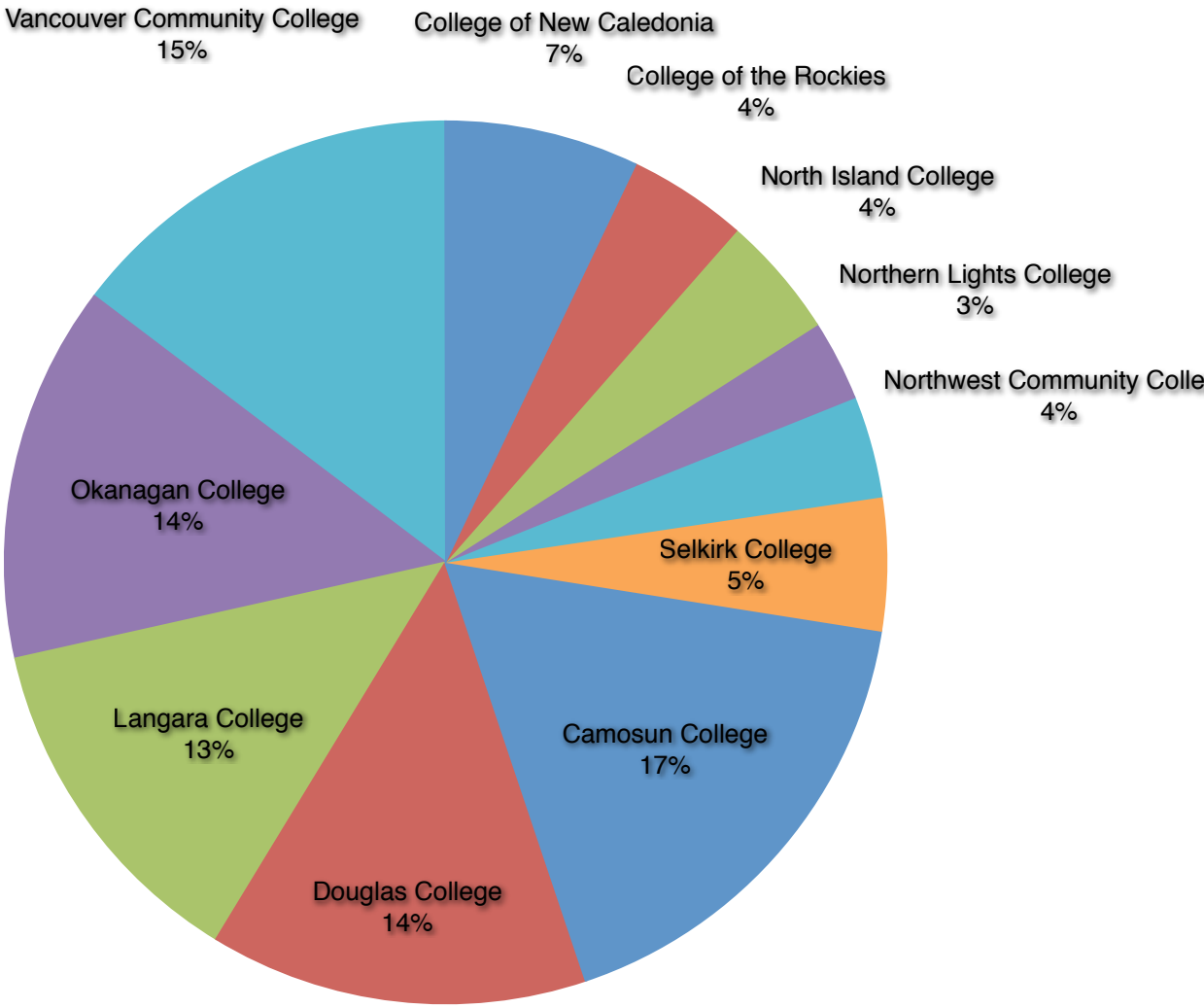


Figure 6.24 shows student mobility rates, and most popular destinations for Okanagan College students. Okanagan College has one of the lowest student mobility rates of post-secondary institutions in BC (11 per cent).

Figure 6.24 - Top destinations of "movers" in 2006/2007 from Okanagan College in 2005/2006

	Percent	Count
UBC Okanagan	35%	161
Thompson Rivers University	11%	51
Thompson Rivers University - Open Learning	10%	47
All other destinations	44%	200

6.3 Regional

School districts in Okanagan College area:

- 19 - Revelstoke
- 22 - Vernon
- 23 - Central Okanagan
- 53 - Okanagan Similkameen
- 58 - Nicola Similkameen
- 67 - Okanagan Skaha
- 83 - North Okanagan Shuswap

Figure 6.31 shows the K -12 enrolments in each school district. These school district enrolments mirror demographic trends (Section 4). Most school districts have the largest population in Grade 12, with decreasing numbers of students in each earlier grade. There are a few regional exceptions to this trend. SD58 - Nicola Similkameen and SD67 - Okanagan Skaha have the highest enrolments in earlier grades. Figure 6.32 shows demographic group distributions in each school district by K-12 year.

Figure 6.31 - K - 12 enrolments by school district (2009/2010 school year)

	SD19	SD22	SD23	SD53	SD58	SD67	SD83
K	59	511	1386	160	142	303	391
1	72	591	1441	152	126	363	418
2	70	545	1413	164	156	378	397
3	82	592	1473	166	156	400	456
4	72	547	1492	193	145	426	432
5	66	604	1589	181	168	439	459
6	77	639	1502	197	173	447	490

	SD19	SD22	SD23	SD53	SD58	SD67	SD83
7	82	640	1757	208	197	510	516
8	93	687	1719	199	219	554	536
9	97	776	1850	204	217	606	584
10	97	830	1983	235	274	624	672
11	82	849	1956	250	331	764	643
12	100	859	2171	265	305	603	944

Source: BC Ministry of Education

Figure 6.32 - Group distribution of K-12 enrolments, by school districts (2009/10 school year)

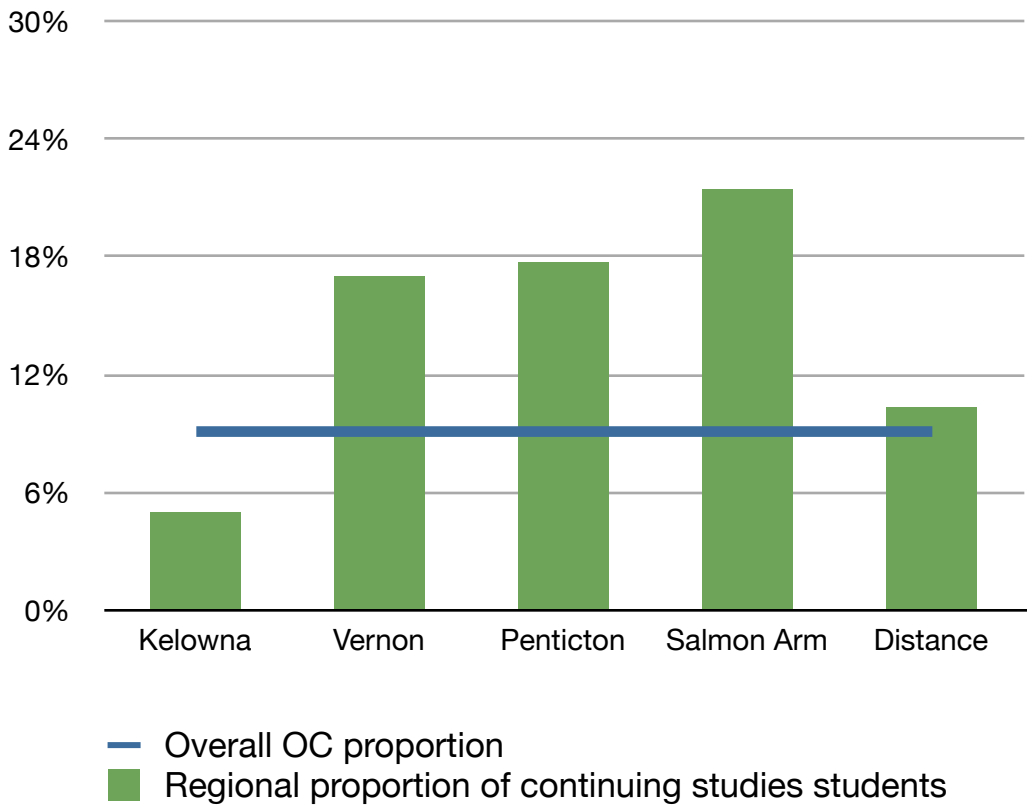
	SD19	SD22	SD23	SD53	SD58	SD67	SD83
Female	47.8%	48.9%	48.8%	51.2%	50.4%	50.6%	50.1%
Male	52.5%	51.1%	51.2%	48.8%	49.6%	49.4%	49.9%
Aboriginal	10.6%	13.2%	9.9%	13.3%	38.7%	10.8%	14.5%
ESL	0.3%	0.6%	1.6%	5.9%	3.1%	1.5%	0.9%
French Immersion	0.0%	10.9%	8.5%	0.0%	5.9%	9.6%	7.8%
Sensory Disabilities	0.1%	0.4%	0.2%	0.3%	0.2%	0.2%	0.7%
Learning Disabilities	9.6%	2.1%	2.4%	3.7%	4.0%	5.3%	4.0%
Behaviour Disabilities	0.8%	2.6%	2.3%	3.0%	6.0%	4.7%	3.3%
Gifted	2.3%	0.3%	0.4%	1.0%	0.1%	2.3%	3.5%

Source: BC Ministry of Education

6.4 Okanagan College

The following figures show regional enrolment enrolment differences by program. These provide a quick summary of enrolment trends. More comprehensive enrolment information can be found on Okanagan College's Institutional Research webpage, and in the Resources section.

