

# British Columbia Institute of Technology



## Institute Service Plan 2006/07 – 2008/09



# Institute Service Plan

## British Columbia Institute of Technology

Three-year Outlook 2006/07 to 2008/09

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## Message from the Board Chair

As you read through the pages of this Service Plan, you will see that many opportunities, changes and challenges await BCIT in the years ahead. Indeed, we are beginning a new chapter in BCIT's history.

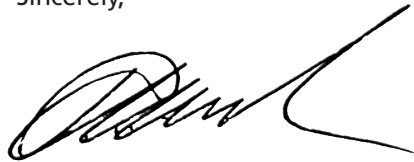
As we prepare to open the doors of our new Aerospace Technology Campus in Richmond in 2007, we are putting the finishing touches on our Burnaby Campus Master Plan. This plan will see the revitalization of our main campus infrastructure, which includes building a new Health/Life Sciences Complex. In addition, we are working to establish a new campus in the Pitt Meadows/Maple Ridge area to house our Heavy Equipment Group programs, bringing BCIT's number of Lower Mainland campuses to six.

BCIT is developing applied master's degrees and increasing its focus on applied research with tangible benefits to the B.C. economy. International partnerships continue to enhance BCIT's world-class reputation and bring benefits to our domestic students. And our strong ties with industry set our institute apart, ensuring our programs keep pace with new trends and developments.

These initiatives and more outlined in the pages to follow, along with our continued commitment to excellence in applied teaching and learning, support BCIT's position as Canada's premier polytechnic institute. As we continue to prepare our highly-skilled graduates to enter or re-enter the workforce, change careers or move forward in their current one, we are also making the necessary plans and investments to ensure we will continue to be a significant contributor to the provincial economy, and a top-quality post-secondary institution.

My six-year term on the BCIT Board of Governors comes to an end this June. It has been an honour to lead the board of this unique institution through such a crucial time of growth, development and change, and to help guide its future directions to best serve the people and economy of British Columbia.

Sincerely,



Bob Wilds, Chair  
BCIT Board of Governors

### BCIT's Vision Statement

BCIT will be Canada's  
premier polytechnic  
institution.

## Message from the President

BCIT takes pride in the fact that it continues to be a significant mainstay in the success of the B.C. economy. Its graduates enter the workforce in every area of business and industry and continue to add value to these operations. Employers continue to indicate that BCIT graduates are very well prepared for entry into the workforce. As the service plan indicates, the continued challenges related to being able to support state-of-the-art educational experiences with qualified staff and the right equipment in appropriate facilities remain our paramount issues.

BCIT continues to build on its polytechnic uniqueness through the development of applied Master's degrees with an applied research focus that is centred on problem solving for business and industry, the strengthening of international activities through unique partnerships with offshore universities and institutes to produce BCIT prepared graduates to enter our degree programs, the continued enhancement of trades training to meet the skills shortages, and the growth of the general program base to meet the increased demand for graduates from all our programs.

The quality of our services and the educational experiences continues to be the driving consideration in all our operations. To this end, the institution continues to make significant contributions to the professional development of staff.

With the B.C. economy in an accelerated growth mode, coupled with the national positioning as the "gateway to Asia," this *is indeed* an exciting and challenging time to be part of the BCIT community. As you will see in the service plan, many activities are underway to meet these challenges.

This plan was developed under my direction in accordance with the *Budget Transparency and Accountability Act*. I am accountable for the terms on which the plan has been prepared and accept responsibility for the achievement of the objectives that are outlined. In compliance with the Act, outcomes from this plan will be reported in 2007.

Sincerely,



Dr. Tony Knowles, President  
British Columbia Institute of Technology

### BCIT's Mission Statement

To build pathways for  
career success in the  
global marketplace  
through teaching  
excellence and applied  
education and research.

## Introduction

This is the British Columbia Institute of Technology's third Service Plan submission, and many of the goals and objectives described in prior Service Plans are still relevant today. Our objectives and long-term strategies are carefully developed to support the Ministry of Advanced Education's direction, the economic development of B.C., the skill requirements of business and industry and quality student learning in a polytechnic environment.

Please see Appendices section for supporting environmental scans regarding labour market analyses, changing demographic trends, and a provincial economic forecast.

BCIT's primary goal is to enhance the quality of education for our clients, both students and industry, and we will continue to be a significant contributor to British Columbia's economic health by providing a highly skilled, diversified workforce.

This year's Service Plan continues to emphasize BCIT's leadership role in polytechnic education. The exposure of the applied research strategy is a major goal to achieving our polytechnic vision, along with the introduction of Master's degree programs and further expansion in international education. As well, we are in the second year of the TEK (Technology-Enabled Knowledge) initiative, which will ensure that students can learn in a manner that is effective, convenient and reflective of how they use technology to work, learn, communicate and socialize everyday. This project has many components and will continue to be a major focus for BCIT.

### Profile of BCIT – A polytechnic institution since 1964

Many exciting developments have taken place at BCIT since 1964, but the Institute's underlying philosophy has been the same: to prepare graduates to be able to step into key technical and commercial positions and make an immediate contribution.

Today, BCIT is British Columbia's largest post-secondary institution and Canada's leading polytechnic. The Institute offers a wide range of credentials from certificates and diplomas to applied degrees, and soon to offer its first Master's degree program. It is a robust community, active in applied research and development, and has a growing international presence. We have five campuses in Greater Vancouver and numerous satellite locations around B.C., enabling us to fulfill our provincial mandate.

In the 45 years since BCIT was established, many things have changed — but our graduates continue to be sought after by employers, just as they were in the beginning.

## BCIT History at a Glance

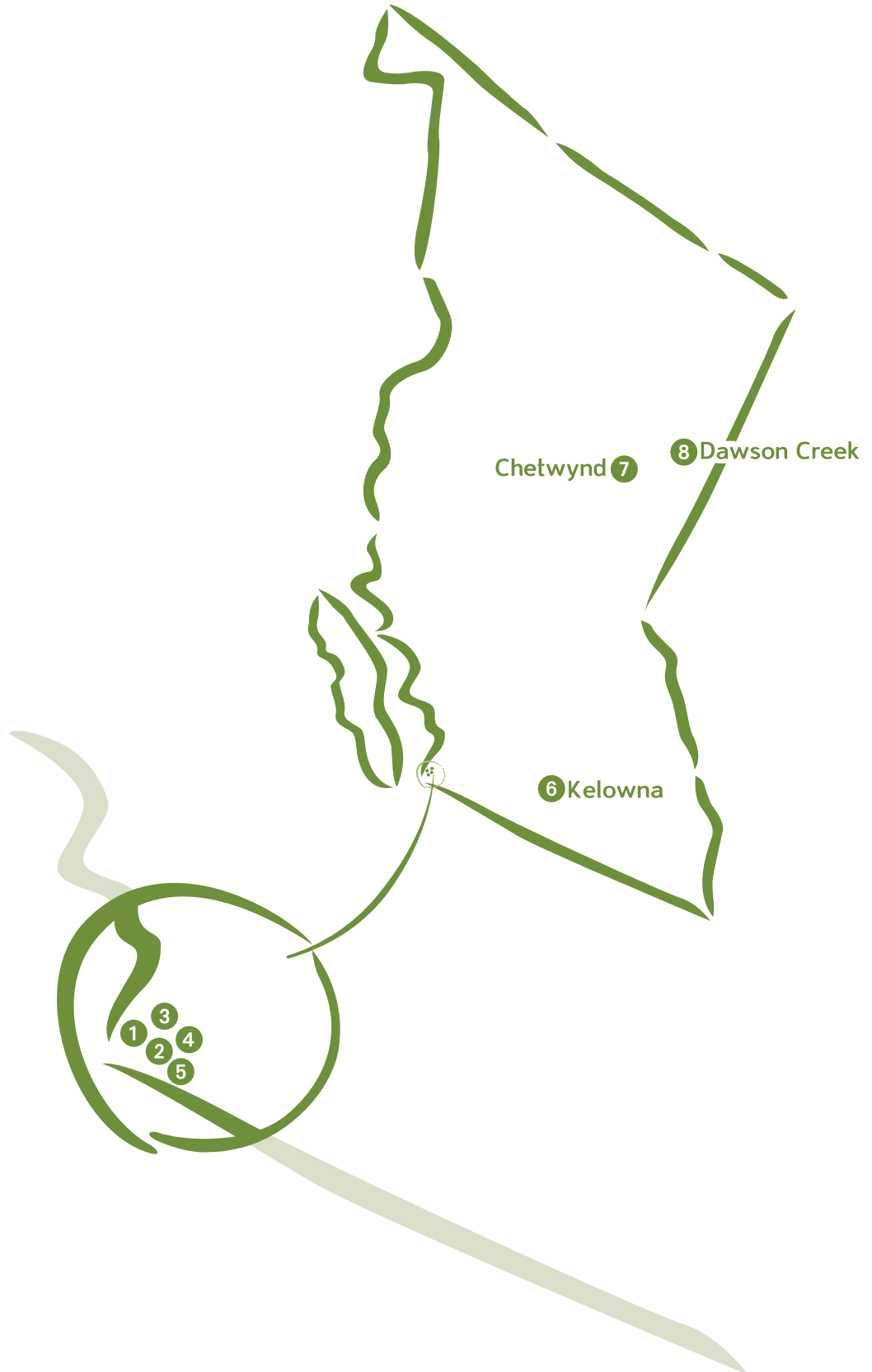
- 1960** B.C. Vocational School opens in Burnaby
- 1961** Plans are announced to establish BCIT
- 1962** The first principal of BCIT is appointed
- 1964** The first students arrive on the Burnaby campus:  
498 of them in Engineering, Health and Business
- 1966** BCIT celebrates its first graduates
- 1975** Number of students is now 3,200
- 1977** BCIT establishes Sea Island campus
- 1979** The BCIT Alumni Association is incorporated
- 1986** BCIT merges with Pacific Vocational Institute
- 1989** BCIT's mandate is broadened to include applied research
- 1989** BCIT's Technology Centre is established as a focus for applied research
- 1994** The Pacific Marine Training Institute amalgamates with BCIT
- 1996** BCIT offers its first Bachelor of Technology degree  
in Environmental Engineering Technology
- 1997** The new Downtown Campus opens
- 2002** BCIT, UBC, SFU and ECIAD become joint owners of the  
Great Northern Way Campus
- 2004** Number of students is now more than 48,000  
Polytechnic status is enshrined in legislation
- 2005** Site preparation for the new Aerospace Technology Campus
- 2005** Research Services Office opens to support applied research