Figure 6.41 - Regional proportions of FTEs from continuing studies



Source: Okanagan College Institutional Research, 2010

Figure 6.42 - Total FTEs by campus and program

		Kelowna	Vernon	Penticton	Salmon Arm	Distance	Total
Arts	%	8.8%	18.4%	14.5%	10.5%	17.8%	11.0%
	Count	478.1	173.1	118.4	65.8	51.6	887
Foundational	%	8.5%	23.0%	26.4%	20.5%	13.5%	13.1%
	Count	461.0	216.8	215.5	128.1	39.2	1060.6
International	%	0.9%	2.0%	-	1.1%	0.1%	0.9%
	Count	50.2	19.2	-	7.1	0.3	76.9
Okanagan School of Business	%	11.0%	11.7%	5.4%	4.0%	41.4%	11.0%
	Count	594.2	110.3	43.8	25	120.2	893.4

		Kelowna	Vernon	Penticton	Salmon Arm	Distance	Total
Office Administration	%	1.8%	4.3%	2.1%	1.9%	13.8%	2.6%
	Count	97.6	40.8	17.1	12.0	40.2	207.5
Sciences	%	0.024179716	0.044803058	0.053676471	0.015185422	0.013434378	0.028473312
	Count	131.1	42.2	43.8	9.5	3.9	230.5
Technologies	%	4.3%	-	-	-	0.3%	2.9%
	Count	234.5	-	-	-	0.8	235.3
Health and Social Development	%	6.3%	7.8%	5.4%	11.9%	0.4%	6.6%
	Count	341.7	73.9	44.2	74.2	1.2	535.2
Trades and Apprenticeship	%	50.9%	11.7%	23.5%	26.5%	0.1%	39.9%
	Count	2759.0	109.8	191.8	166.0	0.2	3226.7
Continuing Studies	%	5.1%	16.5%	17.3%	22.0%	11.3%	9.2%
	Count	274.5	155.8	141.4	137.9	32.7	742.2
Total	%	100%	100%	100%	100%	100%	100%
	Count	5421.9	941.9	816	625.6	290.3	8095.3

Source: Okanagan College Institutional Research (2009-2010 Fiscal Year)

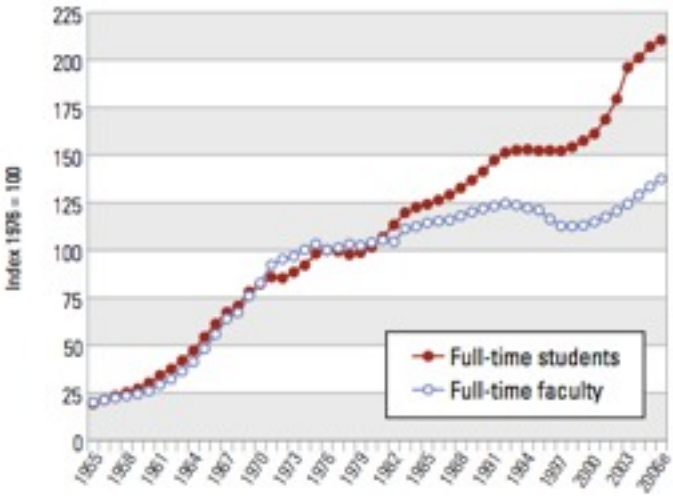
7. Faculty and Staff

7.1 National

A report from The Association of Universities and Colleges of Canada (AUCC) outlines some important trends in faculty changes in the last three decades. Growth of faculty and students in Canada are outlined in Figure 7.11.

- The number of Canadian faculty members grew 21 per cent (from 33,700 to 40,800), while student enrolments grew 37 per cent. The ratio of full-time students to full-time faculty is higher than it has ever been (see Figure 7.11)
- In the next decade, about 21,000 faculty members will need to be replaced.
- Projections estimate in Canada between 3,600 and 13,600 new full-time faculty members will need to be hired (9-33 per cent increase). However, there are significant provincial differences.
- Women have been closing the gender gap in the last three decades, but women are most under-represented in the highest ranks of the faculty.
- Demographic shifts in faculty ages have started to flatten out the age distribution in faculty members.

Figure 7.11 - Growth of full-time faculty and full-time students (as a % of 1976 levels)



Source: Association of Universities and Colleges of Canada

7.2 Okanagan College

Figure 7.21 Total number of Okanagan College employees

N		2009	2007
1	Administration**	92	95
2	Excluded Staff	22	20
3	Faculty	240	223
4	Vocational	181	175
5	Support	451	393
6	Total w/o No Bargaining Group (NBG)	986	906
7	*No Bargaining Group (NBG)****	60	65
8	Total including No Bargaining Group (NBG)	1046	971

Source: Okanagan College Institutional Research, Employee Survey 2009

Okanagan College conducted employee surveys in 2007 and 2009 which asked 56 questions related to 5 themes:

- Identification with Okanagan College
- Working relationships
- Work satisfaction
- Information and decision making
- Rewards and recognition

Most employees who responded to the survey expressed satisfaction with employment at Okanagan College

Figure 7.22 Distribution of employee 'satisfaction with employment' responses, by year

Year	Question	Percent Disagree	Percent No Opinion	Percent Agree
2009	Overall I am satisfied with my employment at Okanagan College	10.1	8.4	81.5
2007	Overall I am satisfied with my employment at Okanagan College	13.7	7.7	78.6

Source: Okanagan College Institutional Research

Respondents to the employee survey suggest most employees at Okanagan College:

- Have the skills needed to perform their work effectively
- Are proud to work at Okanagan College
- Enjoy working with colleagues in their department
- Enjoy flexibility, autonomy and their work environment
- Enjoy working with students

The most frequent area of concern were (see Figure 7.33):

- Training and orientation for new employees
- Feedback and communication from supervisors
- Work-life balance
- Retention strategies
- Promotion and advancement opportunities

Figure 7.23 Employee survey responses, areas of concern, by question and year

Year	Question	Percent Disagree	Percent No Opinion	Percent Agree
2009	New employees receive appropriate orientation and training	49.7	26.6	23.7
2007	New employees receive appropriate orientation and training	53.5	21.6	24.9
2009	I received appropriate orientation and training to assist me in doing my job well	50.4	19.9	29.7
2007	I received appropriate orientation and training to assist me in doing my job well	50.0	14.5	35.5
2009	Okanagan College has strong employee retention strategies	37.1	35.4	27.5
2007	Okanagan College has strong employee retention strategies	46.2	34.4	19.5

Source: Okanagan College Institutional Ressearch

8. Post-Secondary Trends

8.1 International

The Center for Educational Research and Innovation (CERI), part of the OECD has outlined the challenges and opportunities for European universities in the future. Many of these recommendations stem from similar conditions in North America.

The recent economic context, which has had a significant impact on the global economy, means that in the short term more people will be working to upgrade their skills, or to gain new skills to find employment. However, the long-term implications mean that to overcome the current financial situation and mitigating future economic crises, it is critical to invest in human and social capital. This means post-secondary institutions need to train the future workforce with new skills, and train more highly skilled workers to be competitive in the increasingly knowledge-based economy.

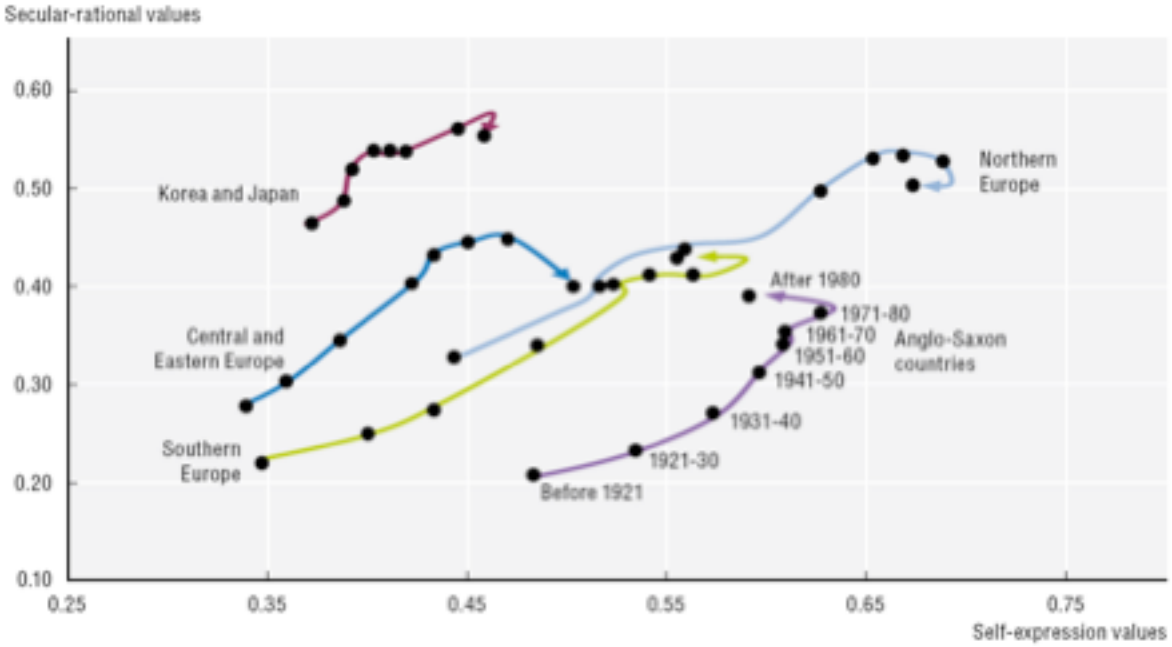
The 21st century economy will need to focus on new skills as well as more skills. The CERI reports that skills like “creativity, entrepreneurship, critical thinking, curiosity, team work, leadership and problem solving” will need to have a stronger place in the curriculum. Post-secondary education needs to teach students the necessary course and program skills, and skills required to adapt to shifts in the labour market and society. Post-secondary education needs to focus on utilization of skills, instead of just teaching skills.

Demographic shifts in Europe mirror those currently taking place in Canada. An aging population means that a greater number of this population will be dependent on the younger population. This has two important implications. First, it will be essential to emphasize continual development and learning with younger people. Second, it will be necessary to utilize the skills and talents in older populations. This means post-secondary institutions will need to be able to train and education older people. Institutions will require more flexible structures to accommodate shifting demographics. This is critical, because the demographic shift will become more pronounced in the next 50 years in the developed world.

Demographic shifts will accompany social shifts because larger immigrant populations will be required to fill labour market openings in developed countries. Growing minority populations means that post-secondary institutions will have a critical role to play, as higher education will likely remain the most effective type of meritocracy and impetus for social mobility. Post-secondary institutions have a responsibility to provide education that is accessible to the entire population and to take on a positive role for social justice and equality. In addition, increasing access to education will ensure that there are fewer untapped reservoirs of talent. All social and cultural groups need to participate in, and contribute skills, to the economy and society.

An investigation of social trends also found that students are embracing more secular values, self-expression and self-directed learning (See Figure 8.5). These shifting values means that institutions will have to adjust their systems and practices to adapt most effectively to social change.