### BCIT's Mandate

BCIT will be a province-wide innovative organization, specializing in advanced technology training and focusing on those initiatives that increase the level of economic activity, entrepreneurial activity, and employment for the province.

### Campus Locations

1. Burnaby (Main) Campus
2. Downtown Campus
3. BCIT Marine Campus
4. Great Northern Way Campus
5. Aerospace Technology Campus plus various satellite locations across B.C., including Surrey, Maple Ridge, New Westminster,
6. Kelowna
7. Chetwynd
8. Dawson Creek





## Strategic Values

BCIT is committed to increasing and strengthening its contribution to the economic and social well-being of the province of British Columbia.

In doing so, BCIT will:

- continue to provide globally valid workforce competencies across key sectors – trades, technology, health and business – so that our graduates will be successful anywhere in the world.
- create relationships with lifelong learners to increase their ability to find and keep employment, as well as to change or progress in their careers.
- provide a challenging, healthy and rewarding environment in which our employees can meet their needs for personal growth, achievement and satisfaction.
- enhance employer competitiveness through mutually beneficial partnerships with business and industry.
- transform knowledge into business opportunities through applied research and development and technology transfer.
- create an Institution-wide customer service approach that strengthens our ability to be a globally competitive learning organization.

Our actions will be governed by the following core values:

### We are learner-centred.

BCIT serves the needs of students first.

### Quality is foremost.

BCIT supports the students' educational right to be served by competent instructional, service, and administrative staff in an up-to-date learning environment with outstanding facilities and equipment.

### We respect diversity and individuality.

From the institutional to the international level, BCIT is devoted to promoting acceptance of individual and cultural differences.

### Our community will thrive.

We value effective communication and collegiality within and among all sectors of BCIT.

### We promote participation in decision-making.

BCIT policies affirm the right of all groups and individuals to voice their views before decisions affecting them are made.

### We encourage innovation and leadership.

BCIT adapts to changing circumstances and takes a leadership role in creating programs and activities to meet the future needs of the students and communities it serves.

### We will be accountable.

Educational and service units will be accountable for their decisions and actions, and will demonstrate their accountability through performance and value measurements.

### BCIT will...

Prepare dynamic, highly skilled members of the workforce by delivering full- and part-time courses of study, including:

- certificate, diploma, and degree studies in technologies and trades
- contracted industry training and upgrading courses

Conduct technology transfer activities by providing opportunities for innovation, industrial assistance, and contracted applied research.

## Achieving the Polytechnic Agenda

### Nationally

In June 2003, BCIT and seven other Canadian post-secondary institutions formally established the Association of Canadian Public Polytechnic Institutes (ACPPI); recently renamed Polytechnics Canada.

The founding members share four distinct characteristics:

- delivery of polytechnic education up to and including degrees of an applied nature to the bachelor or graduate degree levels
- applied research and development activities on campus
- a desire to promote polytechnic education and applied research nationally and internationally
- the size and resources to make a significant contribution to the students, employers and the economy of their provinces.

A polytechnic institute's primary mandate is to pursue career-focused technical and related education spanning trades certification to degrees, which is linked to the needs of the economy. A polytechnic institution cultivates business and industry partnerships, and also dedicates resources to applied research and technology transfer activities.

The eight members of the Polytechnics Canada are the British Columbia Institute of Technology, Southern Alberta Institute of Technology, Northern Alberta Institute of Technology, and in Ontario: Conestoga College, Sheridan College, Humber College, Seneca College and George Brown College.

### Provincially

The hallmarks of a BCIT education are an intense learning experience and applied educational delivery. Students learn in small classes on up-to-date equipment in realistic lab and shop environments. Developing teamwork skills is also an essential element of our approach to practical education. All programs feature project work and/or applied research activities, through which leadership skills are also developed.

All programs at BCIT contribute to the career progression of our students and graduates. Programs are offered in five broad areas; employers are forecasting all of them to have significant employment demand for the next 10 years. These programs are offered via full-time or part-time studies at a variety of locations across the province, and many are available through a variety of distance education delivery modes.

The five program areas are:

- skilled trades
- business studies
- health sciences
- information technology
- technology, engineering, and applied sciences.

We provide access to polytechnic education for students located throughout British Columbia through our partnerships with other secondary and post-secondary institutions.

BCIT's applied research and technology transfer initiatives provide spin-off benefits to our educational programs, as well as to business and industry.

## Educational Plan

BCIT's Educational Plan is shaped by our goal to be Canada's premier polytechnic. We will continue to expand our broad range of offerings, from skilled trades credentials, through certificates, diplomas and degrees (undergraduate and post-graduate), complemented by significantly increased applied research and technology transfer activities.

BCIT's credentials are developed to enable and encourage lifelong learning. Every effort is made to connect each credential program with successive credential programs. This "laddering" enables our learners to progress in their career paths as well as to begin or change careers.

BCIT's credentials are divided into four broad categories:

- certificates (associate, management, intermediate, senior management, technology, advanced specialty, technical studies, trades training, industry partnership, graduate)
- diplomas (technology, technical studies, trades training)
- undergraduate degrees (technology, engineering, science, business administration, nursing)
- graduate degrees (applied master's).

## Core Educational Principles:

1. BCIT aims to produce graduates who have the following core competencies:
  - capacity or expertise in their area of study, according to the credential they have earned
  - ability to think clearly, logically and creatively and to work in a team environment
  - research and critical thinking skills
  - competent oral and written communication skills, in English
  - ability to perform quantitative analyses, according to the credential earned
  - commitment to upholding the highest standard of ethical behaviour as individuals and as part of an organization.
2. BCIT is committed to producing high quality graduates who will be productive in today's economy and able to impact tomorrow's.
3. BCIT has a strong commitment to teaching and learning.
4. All BCIT faculty members are encouraged to be proficient and current in both their discipline and their teaching skills. They are encouraged to be involved in relevant provincial, national and international activities. Excellence in teaching is the primary aim of all faculty members. Students at BCIT are engaged in an active learning environment. BCIT values the contribution of applied research to education and industry.
5. BCIT pursues a continuous improvement process for all of its classrooms, laboratories and workshop spaces, equipment, and communications and information technology infrastructure.
6. Library resources (books, periodicals, e-resources, etc.) are continuously upgraded to meet the changing needs of all of BCIT's diverse educational programs.
7. Students and graduates are given the opportunity to communicate their assessment of their BCIT educational experiences, support services, facilities and the total learning environment.

## Degrees

### Applied Master's Degrees

The master's degree has become the primary credential for people who are improving and updating their professional skills. Specifically, applied master's degrees, in addition to increasing learners' salary potential, play a significant role in lifelong learning.

Technological innovation in every aspect of business and industry is increasingly demanding higher levels of applied knowledge. To that end, the nature, structure, and delivery of master's degrees at BCIT have been under consideration for some time, and are an integral part of our overall education plan. BCIT graduate degrees will have a distinct character and learning format that will distinguish them from traditional university-based programs. As with other educational initiatives at BCIT, this distinction arises from the application of the Institute's mission statement.

The educational requirements of BCIT graduate degrees resemble traditional models in their quality and rigor. However, the degree structure gains a distinct BCIT flavour through the nature of its coursework as well as an innovative approach to applied research. All BCIT master's degrees will require a significant research component.

The challenge we will continue to face over the next few years will be to foster a more research-oriented culture at BCIT. This will entail preparing faculty members for their role as competent supervisors of graduate students, as well as giving faculty time away from the instructing role to pursue applied research opportunities of their own. BCIT is already active in graduate education through a partnership with the University of Bath, United Kingdom, for a Master of Science in Construction Management.

It is likely that our first master's degree under our own legislated authority will be in Healthcare Leadership and Management. It will be a joint degree with Royal Roads University. This degree is expected to be rolled out for the 2006/07 academic year. Other master's degree proposals under development include Nurse Practitioner, Computer Systems, Construction Management and Building Sciences.

### Bachelor of Science Degrees

Current programs at BCIT require applicants to commit to a specific career path prior to beginning their studies. For many high school graduates, BCIT does not offer exploratory opportunities when most needed, at the early stages of their postsecondary experience. Fewer than 15 per cent of BCIT's new students come directly from high school, and we acknowledge the need to provide more flexible career choices to this very important demographic.

BCIT developed a degree transfer program that will provide opportunity for exploration and self-discovery for young post-secondary students while maintaining the career focus that is the heart of our programming. We are exploring a Bachelor of Science credential that is an extension of our core career programs to provide our graduates with both a solid career base and broader educational experience. Additionally, we are developing a Bachelor of Science (Honours) degree which reflects a specialized focus but builds on a solid foundation of basic science. Our first Bachelor of Science (Honours) will be in Forensic Science.

### **Bachelor of Business Administration Degrees**

In 2003, the Ministry of Advanced Education granted BCIT the right to confer Bachelor of Business Administration (BBA) degrees. This degree is built upon existing BCIT Business Studies diploma programs and an existing Advanced Diploma in Business Studies.

As both students and industry have widely embraced this program, we have begun developmental work on a new BBA with options for specific majors. We expect to have this program proposal ready for consideration by the Degree Quality Assessment Board (DQAB) in 2006. Majors under consideration include: Marketing, Human Resource Management, and possibly Operations Management.

### **Engineering Degrees**

British Columbia will encounter a significant shortage of qualified engineering professionals in the years to come.

BCIT offers 21 nationally accredited engineering technologist programs and graduates the majority of engineering technologists in B.C. As of January 2006, BCIT offers a Bachelor of Engineering in Civil Engineering. With the support of the Association of Professional Engineers and Geoscientists of B.C. (APEGBC) and Applied Science Technologists and Technicians of B.C. (ASTTBC), we are preparing submissions to the Degree Quality Assessment Board (DQAB) for Bachelor of Engineering degrees in Mechanical and Electrical Engineering in 2007. We are designing the new degrees to meet the Canadian Accreditation Engineering Board's (CAEB) standards and will continue to offer a diploma exit option.

The Bachelor of Technology in Electronics is recognized by APEGBC. and graduates are able to gain recognition towards professional engineer status by writing only three examinations. We also offer four Bachelor of Technology programs in engineering disciplines, providing technologists with additional engineering technology education for career enhancement. While none of these Bachelor of Technology programs satisfy all the academic requirements for registration as professional engineers, we are working with the Association of Professional Engineers and Geoscientists of B.C. (APEGBC) for specific exemptions within the engineer-in-training requirements.

We will offer the Bachelor of Technology in niche markets where professional recognition is not a statutory requirement. BCIT will negotiate articulation agreements between our specialized technologist programs and existing specialized engineering degree programs (in mining, chemical science, etc.) offered at B.C. universities.

This overarching strategy will result in a significant increase in the number of qualified engineering graduates to meet the needs of B.C. employers, while maintaining and strengthening our well-recognized engineering technology diploma programs.

## **Career Credentials**

### **Diploma Programs**

One of the founding tenets of the education BCIT offers are the two-year diploma programs. These programs are an intense, career-focused educational experience that enables our graduates to start their careers fully prepared to be successful and contributing employees throughout British Columbia, across Canada and at a growing number of international locations.

We remain committed to offering current, relevant, and career-focused diploma programs. All of our existing and planned undergraduate degree programs are founded on successful, relevant diploma programs. Providing this opportunity for graduates to begin their careers with a diploma and to return to BCIT to pursue a degree in the same field, either on a part-time or full-time basis, reinforces our commitment to lifelong learning. The majority of our 100,000-plus graduates began their careers with a BCIT diploma.

BCIT continues to develop new diploma programs responsive to employer needs. With input from program advisory committees, we continually review curriculum in existing diploma programs to ensure they remain relevant.

### **Apprenticeship and Trades Training**

BCIT is the leader in apprenticeship and trades training in British Columbia, with more than 30 apprenticeship programs and more than 80 trades training programs, many of them unique to BCIT. Our program mix spans construction, mechanical, manufacturing, transportation, aerospace, and marine sectors.

BCIT and colleges and university-colleges that provide trades training have formed a consortium with a mandate to support industry in achieving its goals to develop a quality provincial training system. In 2006/2007 consortium members will continue to work together to develop a systemic approach to planning and responding to provincial training requirements.

Our key focus in 2006/2007 is to plan and implement the Industry Training Authority's (ITA's) financial and accountability framework.

Apprentice and trades training at BCIT is integral to both our polytechnic vision and to providing a skilled workforce to meet the demands of industry in a growing economy. The ITA provides educational operational funding for this activity; additional growth will require additional funding support.

Due to the applied nature of this delivery, equipment renewal is key to successfully emulating current and anticipated working environments and this will remain a constant challenge.

Labour market analysis indicates a significant gap between the supply and demand of qualified trades workers in some industry sectors. This is an important time for trades training in the province, as industry sector groups form and develop a strategy for long-term sustainability of the work force. BCIT will be a leader in supporting strategic initiatives that are identified.

### **Applied Research and Development**

BCIT will continue its efforts to expand its applied research activities in 2006/2007 and beyond. We aim to establish a physical and organizational focus for our rapidly growing applied research, commercialization, and graduate studies activities. During 2006/2007 we will develop and promote the concept for a BCIT Centre for Applied Research and Advanced Studies and move towards implementation as a location becomes available. Support from Western Economic Diversification is accelerating these plans.

The implementation of support infrastructure, systems, and policies is critical to encourage and accommodate more applied research activity. We will build upon the recent progress that includes: the establishment of a BCIT Research Services Office with technology commercialization and industry liaison functions; the introduction or updating of policies related to intellectual property, research grants and contracts, and ethics review; the creation of Research Committees in BCIT's schools to advise, guide and coordinate school research efforts; the identification of applied research priorities and themes that fit with BCIT's cross-disciplinary interests and capabilities; and an evolving service/support function for the BCIT Technology Centre that integrates with BCIT's school-based research interests.

As significant as these efforts are, the overall success to expand applied research activity also depends on visibility, the evidence of institutional commitment, and access and recognition by private partners. We will focus efforts on connecting research activity across the institution, encouraging faculty to engage in research, and linking the community to applied research and advanced studies at BCIT.