Figure 8.11 - Global value change - more secular, more oriented to self-expression



It is necessary for post-secondary institutions to take an active role, developing policy and practice to ensure access, and participation of under-represented groups in post-secondary education. This is important for the economic benefits, but even more important for social justice and cohesion. The greatest growth and improvement potential for post-secondary education will be in diversifying student populations. This growth includes minority groups, immigrants, and older learners. Growth in diversity needs to accompanied by a diversity of teaching methods and educational structures to ensure success can be realized in a diversified population. Active policies will be necessary to ensure assistance is provided where needed

CERI suggests post-secondary institutions will be most successful encouraging participation from under-represented groups that can:

- Expand the number of learners
- Become more efficient and adaptable at teaching
- Grow and encourage diverse populations

Institutions that are successful at attaining these goals will become more competitive in both local and global markets.

Bologna Accord

The Bologna Accord is an agreement to reform education in 46 European countries, and is the agreement to implement the Bologna Process. The strategic goals of the Bologna Process include:

1. Degree and curriculum reform
2. Quality assurance
3. Qualification frameworks
4. International recognition of degrees
5. Widening access to and increasing participation in higher education
6. Mobility with the European Higher Education Area (EHEA) and internationally
7. Improve attractiveness of European higher education

In many ways these strategic goals address challenges that North American universities also face. An independent report (completed by the Center for Higher Education Policy Studies) assessed the success of the strategic objectives, by examining the extent to which the success of operational objectives led to the achievement of the strategic objectives.

This is important to Okanagan College's strategic planning process for a number of reasons. First, many of the issues addressed by the Bologna Process are issues that Canadian colleges, including Okanagan College, are facing. Second, the strategic objectives include specific, measurable, operational objectives. This allows the strategic objectives to be evaluated effectively.

Center for American Progress

The Center for American Progress has released publications recommending future directions for community colleges in the USA (see Resources). Some of the issues described are only peripherally relevant to Okanagan College, however most are relevant to varying degrees. They themes are:

1. **Improving data collection and assessment** this includes gathering more data about students and programs, as well as standardizing data collection between institutions. This data would be used to be able to evaluate the post-secondary education system more comprehensively. This also means standardizing measures with the K-12 system, and incentivizing collaboration with K-12 institutions.

2. **Promoting developmental education** by encouraging collaboration between post-secondary and K-12 institutions. The goal of this would be to ensure students are more prepared for post-secondary education, and would reduce the amount of remedial education at the post-secondary level.
3. **Increasing transfer rates** and student mobility between post-secondary institutions. This includes using technology to increase students' access to other programs and institutions and offering joint baccalaureate programs with other post-secondary institutions.
4. **Improving technology and infrastructure** through modernization of all facilities, including information technology. This also means improving institutional information management systems. Increased funding for community colleges is necessary for this.
5. **Increasing funding** for community colleges through new and comprehensive support for colleges and students.
6. **Developing new approaches to training and credentialing** to respond to student and community needs. This includes developing new approaches to sub-baccalaureate training and developing credit-based programs that respond to demand and ladder to future training and degrees.

8.2 National

Canada's post-secondary system has achieved considerable success, which translates into considerable advantages for its students. Nearly half of adults 25 to 34 years old hold post-secondary credentials (significantly above the OECD average of 33 per cent). In Canada there are a variety of college models, based on provincial needs and expectations. Dennis & Gallagher (1995) identified five models of the Canadian college system:

1. **Colleges to complement universities**: these colleges are designed to educate and train people who are not eligible for university. Primarily, these colleges are to prepare people for entry into the workforce.
   - Provinces: Ontario, Prince Edward Island

2. **Colleges that provide comprehensive post-secondary education**: these colleges, based on the system in California, are designed to provide university transfer programs as well as vocational programs.
   - Provinces: British Columbia, Alberta

3. **Vocational-technical colleges**: these colleges have no transfer functions, and focus on shorter-term work entry programs and technological education.
   - Provinces: Manitoba, New Brunswick, Newfoundland, Northwest Territories, Yukon Territory

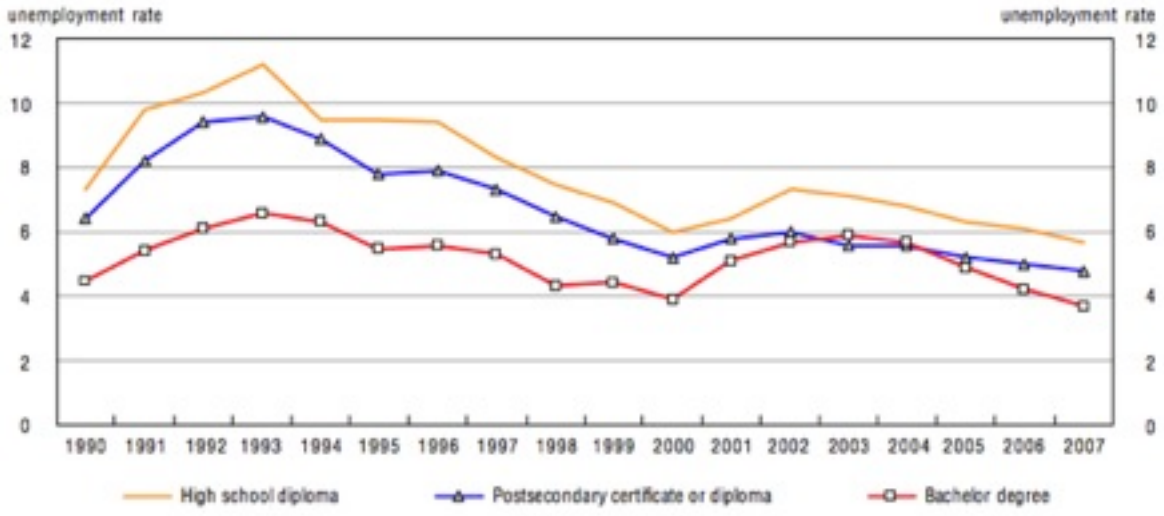
4. **Colleges without walls**: are designed as brokers of education, to partner with different educational institutions to meet student and labour market needs.
   - Provinces: Saskatchewan

5. **General and vocational education**: based on the European system, these colleges offer 2-year university preparation programs and 3-year career preparation programs.
   - Provinces: Quebec

Canada has one of the leading post-secondary education systems, and one of the most educated populations in the world. Canada has the fourth highest proportion of the working-age population with a baccalaureate degree (20 per cent). Also, Canada has a very high ratio of colleges to universities, with 74 universities, and at least twice as many colleges. Thus, Canada has the second highest proportion of working-age people with a college credential (21 per cent), second only to Ireland. The college system in some provinces, such as British Columbia, makes some Canadian colleges well poised to enhance student mobility between institutions, programs, and jurisdictions.

These achievements translate into important outcomes for students. Figure 8.21 shows that post-secondary qualifications are related to lower unemployment rates.

Figure 8.21 - Unemployment rates by level of education, 25 to 44 year olds, 1990 to 2007

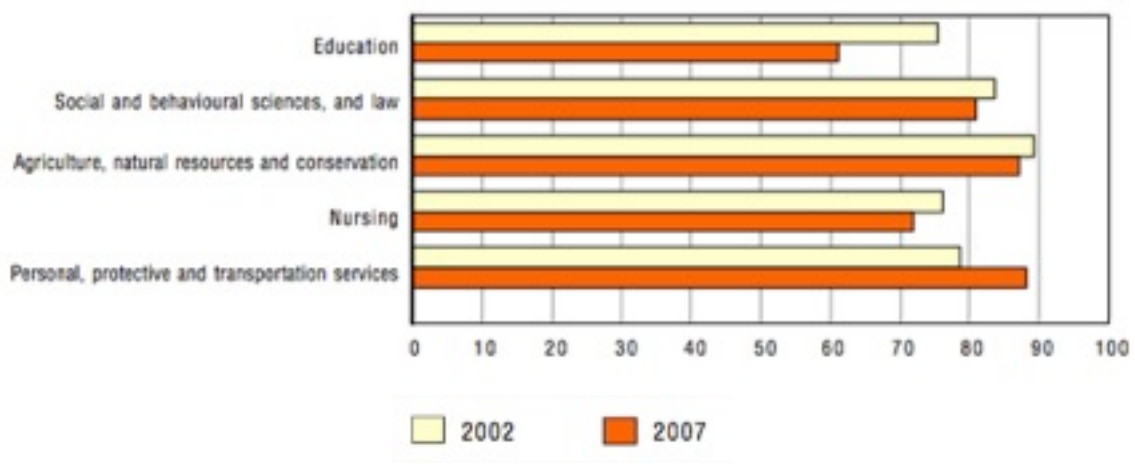


Source: Statistics Canada

However, different fields of study are linked to different employment (Figure 8.22) and income (Figure 8.23) outcomes. For example, students who graduate from college in the 'architecture, engineering and related technologies' have the highest median earnings two

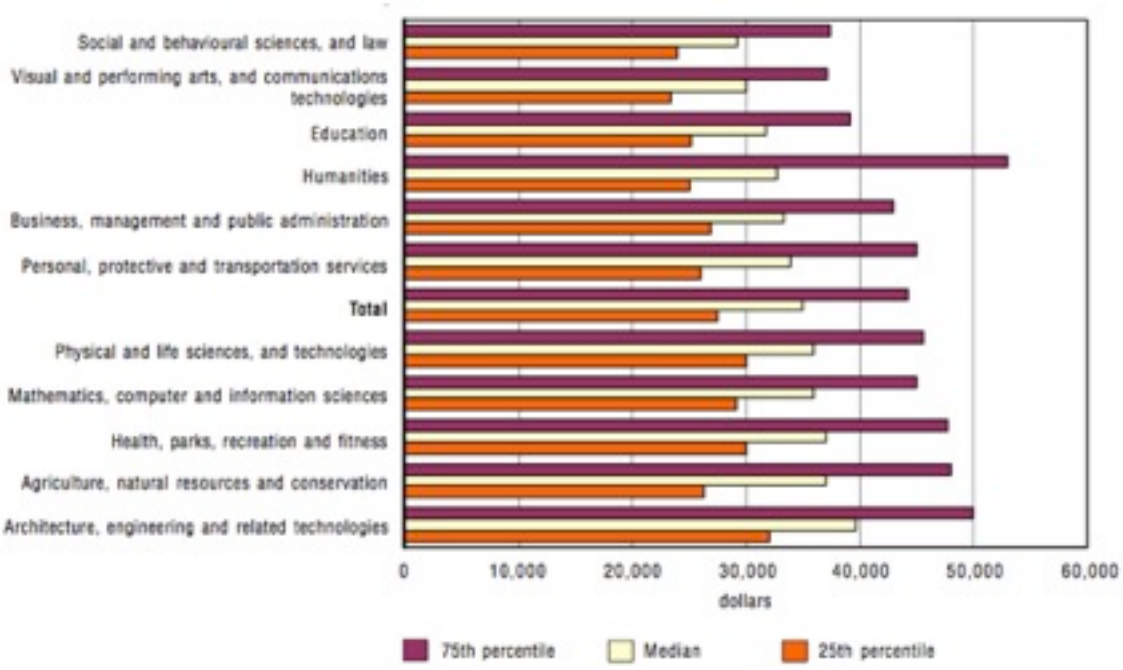
years after graduating, while students in ‘social behavioural sciences and law’ have the lowest median income two years after graduating.

Figure 8.22 - Rate of full-time employment two years after graduation for 2000 and 2005 college graduates, by selected field of study



Source: Statistics Canada

Figure 8.23 - Earnings distribution of 2005 college graduates working full time 2007, by field of study

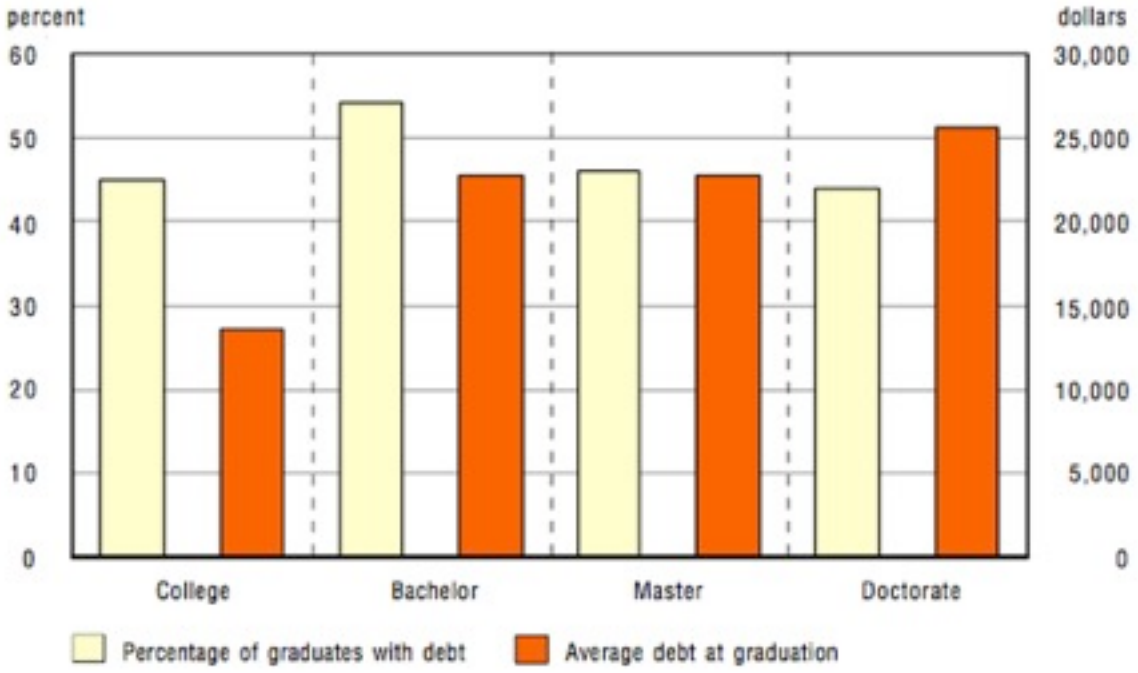


Source: Statistics Canada

Statistics Canada’s National Graduates Survey also showed that college students have relatively low debt, compared to other post-secondary graduates, and a much smaller proportion of college graduates had debt after completing their degree compared to other

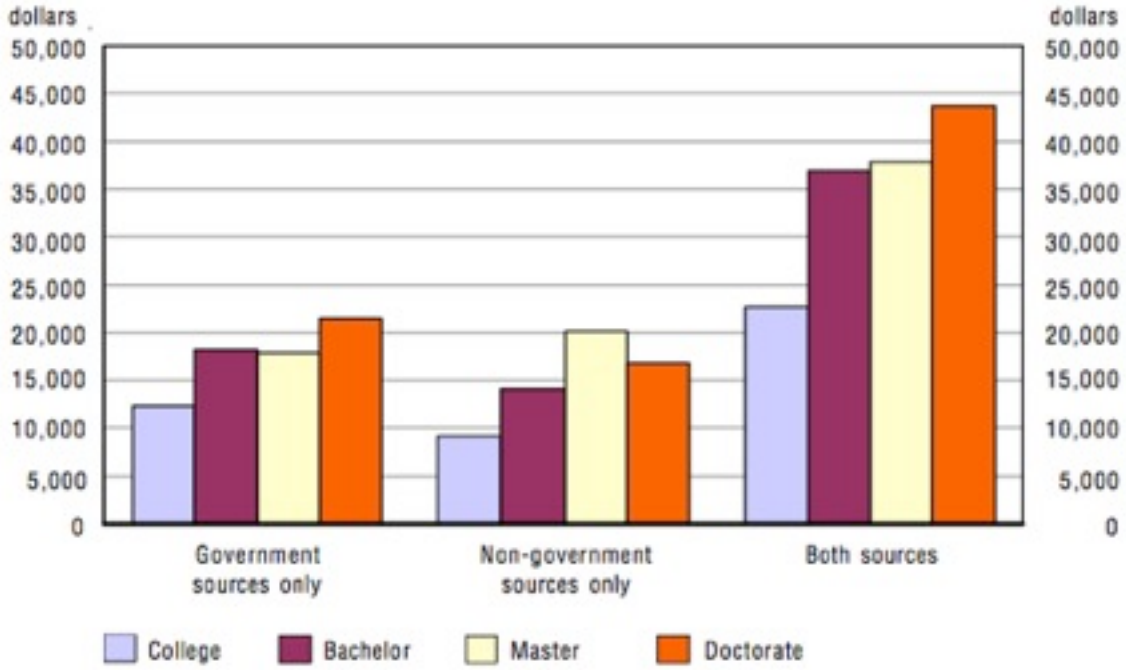
post-secondary graduates (see Figure 8.24 and 8.25). Also, 17 per cent of college students in 2000 had paid off their debt within two years of graduating (20 per cent in 2005). Only 12 per cent of college students had accumulated a ‘large’ debt (over $25,000) and 46 per cent had only a ‘small’ debt (under $10,000).

Figure 8.24 - Incidence and average amount of debt to all sources (government and non-government) at time of graduation, by level of study



Source: Statistics Canada

Figure 8.25 - Average amount owed to government sources only, non-government sources only, and both sources, by level of study

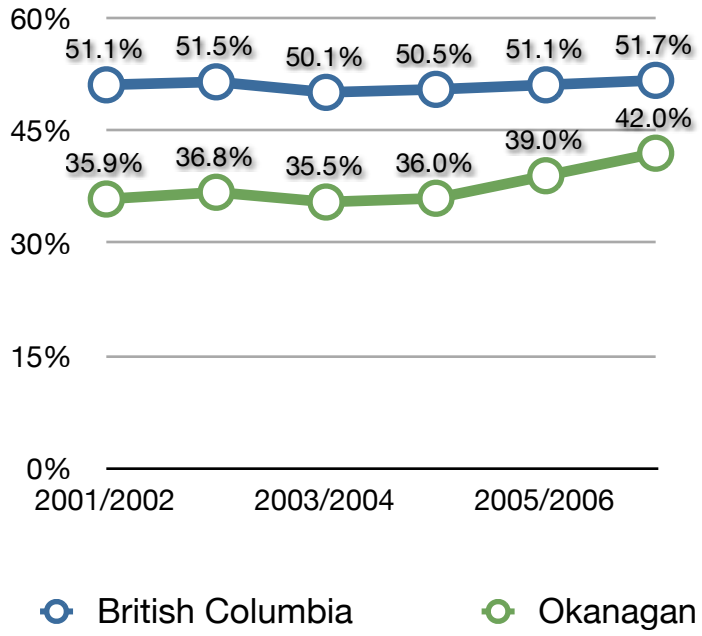


Source: Statistics Canada

8.3 Provincial and regional

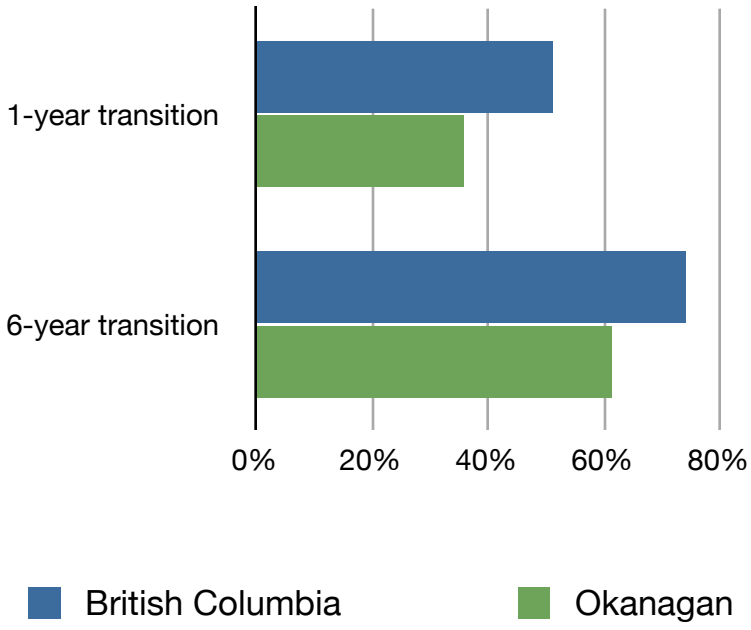
The Okanagan region has one of the lowest transition rates from high school to post-secondary education in British Columbia. Figure 8.31 - 8.33 show transition rates for the Okanagan and comparison with British Columbia average. Figure 8.34 displays the top destination cities for high school graduates. Kelowna is the top destination outside the Lower Mainland.

Figure 8.31 - Okanagan and British Columbia 1-year transition rates from high school to post-secondary education, 2001/2002 - 2006/2007.