BCIT will continue to be a strong advocate and voice for applied research linked to economic outcomes and for the role BCIT can play. Specific goals for 2006/2007 include:

- Expanding BCIT's capacity for applied research by engaging more BCIT faculty and staff in applied research and "total solutions" problem solving.
- Continuing the development of BCIT's technology transfer and commercialization activities through BCIT's Technology Commercialization and Industrial Liaison Office functions, demonstrating with commercial successes the economic relevance and impact of BCIT's responsive polytechnic approach.
- Addressing applied research funding challenges by capturing more and larger research grants and contracts from a broader range of sources, including non-traditional government sources and productive research partnerships with private sector firms.
- Developing a physical and organizational focus for BCIT's rapidly growing applied research, commercialization, and graduate studies activities creating a "front door" for business and industry to attract and facilitate access to BCIT problem solving and "total solutions" capabilities.

Applied research is a quintessential polytechnic activity. Many post-secondary organizations undertake research and deliver graduate programs. Polytechnic institutions like BCIT focus these efforts on activities with industrial and commercial relevance, where partnerships lead to benefits for students, business and industry, and the institution. What makes research and graduate studies at polytechnics distinctive is the orientation towards achieving positive economic, productivity and competitiveness outcomes.

## Linkages to Industry and Partnerships

Much of the success of BCIT's educational programs is the result of our mutually beneficial partnerships with business and industry, school districts, and other postsecondary institutions. It is through these relationships that we are able to ensure our graduates are sought after and that they support the provincial economy.

In the coming years BCIT will continue to link to, and develop, relationships with industry through our program advisory committees, memberships in consortiums, and partnership agreements.

Also, partnerships with other post-secondary institutions allow the integration of institutional expertise in a given program area, and save each institution a portion of the operating costs when compared to offering the entire program at one institution.

### High School Partnerships

Partnerships with school districts allow high school students to study in locally based BCIT programs and get a head start preparing for their chosen career prior to Grade 12 graduation.

BCIT is proud of our success with high school partnerships over the past 10 years. Currently we deliver more than 20 programs in high schools within eight school districts. Students can fulfill the requirements to graduate from high school and complete the equivalent of one year of study towards journey-person status in a number of trades without extending their time to complete secondary school. These high school graduates have a one-year head start to become journey-persons, are immediately employable following high school and can still pursue post-secondary education, should they wish.

BCIT forms these partnerships only after the school district has determined that a local post-secondary institution is unable to provide this service. This is one strategy that will help address the forecasted skills shortage. We are exploring more partnerships of this nature where local resources are not available to fill the need.

Partnerships with business and industry allow BCIT students to learn using equipment and methodology that are current in industry. These partnerships also provide our business and industry partners with graduates who are expert in using their specific equipment.

### Oil and Gas Sector

To meet industry needs, BCIT will be an active participant in the Oil and Gas Centre of Excellence in Fort St. John. This is a partnership with other B.C. post-secondary institutions, industry and government.

The provincial government has indicated that oil and gas exploration and production is now the largest single natural resource generator of direct revenue for British Columbia. The Service Plan for the Ministry of Energy and Mines states a goal of "significantly increasing oil and gas production and increasing total industry investment by \$12 billion over the next three years."

Achievement of this goal depends on a number of issues. But a key ingredient for success is the availability of sufficient numbers of well-trained and well-qualified employees.

BCIT offers approximately 35 different educational programs that are directly applicable to the employment needs of the oil and gas exploration and production sector. We are committed to working with the oil and gas industry, the provincial government and other



post-secondary institutions to maximize the supply of newly qualified British Columbians who can meet the employment needs and opportunities in the oil- and gas-producing regions of BC. Specific multi-partner initiatives are under development. We expect to begin implementing these initiatives in the next year.

To meet industry needs, BCIT is working with the Northern Alberta Institute of Technology (NAIT) to develop a strategy to ensure transferability and consistency in program outcomes.

### Health Sciences

The health sector in British Columbia and the rest of Canada is experiencing severe shortfalls in the supply of newly qualified nurses and allied health-care professionals.

Partnerships with health authorities, hospitals, and other health agencies allow our health sciences students to gain knowledge and practice their skills with the support of the personnel at these practicum sites.

BCIT is one of the largest providers in Canada of new graduates in these fields. BCIT has participated in the provincial government's priority program target strategy in health sciences since its inception. We continue to participate in this program to the maximum limit of our capacity which is now severely limited by space constraints. BCIT is exploring the construction of a new Health/Life Sciences Building.

BCIT delivers a number of small, expensive, highly technical allied health sciences programs, including some in which BCIT is the only delivery site in Western Canada. We have successfully partnered with other provinces to provide training spaces for their learners. BCIT will continue to develop these types of cooperative arrangements to the benefit of B.C. students. Several programs are available entirely by distance, making them accessible across the country. In addition to the Bachelor of Science in Nursing and joint UBC-BCIT Bachelor of Science in Biotechnology (Honours Co-op), BCIT offers four health related Bachelor of Technology degrees: Environmental Health (Public Health), Management (Health Specialty), Medical Imaging and Radiation Therapy.

### Forestry/Wood Products

The forestry/wood products sector is one of the prime engines of the British Columbia economy. It is undergoing major structural change that is causing a number of significant labour force and technological adjustments. BCIT offers a multitude of programs targeted to this broad sector of the economy. In 2003, BCIT commissioned a major study of the forestry and wood products sector to identify the nature of its future labour force needs and its likely directions. This resulted in the development of an education plan for this sector that will include proposed new programs, major revisions to existing programs, and the closure of those programs that no longer serve an industry need. We will implement this plan over the next two years.

In addition, BCIT will continue to provide specific education and training programs in Western wood frame construction systems to select Pacific Rim countries to enhance the market opportunities for B.C. lumber products in that market.

### Mining and Mineral Exploration

The Ministry of Energy, Mines and Petroleum Resources public documents state, "B.C. is one of the world's major mining regions and holds great potential for major exploration and development. The industry generates about \$4 billion in revenue each year." In 2005, mineral exploration expenditures in British Columbia topped \$220 million, up from \$29 million in 2001.

Employment opportunities in the mining and exploration sector are strong. A recent federal government sponsored report indicates that the Canadian mining industry will be facing a shortfall of up to 81,000 employees over the next 10 years due to growth in the industry, a large number of pending retirements, and a shortage of young people entering the industry.

BCIT is home to one of only two remaining Mining Technology programs in Canada, and UBC has one of the few remaining Canadian Mining Engineering programs. BCIT has for a number of years been assisting Canadian mining companies in Chile with the training of mine equipment maintenance personnel; this agreement has been funded by the Chilean client. In addition BCIT offers more than 30 education programs that are directly related to the needs of the mining and mineral processing industries.

BCIT is actively addressing the current and looming shortage of employees in the minerals industry through the technology diploma program and a wide range of part-time studies courses. In addition, we have entered into a partnership with the Association for Mineral Exploration B.C. to develop an Aboriginal Minerals Training and Employment Program. Plans are also in development to offer graduate-level continuing education and training for geologists and other professionals in the minerals industry in partnership with the Mineral Deposits Research Unit (MDRU) at UBC. The need for this training is particular critical as the labour shortage has resulted in a lack of mentoring and a rapid rise in responsibilities for junior and intermediate geologists. In concert with this initiative, BCIT will also pursue applied research activities within the minerals sector.

At the provincial level, BCIT is playing an active roll on the B.C. Mining Education Network: a multi-party initiative to examine the training and educational needs for the minerals sector in BC. We are also actively involved with other provincial organizations such as Geoscience B.C. and the Association for Mineral Exploration B.C.

### **The Great Northern Way Campus**

The Great Northern Way Campus (GNWC) is a facility created by four major post-secondary institutions (British Columbia Institute of Technology, Emily Carr Institute of Art and Design, University of British Columbia, and Simon Fraser University), which are committed to working together with governments, businesses, agencies, and the City of Vancouver. Our goal is to build a unique and integrated centre of excellence in teaching/learning, research, and entrepreneurship, with innovative program and collaborative research opportunities not available on any individual campus.

Designed and developed through multi-institutional collaboration, the GNWC strategic academic plan is centered on the issues of the convergence of science and technology with art, culture and design by establishing a future-oriented, cross-disciplinary knowledge environment on the campus, with the intention of addressing the needs and demands of technological, cultural, and social transitions within a dynamic and changing metropolitan setting.