Source: Student Transitions Project

Figure 8.32 - 2001/2002 1-year and 6-year cumulative transitions from high school graduation to public post-secondary education, British Columbia and Okanagan



Source: Student Transitions Project

Figure 8.33 - Post-secondary transitions from high school graduation to BC public post-secondary education, Okanagan

BC City	Count	%
VANCOUVER	2,056	25.4%
LANGLEY	960	11.9%
SURREY	886	11.0%
BURNABY	864	10.7%
ABBOTSFORD	736	9.1%
KELOWNA	566	7.0%
VICTORIA	502	6.2%
KAMLOOPS	183	2.3%
NEW WESTMINSTER	175	2.2%
CAMPBELL RIVER	155	1.9%
VERNON	147	1.8%
RICHMOND	127	1.6%
MAPLE RIDGE	117	1.4%
CHILLIWACK	90	1.1%
PRINCE GEORGE	86	1.1%
COURTENAY	78	1.0%
PENTICTON	60	0.7%

Source: Student Transitions Project

Figure 8.34 - Top BC destinations of BC grade 12 graduates

Okanagan Region		Post-Secondary School Year							
HS Grad Year		2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	No Transition (Yet)	Grand Total
2001/2002	Count of HS Grads	1,343	429	187	116	96	85	1,488	3,744
	% of HS Grad Class	35.9%	11.5%	5.0%	3.1%	2.6%	2.3%	39.7%	100.0%
2002/2003	Count of HS Grads		1,445	444	192	117	126	1,602	3,926
	% of HS Grad Class		36.8%	11.3%	4.9%	3.0%	3.2%	40.8%	100.0%
2003/2004	Count of HS Grads			1,299	375	201	152	1,636	3,663
	% of HS Grad Class			35.5%	10.2%	5.5%	4.1%	44.7%	100.0%
2004/2005	Count of HS Grads				1,297	390	251	1,666	3,604
	% of HS Grad Class				36.0%	10.8%	7.0%	46.2%	100.0%
2005/2006	Count of HS Grads					1,568	522	1,932	4,022
	% of HS Grad Class					39.0%	13.0%	48.0%	100.0%
2006/2007	Count of HS Grads						1,626	2,243	3,869
	% of HS Grad Class						42.0%	58.0%	100.0%

Source: Student Transitions Project

A thorough examination of regional socioeconomic differences in British Columbia provides additional insight into factors that predict transition rates. Using socioeconomic data from each of British Columbia's college regions, clear relationships emerge between the socioeconomic variables and participation rates. It appears that high school success, health, strong employment and larger immigrant populations all contribute to high regional transition rates. Six variables, in order of influence, together, are predictive of high transition rates. The combination of six variables has a very strong relationship with transition rates (81 per cent of regional variance in transition rates can be predicted from these variables*). The following are predictive of higher transition rates in a region.

1. Higher proportion of students who write/pass provincial exams
2. Higher life expectancy
3. Higher per cent of students above standard (of those writing) in math -
4. Lower unemployment
5. Larger immigrant populations
6. Better physical health (lower death rate from natural causes)

*$F(6,8) = 5.8$, $p < 0.05$, $R^2 = 0.81$

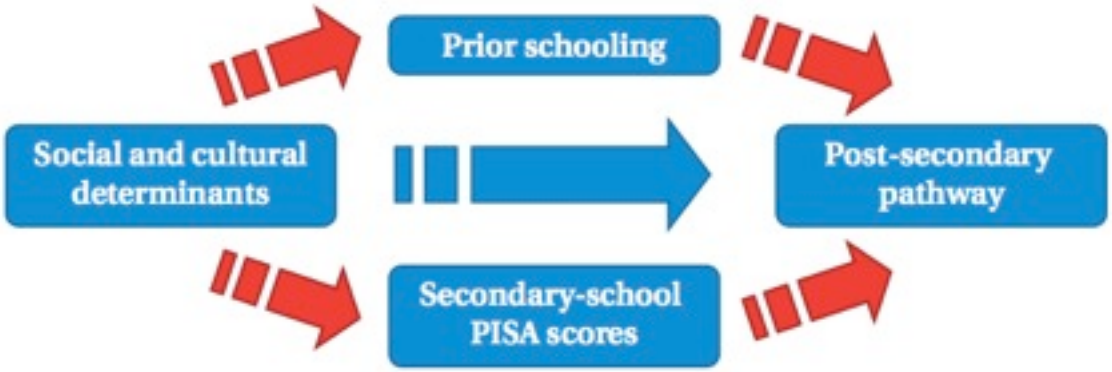
These findings are also noteworthy because:

- Crime rates (including juvenile crime) were not predictive of transition rates
- Higher proportion of students who wrote and passed provincial exams and higher percentage of students above standard in math was predictive of higher transition rates. However, high achievement of students was not related to higher transition rates.
- Regions with healthy populations had much higher transition rates
- Lower unemployment contributes to higher transition rates, however income and affluence are not predictive of high transition rates.

It is important to remember that these predictors are of the overall transition rates for a region, not likelihood of individual students to transition to post-secondary education. However, these data suggest that to increase transition rates in a region it would be necessary to improve health, decrease unemployment and increase the number of high school students writing/passing provincial exams and meeting minimum standards in math.

The Millennium Scholarship Foundation found social and cultural factors, prior schooling and cognitive abilities influence post-secondary pathways. Figure 8.35 shows a model posited by the Millennium Scholarship Foundation for individual post-secondary pathways. In this model social and cultural determinants are mediated by prior education and achievement test scores. It is important to consider this model as applied to individual learners' post-secondary pathways.

Figure 8.35 - Factors affecting post-secondary pathways



Source: Millennium Scholarship Foundation

To understand transition rates, it is helpful to investigate the relationship between transition rates and other factors on a different scale. It is extremely difficult to predict based on socioeconomic factors, the future of an individual student. However, when one examines British Columbia's regions as units of analysis clear patterns emerge.

In this analysis, regional transition rates were used from the Student Transitions Project, and regional socioeconomic factors were obtained from BC Statistics. This analysis is particularly pertinent to Okanagan College because the Okanagan region has one of the lowest transition rates in British Columbia.

9. Technology

9.1 Web 2.0

Web 2.0 describes a variety of information and communication technologies that are widely accessible, and used for collaboration and communication. Examples of Web 2.0 technologies include:

- Blogs
- Wikis
- Photo and video sharing websites
- Social networking

These are technologies that allow large numbers of users to connect, communicate and share visual, audio or text-based information. One of the most important characteristics of Web 2.0 is users can interact and collaborate to create and modify content. Therefore, Web 2.0 users' experience is more than just information retrieval: users participate in adding meaning and social knowledge. Hence, Web 2.0 environments are dynamic, participatory and user shaped.

Solomon and Schrum (2007) suggest, "we can take advantage of the features that new tools offer to tap into students' natural affinity for these tools in order to create learning experiences that expand their worldview and enhance what they learn". It is important that educators' continuing education and professional development is supported to develop knowledge of this dynamic information and communication infrastructure. One of the key features of Web 2.0 is rapid development and change. Educators must develop the skills to use and evaluate different Web 2.0 technologies and to understand the social context and implications of each technology. Although many Web 2.0 technologies have the potential to be useful education tools, if they are not used appropriately, or the social context is misunderstood, the technology may not be used successfully.

Okanagan College has used on-line platforms such as Web CT and Blackboard to provide an on-line teaching and learning platform. However, instructors' use of this technology varies widely throughout the college. Students and employees voiced their frustration at the lack of consistent use of Blackboard. There is an opportunity to set college-wide policies to ensure that all faculty and instructors use Blackboard to post their lecture notes and resources, and communicate with students.

9.2 Distance Education

There are substantial opportunities for Okanagan College to increase its offerings of distance education courses and materials. The demographic composition of Okanagan College students suggests distance education courses could match the needs of learners from many cohorts and communities. Distance education would also increase the ability of students in the 17 - 29 age cohort to increase their course selection options. Many students

in focus group sessions voiced their interest in continuing their attachment to Okanagan College, and some were already taking distance education courses to stay at the institution.

On-line courses need to be continually updated. Completion rates for distance educations students increase proportionally with more faculty interaction and support.

As funding is reduced, and the student demographics change, Okanagan College has a unique opportunity to strategically increase offerings of distance education and mixed-mode delivery options. As figure 8.5 illustrates, individuals are becoming more interested in self-directed learning and Okanagan College may wish to establish unique ways to meet that need and interest.

MIT is an excellent example of a post-secondary institution that has used distance education to engage learners and communities by offering courses, exams, lectures notes and resources on-line free to any interested individual (see Resources). While individuals can't obtain credit through this open courseware, they can use the materials in any way they wish. The president of MIT says, "We thank you for being part of the worldwide community of educators and learners who are demonstrating the power of unlocking knowledge."

9.3 E-learning

Best practices:

1. **Assessment and communication of expectations**. All aspects of expectations need to be incorporated into the systems. This means making it clear to learners the type of information that will be available and how the information and systems are to be used. The rationale for these expectations needs to be communicated. It is also important to identify student expectations. This will allow the E-learning environment to be adapted for learner needs.
2. **Recruitment and advising**. Student support needs to be integrated into the E-learning environment. Basic information related to academic and professional advising should be available online, with contact information for appropriate advisors. A management plan should also be established, to identify students in need of additional support in the online learning environment and means of providing that additional support.
3. **Learning and the learner.** Essentially, a learner-centred approach to the online learning environment. This includes structuring E-learning to engage learners and to build the learning community, designing the online learning atmosphere for retention, and using E-learning for all aspects of learning. This includes assessment tasks, providing constructive feedback to learners and evaluation.
4. **Functional technology**. First, the technology needs to be functional and user-friendly facilitate ease-of-use. Minimum software and hardware requirements need to

be clearly outlined. E-learning systems should be usable on different operating systems and devices (such as mobile devices).

5. **Technology literacy and support**. It is critical that all learners receive sufficient training to use E-learning systems effectively. All learners who use the technology need to be inducted into the e-learning community and all that it entails. This means faculty will need the most extensive technical skills, and hence, training.
6. **Non-technical online student support**. All aspects of non-technical student needs should be addressed. This includes: tutoring (professional and peer), learning resources, registration, financial services, personal counselling, transcripts and records, library resources, introduction to support teams and primary contact, student governance, time, workload and information load management and remediation
7. **Institutional management**. Policies and the mission statement should be incorporated into the E-learning environment. This means they should be communicated in the E-learning environment *and* the E-learning environment should be structured in a way that supports the mission, vision and values of the institution.

8.4 Mobile Devices

Mobile devices and social software are becoming increasingly prevalent, primarily (but not exclusively), with the newer generations of learners. Mobile devices are frequently integrated with Web 2.0 software and technologies. This means that Web 2.0 is accessed by increasing numbers of students from mobile phones, laptops, and other devices with internet access.

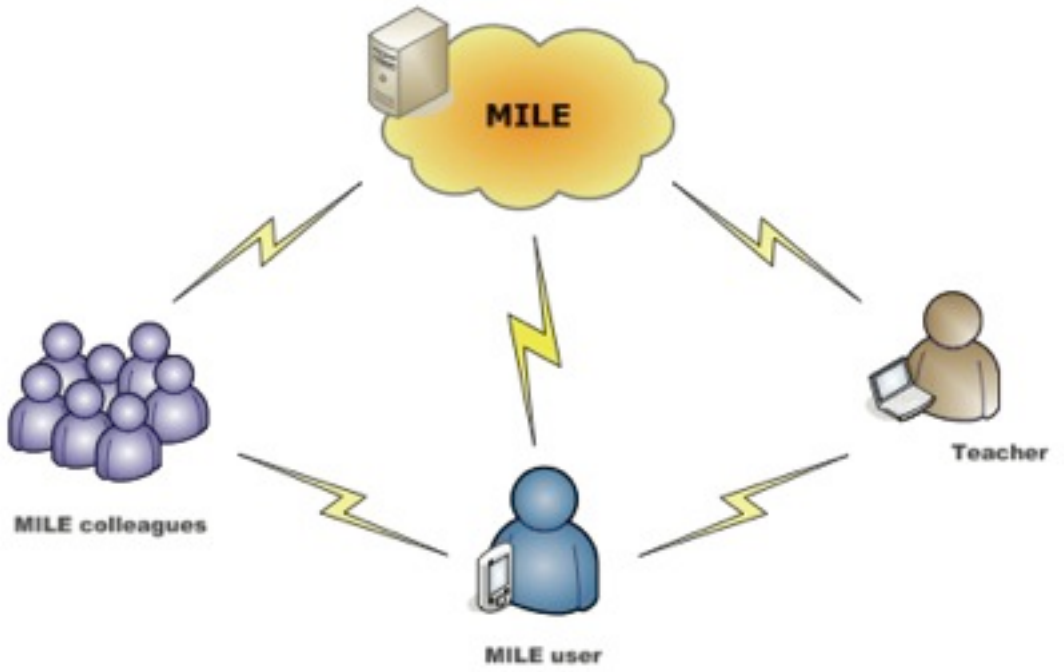
The ubiquity of Web 2.0 technologies and mobile devices means that physical space and distance is becoming less restrictive for learning environments. Availability of information, communication and the ability of learners to interact and be more engaged in their learning environment have profound implications for the future of post secondary education. Mobile learning is accessible to users anywhere. It is important that when mobile technologies are examined and used, the specific teaching objectives and desired outcomes are carefully considered to ensure these technologies are used effectively, for example using the best practices outlined in section 8.3.

Mobile devices provide the opportunity to focus on student-centred learning by allowing learners to be more active, engaged, productive and motivated. These technologies provide an opportunity for learners to increase student engagement, especially outside the classroom. Users are able to work more collaboratively, which is important because more cooperative learning environments provide higher motivation for learning.

Figure 8.41 shows a potential model for mobile infrastructure. In this model, information is available represented as the ‘MILE’ (Mobile and Interactive Learning Environment) server. This provides information that is available to all learners, and encourages communication and collaboration between everyone involved. This infrastructure should include:

- Collaborative activities: file sharing, chat, instant messaging
- Classroom-like environments: virtual spaces where learners can collaborate quickly and easily
- Social software that encourages group formation: interaction that encourages groups to form, collaborate and engage in their learning community
- Simple contact options: various forms to communicate with students and teachers
- Be easily accessible from all devices: ensure tools are streamlined for mobile access, are simple to use and intuitive

Figure 9.41 - Sample model of E-learning structure using mobile devices



Source: Boticki, Andric, & Budiscak (2008)

10. Environment & Sustainability

10.1 International

International recognition of the challenges posed by climate change became high profile in 1972, at the Stockholm Summit, and the United Nations Conference on Human Environment (UNCHE). The goal of this event was to assess the state of the human environment, to examine the threats to the environment and to agree on protection measures. In 1987, the World Commission on Environment and Development (WCED) presented the Brundtland Report. This report suggested that the environment and development, nature and humans are not separate. Thus, sustainable development was established as a goal to "meet the needs of the present without compromising the ability of future generations to meet their own needs."

In 1992, the UN Conference on the Environment and Development (UNCED), or "Earth Summit," built on the concept of sustainable development from the Brundtland Report. This conference also highlighted the need for both global and local action (Section 21). The 2002 World Summit on Sustainability (Johannesburg Summit) began to formulate tangible steps to further sustainable development, based on Section 21. These include:

- Strengthen commitment to sustainable development.
- Integrate economic, social and environmental dimensions of sustainable development.
- Strengthen the implementation of Section 21 through coordination, legislation, enhanced participation, and improved capacity for sustainable development.

The environment, sustainability and its relationship with economic development and human activity has been an issue highlighted on international agendas and policies for nearly four decades. It is important that international agreements present a global agenda for the environment and sustainability. However, international agreements have been difficult to reach and it is important that regions and organizations focus on local initiatives. Both top-down and bottom-up policies need to coalesce to create agendas and policies that are regionally viable and globally beneficial.

One of the challenges of implementing sustainable policies and planning is the assumption that the environment is an externality. This happens when an individual or organization takes an action, but does not consider, or does not take responsibility for the effects of the action. Frequently in economic activities, the environment becomes an externality, and the environmental costs are not factored into the economic costs and benefits. For example, the costs of unchecked climate change caused by human activity are estimated to be about 5-10 per cent of global GDP.

Good governance for the environment should meet the following criteria:

1. **Equity:** fair distribution of costs and benefits

2. **Accountability**: a framework is developed that can be accurately assessed
3. **Transparency**: the framework allows for public understanding and involvement
4. **Land tenure**: rights are distributed locally; resource conflicts are resolved; planning and management meet local/treaty rights (especially relevant in Canada and BC)
5. **Land resource planning**: government supports participation; and participation increases over time

These criteria should be considered for all environmental planning activities, and are as applicable to Okanagan College as to national and international governing bodies.

New trends in environmental and social theory suggest resilience may be another way of understanding the relationship between society and the environment. Humanity is a massive force for ecological change that remains strongly connected with, and dependent on, natural ecosystems. A key aspect of resilience is the idea that ecosystems are complex and dynamic. Thus, ecosystems are not a status quo to be sustained, but a force to be strengthened. Ecosystems may experience destructive events, but resilience means that the ecosystem can recover its ecological integrity. For example, ecosystems that regularly experience forest fires are adapted to swift recovery and benefiting from environmental changes related to fire. In the same way, resilience suggests ecosystem management needs to account for potential environmental and human-influenced ecological changes. Then, environmental management must ensure ecosystems are resilient to these changes.

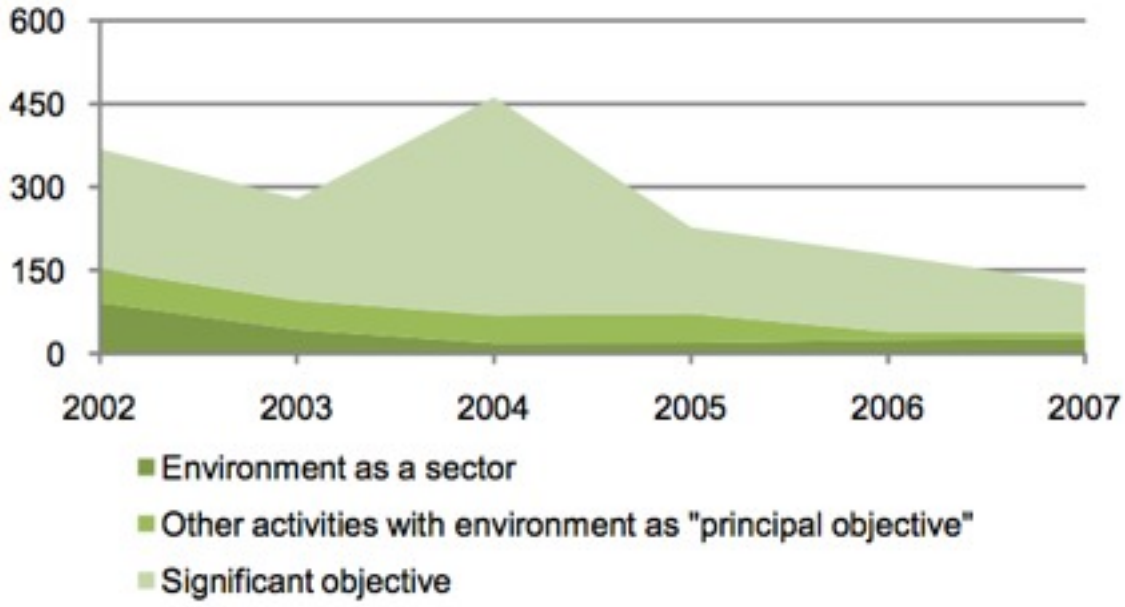
10.2 National

The division of political power in Canada creates challenges to implementing policies related to sustainability and the environment. The two main levels of political authority in Canada related to environment and sustainability are federal and provincial. The federal government is responsible for issues like fisheries, navigable water, health, international trade and diplomacy. Provincial and territorial legislative assemblies are responsible for many issues that directly affect the environment like natural resource governance (minerals, forestry, energy and water) and land-use governance. These divisions of power make a unified national strategy difficult to implement.

Canada is behind many other industrialized nations, using many energy-intensive practices of consumption and production. Environmental impacts are most marked in two industries: energy and agriculture (see resources section for information about agri-environmental issues in Canada) which have the most significant environmental impacts and are the two largest contributors of greenhouse gas emissions in Canada (see Figure 10.12). Canada has one of the highest per capita greenhouse gas emission levels, producing 2 per cent of the world's greenhouse gas emissions, with only about 0.5 per cent of the world's population.

Two other indicators of Canada's environment-related funding are displayed below. Figure 10.11 shows declining funding of environment supported aid. Figure 10.12 shows Canada's tax revenue from environmentally-related taxes, in comparison with the OECD average. These taxes provide incentives to reduce environmental damage for businesses and households. Although both Canadian and average OECD levels of of environmentally-related taxes have been declining, Canada's level of environmental taxes have remained much lower and the gap between Canada and the OECD has more than doubled between 1994 and 2008. In 2008, Canada had the fourth lowest rate of environmentally-related tax out of 34 OECD nations.