Drawing on the unique contributions and distinct capabilities of the four partners, the GNWC will offer specialized courses and programs, with faculty from the institutions taking advantage of delivery formats that represent best practices in program design and teaching. The GNWC will deliver both full-time and part-time instruction (lifelong learning, career development), connecting with traditional, non-traditional and international students and providing certification at several levels through the collaborating institutions.

Through assistance from private and public sector groups, students at the GNWC will find expanded academic choice and exposure in a knowledge-driven economy, while joining faculty in pursuing opportunities in pure and applied research, technology transfer and commercial activity.

Since 2005, BCIT has participated in applied research with its GNWC partners on a new Centre of Interactive Research in Sustainability (CIRS). This will be the first new building on the GNWC site.

In the 2006 provincial budget, the B.C. Government announced \$40.5 million in support for the Great Northern Way Campus to work with New Media B.C. to develop a Master's program in Digital Media in a new building at the GNWC site. Phase II of the project will create a World Centre of Excellence in Digital Media.

### Strategic Directions in International Activities

BCIT's focus is to seek international opportunities that are consistent with provincial and national economic development priorities. We will remain flexible to accommodate innovative and entrepreneurial approaches to international activity, as well as mechanisms to manage risk, coordinate activities, and support initiatives. BCIT's international efforts will consistently demonstrate and promote high ethical values and enhance our world-class reputation.

Increasing our institutional capacity to attract international students remains as a high priority. We seek to create opportunities for BCIT students, faculty, and staff to gain international educational experience and reflect this back into their study and work at BCIT. We also aim to generate net revenues from our international activities, enabling us to increase the number of student spaces available for domestic students.

The ongoing support infrastructure to develop international business opportunities include: BCIT's restructured International Business Services group; BCIT's Technology Training Associates; our representatives, partners, and offices in China, South Korea, and Chile; our colleague institutions in Polytechnics Canada; and our involvement with organizations such as the British Columbia Centre for International Education, and the Canadian Bureau of International Education.

BCIT has shifted its emphasis towards a successful international partnership model, which enables students studying in their home country to pursue dual credentials; one from their home institution and a second BCIT International diploma that parallels the BCIT's domestic diploma. Successful students, who, among other criteria, are able to meet BCIT's English language requirements, may articulate into the BCIT degree programs as International students.

During 2006/07 and beyond, BCIT will address the challenges that the success of the partnership model presents in generating flows of well-qualified international students to BCIT.

BCIT is proactive in parts of the world where it has experience, where there are ongoing activities, and where the market interest and education business opportunities that fit with our interests and partnership model are high. BCIT's priority areas are China, South Korea, and Chile, and we intend to be proactive in identifying opportunities in other areas in South East Asia. Within Latin America, BCIT will build upon its substantial experience in Chile by developing opportunities in Brazil and Mexico. BCIT will facilitate education and business connections between Canada and China through the newly established Confucius Institute at BCIT.

Internationalization is a fundamental characteristic of polytechnic institutions. BCIT is committed to the continuing integration of an international dimension into its activities and programs – this is what we mean by “internationalization.” It involves several elements: international students, faculty and student exchanges, program and project delivery, partnerships with foreign institutions and foreign organizations, and the incorporation of multicultural and global perspectives into the curriculum.

## Enrolment Planning

Through BCIT's comprehensive enrolment planning process, we consider a variety of factors when planning future enrolment directions. Because our programs are directly linked to industry, it is essential that our planned enrolments reflect the direction of industry demand as well as student interest. The decline of government funding per student space continues to impact our ability to grow enrolments. As a result, there are programs that have multi-year waitlists, with increasing public pressure to respond to this demand.

To manage the gap between funding and enrolment demand, program rationalization has become a reality. BCIT developed a comprehensive process to review the health of programs, by which we mean a program's ability to meet the success measures that follow. The currency of learning equipment, funding levels, and curriculum, as well as other program-specific factors can all impact program health.

### Success Measures

- Applicant demand is high.
- Graduate employment rate is high.
- Student perception of quality is high.
- Programs offered anticipate employer needs and meet student interests.
- Programs meet government objectives.
- Programs deliver education to the planned enrolment, within approved budget, to stated quality standards.
- Seat utilization is at funded targets.

The purpose of this review process is to continuously measure programs to ensure that public funds are allocated responsibly to meet the demand of students, industry, and the Ministry of Advanced Education. With the B.C. Government's announcement of the commitment to expand education and training spaces available in the post-secondary system, BCIT is prepared to adapt our enrolment plan to respond to this growth within existing and projected funding limitations.

## Constraints

As part of the enrolment planning process, it is important to be aware of any constraints that might influence the ability to achieve planned enrolment targets. Depending on the particular employment or industry sector, some or all of the constraints described below may influence the ability to meet the projected need.

### (a) Clinical Spaces

Most health sciences programs rely on the availability of suitable clinical settings to enable the students to apply their health science knowledge to situations with real patients. All of our partners in the health sector do an outstanding job in attempting to provide sufficient clinical experiences for our students. However, there appear to be insufficient clinical spaces available to meet the projected need for newly qualified nurses and allied health professionals. This limits our ability to admit and educate sufficient numbers of students in these fields.

### (b) Capital Equipment

In an institute of applied learning, up to half of the educational experience is delivered in settings that emulate the employment environment. Many of these settings require significant numbers of expensive pieces of equipment. The quantity and relevance of our equipment inventory can limit the number of students who can be admitted to a program at any one time. We wish to acknowledge that we do receive outstanding support from many employers and equipment manufacturers in our ongoing effort to have an adequate equipment inventory.

### (c) Classrooms

At times, the number and capacity of classrooms can limit the number of students admitted to BCIT. This is particularly true in the nursing and allied health programs.

### (d) Applicant Demand

There are some employment sectors that are not popular with prospective students. Despite everyone's best efforts, some occupations are not attractive to today's students.

### (e) Availability of Qualified Faculty

In times of shortage of qualified employees for a particular employment sector, wages tend to rise as employers compete for a scarce resource. This makes it difficult to hire sufficient, qualified faculty, as salaries in public post-secondary institutions do not keep pace with compensation levels in sectors experiencing short supply. Shortages in the number of qualified faculty limit the number of students we can admit at any one time.

### (f) Funding Limits

The B.C. Government has a limited amount of money it can provide to post-secondary institutions to fund seats for students. Block funding allows individual institutions to adjust enrolment levels in specific programs, but the total number of seats available for students is constrained by the total number of funded seats allocated to each institution.

There are skill shortages in many program areas — none more prevalent than in programs sponsored by the Industrial Training Authority (ITA), with the majority programs supporting BC's strong economic growth. However, without capital investment in new building and equipment, BCIT is constrained in meeting labour force demand.

**(g) Tuition Cap**

Guidelines established by the B.C. Government in the spring of 2006 limit the amount by which institutions may increase tuition. The current tuition fee increase limit has been established at 2 per cent.

In order to mitigate the financial and strategic implications of inadequate funding and the effects of the tuition fee cap, BCIT will be limiting some program offerings and managing enrolment to levels mandated by the Ministry of Advanced Education.

**(h) Degree Recognition**

BCIT has been thorough with all its new program proposals to ensure learning objectives and expected outcomes are clearly defined, and that curriculum and delivery of program content are of the highest quality. Even though BCIT graduates are successful in their careers, many graduates experience difficulty obtaining recognition for their BCIT degree. Some Bachelor of Technology graduates have experienced barriers to further their studies at other Canadian universities and some International jurisdictions. BCIT is working with Government and other polytechnic institutions to break down the barriers and obtain recognition for polytechnic degree programs.

**(i) Accountability Compliance Cost**

BCIT supports the Government's initiative that requires public funded institutions to be accountable, and for institutions to demonstrate their accountable with key performance measures. The burden on institutions to comply with reporting and information requirements is significant, and the cost to demonstrate accountability exceeds the benefits. A simpler and more cost effective approach is needed for institutions to demonstrate their accountability.

## Funding for Applied Research

Funding for applied research continues to be a challenge. The Ministry of Advanced Education identified the maximizing of BC's share of federal research funding as a goal. BCIT, along with colleague institutions in Polytechnics Canada, struggles to overcome a traditional scholarly-oriented approach to project review and assessment that continues within federal, provincial, and private research funding agencies and granting councils. We have made some progress as eligibility criteria have started to respond to the realities of the academic environment, with increasing recognition of the untapped potential of polytechnics. Nevertheless, success rates for good proposals from polytechnics are low and support from these traditional research funding sources remains modest.