Figure 10.11 - Canada's environment-supported aid, constant 2007 USD millions



Source: OECD

Figure 10.12 - Revenue of environmentally-related taxes, as per cent of GDP, Canada and OECD

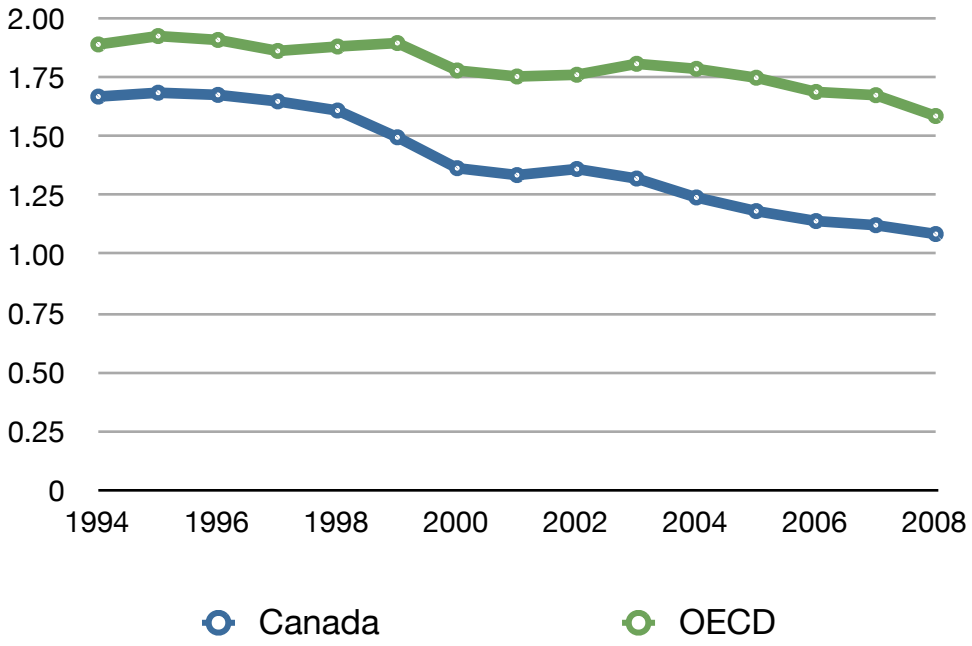
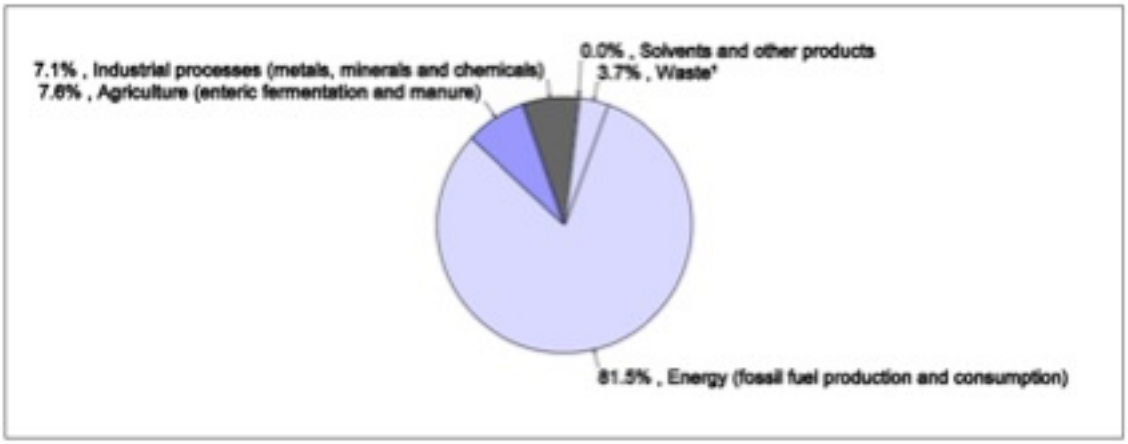


Figure 10.13 Greenhouse gas emission by sector in Canada, 2005 as a percentage of total



The energy sector is a key issue for Canadian sustainability. Morougane (2008), in an OECD report, identifies major issues related to sustainability in the energy sector. These are important to consider, because the concerns highlighted can be applied to many environmental issues outside the energy sector:

Oil sands in Alberta have focused on rapid, subsidized economic development which has led to unsustainable changes. First, labour market shortages related to rapid growth in the energy sector have put significant pressures on all sectors in Alberta. Second, regions have faced socio-economic concerns related to the population boom, such as the inability of social services like health and education to keep up with the growing population; significant increases in drug and alcohol abuse; a rapid housing price-boom, followed by housing-price crash; decreased educational attainment rates as students are drawn by high wages into semi-skilled positions; and finally high inflation which has driven many highly-skilled, long-term employment positions to other regions. Finally, the oil sands require large amounts of gas, land and water, and lead to large rises in carbon emissions. This is a prime example of how rapid regional economic growth can create significant concerns related to social, economic and environmental sustainability.

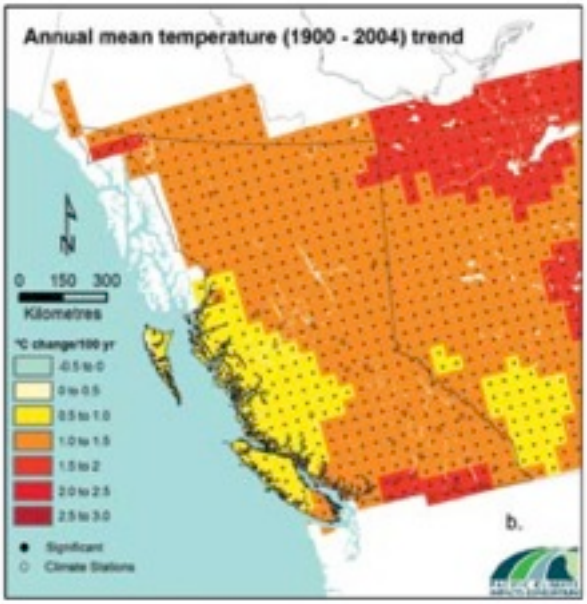
Greenhouse (GHG) gas emissions are the most prevalent problem for Canada's energy sector. In 2005, Canada's emissions were 33 per cent higher than the Kyoto Protocol target. The government of Canada's target to reduce GHG emissions by 20 per cent of 2006 levels by 2020 will be extremely challenging, especially when considering oil sand emissions are projected to be 271 per cent of 2006 levels by 2020.

Policy related to sustainability has been lacking at a national level. Ambiguity of federal and provincial jurisdictions related to climate change and air pollution has created significant challenges for effective action. However, the federal government has started to shift from voluntary to regulatory measures, which has been shown to be much more effective. There are a number of limitations to the current federal approach. First, regulation allows industrial emitters to shift, through emissions trading, their emission reductions to unregulated sectors of the economy. Second, the transportation sector has not been limited to GHG emission limitations. Finally, the government has focused on a relatively limited range of policies to target the environment and sustainability.

10.3 Provincial

Although climate change will affect the global environment, some areas of British Columbia are warming at twice the global rate (see Figure 10.21). The effects of climate change are beyond the scope of this report, but more comprehensive sources are listed in the resources section. However the most important consideration is what decisions are being made provincially and regionally to address issues related to human environmental impacts and climate change.

Figure 10.21 Annual mean temperature trends in British Columbia



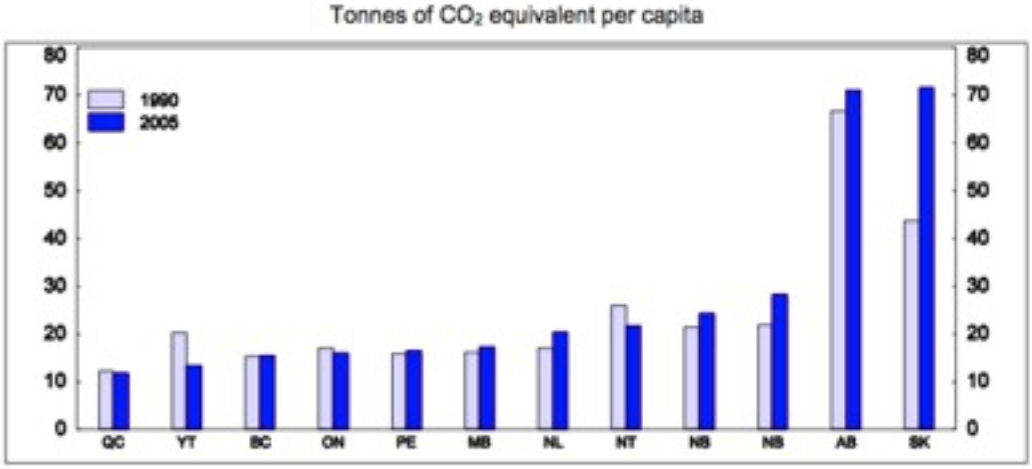
Source: BC Climate Action Plan

British Columbia has been one of the leaders of environment and sustainability initiatives in North America. British Columbia's provincial government has successfully implemented strong policies such as regulating vehicle emissions and taxing carbon emissions, that the federal government has not.

British Columbia has one of the lowest provincial per capita greenhouse gas emissions rates, which has not significantly increased since 1990 (see Figure 10.22). The province of British Columbia legislated the following greenhouse gas emission targets:

- Public sector of British Columbia be carbon neutral by 2010.
- Reduce emissions to 33 per cent below 2007 levels by 2020.
- Reduce emissions to 80 per cent below 2007 levels by 2050.

Figure 10.22 - Greenhouse gas emissions per capita, by province



Source: Environment Canada

British Columbia has taken a proactive sustainability role, realizing that there are significant economic, as well as social and environmental benefits from investing in sustainable development. For example, in 2006 the international market for renewable energy was worth more than $50 billion (a 33 per cent increase from the previous year). Ambitious greenhouse gas reduction targets will be used to drive innovation for low carbon technologies and high fuel efficiency.