## BCIT's Enrolment History

Over the last five years BCIT has consistently provided educational opportunities to more students than it was funded for. BCIT has taken advantage of the opportunity to leverage classroom, lab and shop learning spaces during non-traditional times to expand enrolments, hence bringing utilization well over the 100 per cent level. The table below shows the total number of full-time equivalent students (FTEs) delivered by BCIT compared to funded targets provided by AVED and ITA (or its predecessor ITAC).

Fiscal Year	00/01	01/02	02/03	03/04	04/05
AVED Block FTE – Delivered	9,053	9,270	9,499	9,660	9,989
ITA (ITAC) Block FTE – Delivered	2,362	2,389	2,488	2,390	2,419
<b>Total Government Block Funding – Delivered</b>	<b>11,415</b>	<b>11,659</b>	<b>11,987</b>	<b>12,050</b>	<b>12,408</b>
Funded AVED Block FTE Target	8,413	9,020	9,090	9,269	9,463
Funded ITA (ITAC) Block FTE Target	2,322	2,373	2,424	2,450	2,450
<b>Total Government Block-Funded FTE</b>	<b>10,735</b>	<b>11,393</b>	<b>11,514</b>	<b>11,719</b>	<b>11,913</b>
<b>Total Gov't-Funded FTE Utilization</b>	<b>106%</b>	<b>102%</b>	<b>104%</b>	<b>103%</b>	<b>104%</b>

**Note:** The above FTE enrolments are calculated using the old FTE counting model.

In 2006 the FTE enrolments will be restated using the new FTE counting model.

### Enrolment Management

In response to demand, many of our programs are delivered year-round. Vocational and apprentice programs have intakes throughout the year and many offer morning, afternoon, and evening shifts. In some program areas, the training facility is at the maximum utilization point, and the scheduling of facilities and equipment maintenance introduces challenges. Since BCIT has reached maximum utilization of some of its programs, further demands by an expanding labour force will create difficulties in levels of delivery.

To support the intensity of our technology programs, our academic year is nine months in duration. This is compared to a traditional university or college year of eight months. It must be acknowledged that the intensity is fundamental in setting our graduates apart in the workforce. In fact, our two-year diploma programs are equivalent to three-year diploma programs in other parts of Canada.

To support this successful delivery and educational model, appropriate funding is necessary for both the direct educational component, as well as for student support services.

Performance measures listed below align with the Ministry of Advanced Education goals and objectives as defined by their accountability and performance framework.

#### Performance Measure

Support the Principle of: Efficiency				
	BCIT Baseline	2006/2007	2007/2008	2008/2009
• Total credentials awarded	5,357 (2004-05 3-year average)	5,465	5,525	5,597

#### Performance Measure

Support the Principle of: Capacity				
	BCIT Baseline	2006/2007	2007/2008	2008/2009
• Total Student Spaces (AVED)*	10,073 (2004/05 Actual)	9,872 FTE	10,081 FTE	10,290 FTE
	9,709 (2005/06 Target)			
• Percentage of annual education activity occurring between May and August	18.73% (2004/05 FY)	Contribute toward achievement of target of 21% average system-wide.		

**\*Note:** FTE enrolments are subject to change as a result of recalibration under way. This is a transition year to implement the new FTE counting model.



The Ministry of Advanced Education has identified the following areas as priority programs to address critical skill shortages: computer science, registered nursing, and allied health workers. BCIT has been successful in meeting all priority program targets and the enrolment plan has been set to support the Ministry's growth requirements.

### Performance Measure

Support the Principle of: Comprehensiveness				
	BCIT Baseline	2006/2007	2007/2008	2008/2009
• Number of Computer Science student spaces*	129 FTE (2004/05 Actual)	116 FTE	116 FTE	116 FTE
	116 FTE (2005/06 Target)			
• Number of registered nurse and allied health student spaces*	1,136 FTE (2004/05 Actual)	1,110 FTE	1,150 FTE	1,158 FTE
	1,081 FTE (2005/06 Target)			

**\*Note:** FTE enrolments are subject to change as a result of recalibration under way. This is a transition year to implement the new FTE counting model.

### Distance Education

BCIT has a broad range of educational delivery modes, from traditional classroom/lab-based delivery to online learning, correspondence, guided learning, and distributed learning. We provide more than a quarter of all post-secondary distance education courses in B.C. and provide technical support to BCcampus. In addition to the many forms of traditional paper-based distance learning, BCIT has a growing inventory of flexible delivery courses. These courses utilize the power of the Internet and a growing collection of collaborative tools that foster online communities of practices.

In support of BCIT's belief in using the most appropriate technologies and delivery methods to assist learners in achieving their goals, we have also developed a range of flexible learning models each built on sound learning theory and best practice.

Distributed learning connects teachers and learners in traditional and non-traditional settings. It may involve elements of campus-based delivery, open learning systems, and distance education. It can mean technology-enhanced classrooms, classroom courses enhanced with online resources, collaborative tools, such as blogs, and the development and use of sophisticated online simulators. The distributed learning approach customizes learning environments to meet the needs of diverse student populations. Its goal is to create an environment in which learning is emphasized and technology is viewed as an enabler.

### Performance Measure

Support the Principle of: Accessibility				
	BCIT Baseline	2006/2007	2007/2008	2008/2009
• Number of student spaces in online learning - BCcampus*	N/A	32 FTE	32 FTE	32 FTE

**\*Note:** FTE enrolments are subject to change as a result of recalibration under way. This is a transition year to implement the new FTE counting model.

### Aboriginal Programs and Services

BCIT is pursuing opportunities to enhance Aboriginal post-secondary enrolments with resultant benefits to the economy. This institution will continue over the next three years to partner with Bands across the province to deliver courses and programs on-site in Aboriginal communities. Our agreements respond to Aboriginal education and training priorities and seek to expand Band capacity. This delivery model supports relevant, interactive learning and respects the cultural and personal needs of Aboriginal students.

On-campus, BCIT’s Aboriginal Services Department provides gathering places and points of connection for Aboriginal students. Cultural events, social activities, and Elder support complement educational initiatives promoting student retention and successful program completion. Within confined resources, Aboriginal Services staff engage in recruitment and outreach activities.

#### Performance Measure

Support the Principle of: Accessibility				
	BCIT Baseline	2006/2007	2007/2008	2008/2009
• Student spaces in developmental programs*	274 (2004/05 Actual)	Maintain or increase		
	321 (2005/06 Target)			
• Total Number and percentage of public post-secondary student population that is Aboriginal** Total Number (#) Percent (5)	Data from 2004/05 Academic Year	Maintain or increase		
	640			
	1.4%			

**\*NOTE:** FTE enrolments are subject to change as a result of recalibration under way. This is a transition year to implement the new FTE counting model.

**\*\*NOTE:** The above Aboriginal figures were provided by the Ministry of Advanced Education. BCIT is not able to verify the baseline data as students do not have to “self-disclose.” These goals and objectives have been set by the Ministry of Advanced Education.

### Developmental

BCIT does not offer adult basic education in a traditional sense. Students seeking technology or technical careers often have different academic needs from those in more traditional educational institutions. At BCIT, we design a small number of selected developmental programs and courses to provide students with the unique requirements to be successful in technology or trades programs. This may consist of one course or an entire program designed to provide students with math, physics, computer, and communication skills necessary to prosper at BCIT and beyond.

Over the past year, BCIT experienced a decline in demand in this area and as a result we have adjusted our enrolment forecast for the next few years. However, to meet the needs of an increasingly heterogeneous student population, we will continue to offer programs and courses that support entry into our certificate, diploma and degree programs.

## Higher Standards of Education

In keeping with the Ministry of Advanced Education's goals as well as our own ongoing goals and principles, BCIT has a number of activities and initiatives that address the issue of ever-increasing demand for quality in our education. Contributors to quality encompass several components, including: curriculum, facilities, equipment, instruction, and student support services.

### BCIT Technology-Enabled Knowledge Initiative

Technology is pervasive in our workplaces and, to a large degree, defines how we work. Through the TEK initiative our students will learn new ways to communicate, participate and succeed in their communities and workplaces. The TEK initiative will place advanced communication, teaching and learning devices in the hands of our students, faculty, industry partners and administrators. Our communities of practice will be able to share information in any format through ubiquitous access to Internet networks throughout our province and indeed the world.