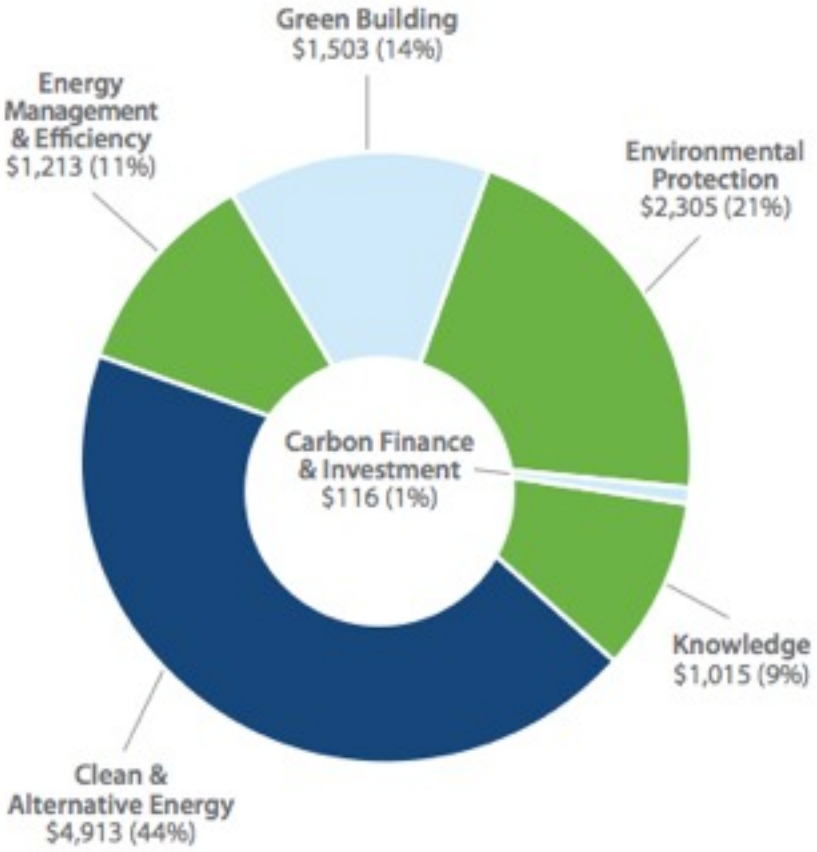
(The province of British Columbia has addressed the following areas in its action plan. These are important considerations for any administrative body instituting environment and sustainability policy:

> **Specific, measurable, mandatory targets**: these include greenhouse gas reduction targets. Measurable, mandatory targets are critical to ensure the appropriate framework is developed and carried out effectively.
>
> **Policies to address targets in all areas:** for example, provincial legislation includes carbon taxes which put an economic price on the greenhouse gases, but uses this income to promote behaviours and activities that are sustainable.
>
> **Process of education and engagement:** ensuring that the community is part of sustainable initiatives and has the proper knowledge and understanding to be effective participants in the process.

The ‘green economy’ is a model of economic development that focuses on sustainable economic growth with an emphasis on preventing: pollution, global warming, resource

depletion and ecological degradation. The green economy strongly contributes to the overall economy of British Columbia. In 2008, the green economy contributed over $11 billion directly (see Figure 10.31) to BC's economy and $4.2 billion indirectly. In 2008, the green economy accounted for about 5.1 per cent of total employment. Estimates suggest the green economy could represent about 10.6 per cent of provincial GDP by 2010.

Figure 10.31 - Direct contributions by sector to BC's green economy (×1000)

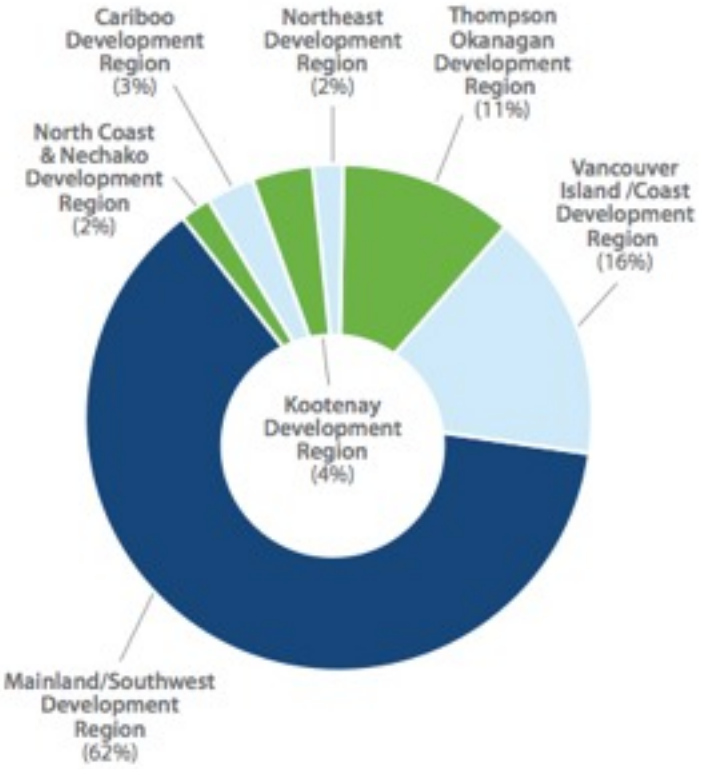


Source: Globe Foundation

10.4 Regional

The Thompson Okanagan region has the third largest (11 per cent) number of direct full-time equivalent jobs from the green economy.

Figure 10.41 - Direct green economy FTE jobs by development region in BC's green economy



Source: Globe Foundation

UBC, which has a presence in the Okanagan region developed a comprehensive sustainability strategy in 2006. This strategy includes the social, economic and ecological aspects of sustainability (see Figure 10.42). In addition to environmental goals UBC has developed economic sustainability goals such as meeting Kyoto targets, and social targets such as increasing health, UBC has developed economic sustainability goals. These are important to include in a sustainability plan, because the ability for an institution to meet its ecological and social goals are dependent upon financial security and sustainability.

Figure 10.42 - University of British Columbia sustainability goals 2006-2010

Source: University of British Columbia

10.5 Okanagan College

Okanagan College has made excellent progress with sustainability initiatives and planning. For example, for example the Centre for Excellence at the Penticton campus with a $22.6 million investment from the federal and provincial government and $5 million from Okanagan College and donors. The centre:

- Has net zero energy consumption, with a variety of green technologies, including solar power, natural cross-ventilations, heat and methane recovery from wastewater treatment
- Uses of natural building materials that reflect the region and use of local pine beetle-kill wood
- Will offer programs focused on sustainability
- Will be completed March, 2011

A sustainability action plan, prepared by Arnica Rowan for Okanagan College included the following recommendations:

- Include a sustainability goal in Okanagan College's strategic plan.
- Work with Sustainability Team and Sustainable Administrative Structure to research, develop and implement a long-term sustainability plan.
- Create sustainability awards, to recognize sustainable action on the campus.

- Integrate sustainability into campus life, through orientation, events, programming and symbols.
- Focus on objectives such as community and wellness to promote sustainability as a lifestyle.

However, there is still progress to be made in sustainable development.

12. Political Context

12.1 National

The Canadian federal government has no direct regulatory, legislative, or coordination authority over post-secondary education. Canada is the only industrialized nation that does not have a national office or department for education. Therefore, the provincial post-secondary education systems have developed independently to meet regional needs and objectives.

That said, the federal government has a significant amount of indirect power that affects post-secondary education nationally. The federal government does have some functions that overlap with education. For example defense (military colleges) and Indian Affairs (Aboriginal education). There are four federal government policy areas that have affected post-secondary education in the past few decades:

- **Federal-provincial transfers** are payments made to provincial governments, from the federal government, including cash transfers, tax point transfers, and equalization transfers (too poorer provinces). There have been significant reductions in these transfers. Between 1994/1995 and 2004/2005 per student funding from provincial transfers decreased nearly 50 per cent.
- **Skills development** funds labour market skills and development programs which the federal government has a long history of funding in colleges, government institutions and the workplace. Over the past two decades, federal funding has shifted from public post-secondary institutions to private industry. This federal shift has increased the influence of regional industry groups and has made the private sector more influential for skill development.
- **Research and development** is heavily funded through the federal government through various research councils such as Canadian Institute of Health Research, Canada Research Chairs and the Canadian Learning Council. This area was significantly expanded by the Liberal government after 1997 to focus on private-sector research needs, increased knowledge transfer and the government's applied science initiatives.
- **Student financial assistance** is provided through the Canada Student Loan Program, and administered through provincial governments. Loan amounts were increased in 1994 in responses to increased tuition costs and rising student debts. In the late 1990s, additional measures were taken to increase financial assistance by, encouraging investment in RESPS, increasing funding for Canada Education Savings Grants, creating the Millennium Scholarship Foundation and increasing tax credits for tuition and education expenses. Also, student financial assistance has shifted from universal programs to support for targeted groups.

12.2 Provincial

Policy developments have been strongly tied to ideological perspective of national governments, and the provincial governments. Since 2001, British Columbian provincial government education policy has focused on moving post-secondary education closer to the labour market. The province has also set a goal to make British Columbia the "best educated, most literate jurisdiction" in North America by 2015. To accomplish these goals the province has pledged to be one of the leading provinces in Canada for education spending, raising per capita PSE education rates to the highest in Canada, and ensuring regional and Aboriginal participation rates are equal to provincial levels.

Throughout government policy and initiatives, five trends emerge:

1. **Accessibility** has been expressed as the highest priority. Both the NDP government in 1991 and the Liberal government since 2001 has emphasized accessibility as a priority in post-secondary education. In British Columbia, regional access has been a barrier to post-secondary education, which is one of the reasons the college system is organized to facilitate access to university in British Columbia. The current BC liberal party has pledged to ensure equal access for all regions in BC, and for minority groups, with a focus on Aboriginal education.
2. **Accountability** is a consistent political issue, and governments continue to emphasize connections between spending and outcomes that are transparent, and easy for the general public to understand. Commitments to accessibility are one manifestation of accountability. Key performance indicators are another example of accountability demands. This emphasis on accountability, especially to the public and the market, is likely to continue.
3. **Marketization** is a shift from post-secondary education as a public institution, toward market-driven approaches, bringing post-secondary education closer to the needs to the labour market and private industry. In British Columbia, the number of private training institutions registered with PPSEC (which is now PCTIA, Private Career Training Institutions Agency of BC) has increased from 358 in 1993 to 850 in 2005.
4. **Labour Force Development** focuses on vocational and skills training. Heavy federal funding has encouraged this, through Labour Market Development Agreements (LMDAs). The NDP (from 1991 to 2001) focused heavily on vocation and skills training. The Liberal government has also focused on vocational training, but with a different approach, by removing direct government involvement and giving employers and private trainers more control over training.
5. **Research and Development** was increasingly funded by the federal Liberal Party. This funding was primarily directed at universities. British Columbia has

also introduced research funding (for example, through the Chairs of Excellence program) but has mostly relied on federal research and development funding.

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