To meet the following TEK goals the Board of Governors has approved a five-year \$25-million plan.

#### The TEK goals

The TEK initiative is focused on achieving five foundation goals:

##### 1. Enhance innovation in teaching and learning

The TEK Initiative is focused on advancing BCIT's primary interests: teaching excellence and applied learning. BCIT will support faculty so they can advance their skills in the use of new educational technologies.

##### 2. Advance the institute's applied research agenda

Applications created and implemented under the TEK initiative will provide a rich source of opportunities for increased BCIT connection and collaboration with industry partners and the global research community.

##### 3. Connect BCIT to the world

We will connect BCIT to the world ensuring that communication, learning and teaching can occur anywhere, at any time. We will link students with industry essentially establishing communities of practice where potential employees interact with future employers long before graduation day.

##### 4. Equip our learning spaces

BCIT will equip its learning spaces so that faculty and learners can access the latest learning and teaching applications within our classrooms, in our libraries, on our campuses, in transit, at home and in the workplace.

##### 5. Conduct the Business of BCIT

The BCIT community, in particular its students, will be better served through the application of advanced technologies and software applications that enable the various support and administrative groups working at BCIT.

## Learning and Teaching Centre

The Learning and Teaching Centre (LTC) is dedicated to quality in education and is equipped to support the curriculum development, instructor professional development, distributed learning and audio visual needs of the Institute.

The LTC continues to evolve and has set out the following goals. The LTC will:

1. Establish and implement a Polytechnic Education Research agenda designed to define and advance the unique nature of teaching and learning that occurs in all of BCIT's schools including those focused on trades training
2. Establish an institute e-learning strategy that will guide the growth of distributed learning programs and services over the next five years. The strategy includes the installation and on-going renewal of a technical infrastructure and suite of tools that connects BCIT to the world and facilitates program delivery for international programs.
3. Proactively advise on the design of traditional and innovative learning spaces arising out of the Institute's campus master plan. The application of sound learning theory, advanced educational technologies and research into best teaching and learning practices will inform this new role.
4. Lead the innovation mandate within the TEK initiative by engaging faculty and staff in the use and study of educational technologies and techniques.
5. House the editorial offices of the Canadian Distance Education Association over the next three years. Through this association the Institute's contribution to the field of distributed learning and the unique nature of polytechnic education will be better recognized across Canada.
6. Help advance the field of best practice that is emerging within our vocational programs. The LTC will support the on-going investigation and evolution of teaching practice that is unique to trades training.

BCIT's Technology-Enabled Knowledge ("TEK") initiative is about innovation and about achieving new standards of excellence in education and learning.

## Lab and Workshop Equipment

One of the key components necessary for a high quality learning experience for a post-secondary institution that is founded on applied learning is a lab and workshop environment that replicates best practices of the comparable working environment.

Curriculum at BCIT is designed so that the students spend about half of their learning experience in lab and/or workshop environments. In order for our graduates to be high-value contributors to their employers, they must have learned in an environment that replicates current and anticipated work environments. They need to be on the cutting edge.

All educational experiences for our learners are designed with an appropriate mix of fundamentals, current practice, exposure to the leading/bleeding edge, and applied research. We are guided by the goal of learning state-of-the-art practice in state-of-the-art facilities, thus reflecting best practices in each employment sector.

While we have strong support from industry in the form of donations of equipment, software, curriculum content, business practices and quality assurance practices, we still are falling short of meeting this goal. The most recent review of our large and varied equipment inventory indicates a need for an infusion of about \$50 million worth of new equipment to approach our learning environment goal.

## Physical Plant

A significant contribution to a high quality learning environment is state-of-the-art campuses that are constructed, operated and maintained in a manner that facilitates effective learning and teaching. In addition, they must have sufficient capacity to accommodate all of the learning and applied research activities comfortably in a current and efficient manner.

We are in the second year of a five-year renovation program at our Marine Campus, updating the physical plant to meet current and projected needs in our plans to serve the marine sector of BC's economy.

Our Downtown Campus, completed in 1997, is an effective learning environment that will be enhanced with smart classroom technologies.

Currently, BCIT is upgrading its instructional spaces wherever possible to improve the learning environment and enhance space utilization. Moreover, in response to the Technology-Enhanced Knowledge Initiative, current instructional technologies will be provided as part of all upgrades.

For information on the Burnaby Campus Master Plan and the Aerospace Technology Campus, see Capital Projects.

### Performance Measure

Support the Principle of: Quality				
	BCIT Baseline	2006/2007	2007/2008	2008/2009
Student Outcome — skill gain:	2005 Survey Data:			
• Written Communication	72.2%			
• Oral Communication	74.5%			
• Group Collaboration	85.5%			
• Critical Analysis	82.9%			
• Problem resolution	77.5%			
• Reading and comprehension	81.5%			
• Learn on your own	80.6%			
		Individual skills should contribute towards meeting skill development average benchmark target of 85%		
• Student assessment of quality of education	94.1%			Meet or exceed benchmark of 90%
• Student assessment of quality of instruction	80.2%			Meet or exceed benchmark of 90%
• Student Assessment of usefulness of knowledge and skills in performing job	85.6%			Meet or exceed benchmark of 90%
• Student outcomes — unemployment rate	7.0%			Maintain unemployment rate for former BCIT students below rate for persons with only high school credentials or less.

**Note:** The baseline and performance data for college sector outcome measures "Skill Development" and "Student Assessment of Quality of Instruction" are based on a five-point scale that will be recalibrated to a four-point scale to allow system level comparability. The recalibrated baseline and performance data will be provided for the 2005/2006 Service Plan Report when it becomes available and the baseline data will need to be restated in the 2006/2007 Service Plan Report.

## Supporting our Educational Mission

### The BCIT Foundation

In an effort to support BCIT in achieving its polytechnic vision, the BCIT Foundation staff and volunteer board of directors raise funds in support of BCIT and its students.

With BCIT's commitment to providing relevant, high quality education and training opportunities to students, the need for state-of-the art equipment and facilities is endless. Support from the private sector, by way of contributions of cash and equipment, allows BCIT to train students in best practices on current equipment, while employing the latest technologies.

We determine fund development priorities by responding to the Institute and school priorities for student financial aid and awards, for research and program development, and for capital projects and equipment requirements.

### Recruitment and Retention

The Human Resources department, in collaboration with key stakeholders, plays a strategic role in assisting the institute to recruit, retain and develop skills to fulfill the polytechnic vision. This includes developing new methods to recruit high quality instructors and staff with the appropriate credential and industry experience. We also need innovative compensation plans that will encourage instructors to pursue applied research. As well, we will expand professional development opportunities to support applied research and academic leaders in graduate degree programs.

### Student Services

The perceived quality of experiences with institutional services outside of the immediate learning environment materially affects applicant, student and graduate perception of total educational experience. At BCIT, our Student Services area incorporates a broad range of support mechanisms including program advising, admissions, financial aid and awards, student housing, recreation, library services, student employment services, counselling and student development, disability services, Aboriginal and international student services, workplace education (co-op), medical services, and convocation.

All units within Student Services are working to provide exemplary learner services. We have significant internal and external changes to respond to, including:

- the growing diversity of our student population, presenting new and greater needs for learner support.
- an increase in the range of BCIT academic credentials, increasing the complexity of admission and registration processes.
- a need to provide comprehensive services to apprentices, their employers, and the Industry Training Authority (ITA).
- a requirement to devote additional resources to support the Central Data Warehouse to ensure that our data submission meets audit standards.
- student needs for more web-based services, as well as ready access to in-person and telephone information and assistance.
- increasing complexity of the student financial aid system.
- the requirement to continuously implement new versions of Banner, our student and institutional information system.

Future Student Service imperatives include enhancing, through renewed branding and marketing strategies, local and international understanding of BCIT's strength as a polytechnic. As well, sharpening our enrolment management strategies will be a priority. The Library, in addition to focusing on escalating demands and costs of electronic collections, will continue to improve collaborative and individual learning spaces and will evolve to meet the needs of students in advanced degree programs. Importantly, in 2006/07 through 2008/09, Student Services will continue to evaluate the relevancy and quality of the support we provide and adjust our service standards accordingly. We will measure and report on the value of our operations to the Institute.

### **International Credential Evaluation Service (ICES)**

ICES evaluates the academic credentials of individuals who have studied in other countries or provinces and documents comparability to the British Columbian and Canadian educational system. ICES currently has specific affiliations with over 56 professional organizations, post-secondary institutions and employers across Canada. ICES has an immediate goal to increase recognition of services both in Canada and internationally. With increasing numbers of skilled immigrants choosing Canada as their country for settlement, ICES growth is a priority. We will work in partnership with others to break down the barriers to licensure, further study, and employment for those who have completed their education outside Canada.

### **Fostering Community**

In addition to the students, the BCIT community consists of faculty, staff, retirees and Pioneers, industry partners, an extensive alumni community, and other stakeholders.

In every respect, each member of the community reinforces BCIT's high standards and supports the students who are the lifeblood of the BCIT community.

In this light, supporting the community fosters an environment and infrastructure that, in turn, supports the students. BCIT is proud to be proactive in developing programs and professional development opportunities for its employees, hosting forums and using other communication vehicles to keep the community members informed and engaged, and recognizing achievement and high standards through Employee Excellence programs and other staff recognition programs.

Some of these include:

- President's Open Forum – an opportunity approximately every six weeks for staff to come together with the President of BCIT to ask questions, offer ideas, and participate
- A comprehensive Employee Wellness Program featuring fitness activities, and workplace balance initiatives including monthly Lunch and Learn sessions on a wide variety of topics
- Organizational and People Development workshops and courses — training to build and develop new competencies in BCIT employees
- Computer-based training in The Learning Lab – flexible scheduling options for self-paced independent learning
- BCIT courses — available at no charge to employees who meet certain conditions

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- Professional Development Day – an annual event for all staff, to foster a learning community
- Special professional development funds for all employees — available on a competitive basis to employees who meet certain conditions
- Employee recognition programs for excellence in teaching and contributions to improvement in institutional services
- Retirees and Pioneers — organizations in which BCIT’s employees continue to be an active and meaningful part of our community even after retirement
- Social contribution through support of Shinerama, United Way, Habitat for Humanity
- A formal structured orientation process for new staff.

### **BCIT Alumni Relations**

BCIT will continue to invest in its alumni through services offered by the Alumni Relations department and support of the BCIT Alumni Association Society. The staff and volunteer Board of Directors have created a long-term vision and formulated a strategic plan for the Association that will guide the program to 2010, fostering greater involvement by alumni at BCIT.

With revenue generated through successful alumni affinity and merchandise programs, the Alumni Association will make increasing annual contributions to student scholarships and bursaries and will continue to support student and alumni programs. The Alumni profile campaign will raise the profile in the community of distinguished alumni, and will celebrate the contributions made by our graduates to their communities and industries. By fostering meaningful relationships with alumni, The BCIT Alumni Association will continue to promote alumni giving and volunteering at BCIT.

The Alumni Relations office manages the Institute’s alumni database of more than 115,000 graduate records, which grows by more than 3,500 unique records each year. This database will continue to be accessed by the Institute for recruitment, surveys and promotional opportunities.



## Capital Projects

### Aerospace Technology Campus

Recognizing the key role that BCIT plays in the expanding aerospace industry, the B.C. Government made a \$16.4 million commitment to BCIT's new Aerospace Technology Campus. This demonstration of support has seeded the development of the new campus, set on 12.2 acres at YVR. The expansion will allow BCIT Aerospace to double the number of student positions currently offered, enabling us to significantly contribute to the growing number of graduates required by aerospace-related industries. Total estimated capital construction cost is \$65 million. The campus is under construction and scheduled to open in September 2007.

### Heavy Equipment Group Campus

The Heavy Equipment Programs are currently leasing space at the Great Northern Way Campus (GNWC). As the campus develops, these programs will need to move. BCIT is investigating a partnership arrangement with Translink and Coast Mountain Bus Lines for a new campus in the Maple Ridge/Pitt Meadows area. The business case will be constructed so that the financing is within the current cash flow for leasing at GNWC.

### Burnaby Campus Renovation and Expansion

In order to meet the education quality goals described in this Service Plan and to accommodate the increasing number of students as envisioned in the government's recently announced allocation of an additional 25,000 provincial seats by 2010, it will be necessary to add one or more buildings to the existing space inventory at our Burnaby campus. We anticipate that the campus master planning exercise now underway will identify the need to construct approximately 650,000 square feet of new building space and extensively renovate a significant portion of our existing buildings. While the total cost of this plan is unknown at present, it is estimated to be \$500 to \$600 million.

### Health/Life Sciences Complex

As part of the Burnaby campus expansion, the Health/Life Sciences Complex is a priority project for BCIT focusing on growing nursing, allied health, and life sciences education. We aim to complete the business plan for the complex by early fall of 2006. We expect the complex to include "over build" space for clinical and other commercial activities, and applied research. The exact space requirements for the over build will depend on the partnerships that can be arranged and are unknown at this time.

## Financial Analysis

As a result of the ever-changing environment within the post-secondary education sector, there are significant challenges emerging that will have a considerable impact upon BCIT's ability to achieve the performance targets and objectives established for us by the Ministry of Advanced Education.

Currently, more than 48 per cent of BCIT's operating budget is derived from Ministry funding. The balance of necessary funds required to support the Ministry-mandated FTE targets and corresponding academic and capital requirements is generated through part-time studies revenue and industry services contract revenue and student tuition. These ancillary sources of funds have been negatively impacted by increased competition within the public and private post-secondary markets as well as an overall decline in enrolments and participation in these areas.

Increased salaries and associated costs, increased costs relative to the operation and maintenance of aging physical and academic facilities, and the need to upgrade academic and administrative communication and information technology infrastructure are additional pressures which are compounded by the current level of provincial funding and tuition cap.

Inadequate ITA funding has also created a difficult situation in determining how well BCIT will be able to respond to the resource and capital requirements necessary to fulfill industry trades training performance targets and objectives.

# British Columbia Institute of Technology

## Three-year Service Plan – Forecast As at March 15, 2006

	2006/2007 Proposed Budget	2007/2008 Proposed Budget	2008/2009 Proposed Budget
<b>Revenues</b>			
Grant - Block Funding	91,360,000	92,548,627	94,398,580
Grant -			
ELTT and Apprenticeship	19,814,015	19,814,015	19,814,015
Grant - Capital (ACA)	5,428,655	5,428,655	5,428,655
Grant - Miscellaneous Grants	250,000	250,000	250,000
Tuition - Part-time Studies	31,581,198	31,957,800	32,596,900
Tuition - Full-time Studies	42,731,105	44,013,000	44,894,000
Industry Services	13,674,655	13,325,000	14,000,000
Ancillary Revenue	10,202,461	11,447,545	11,619,260
Interest/Rental/Other Income	13,656,133	11,516,486	11,689,232
<b>Total Revenues</b>	<b>228,698,222</b>	<b>230,301,128</b>	<b>234,690,642</b>
<b>Expenses</b>			
Salaries and Benefits	163,742,112	174,153,614	184,602,830
Non-salary			
Supplies	9,791,908	10,281,503	10,795,578
Cost of Goods Sold	5,896,360	6,191,178	6,500,737
Utilities	4,745,895	5,292,107	5,662,555
Rentals and Leases	5,841,394	6,395,964	6,715,761
Communications	1,340,605	1,376,135	1,444,942
Repairs and Maintenance	7,901,414	8,128,485	8,534,909
Logistics	840,125	882,131	926,238
Miscellaneous Expenditures	572,259	589,427	607,109
Fees for Service	6,343,320	6,660,486	6,993,510
Printing and Copying	1,223,075	1,284,229	1,348,440
Advertising	1,653,961	1,771,392	1,806,820
Banking, Financing and Insurance	4,506,755	4,880,403	5,026,815
Employee Development	2,399,781	2,471,774	2,545,928
Travel	3,200,764	3,096,787	3,362,723
Academic Capital and Other Expenditures	4,523,749	4,750,000	5,500,000
Awards	195,500	200,000	200,000
<b>Total Non-salary Expenses</b>	<b>58,263,788</b>	<b>64,252,001</b>	<b>67,972,065</b>
Capital – ACA	5,428,655	5,428,655	5,428,655
<b>Total Expenses</b>	<b>228,698,222</b>	<b>243,834,270</b>	<b>258,003,550</b>
<b>Anticipated Surplus/(Deficit)</b>	<b>0</b>	<b>(13,533,142)</b>	<b>(23,312,908)</b>



# APPENDICES

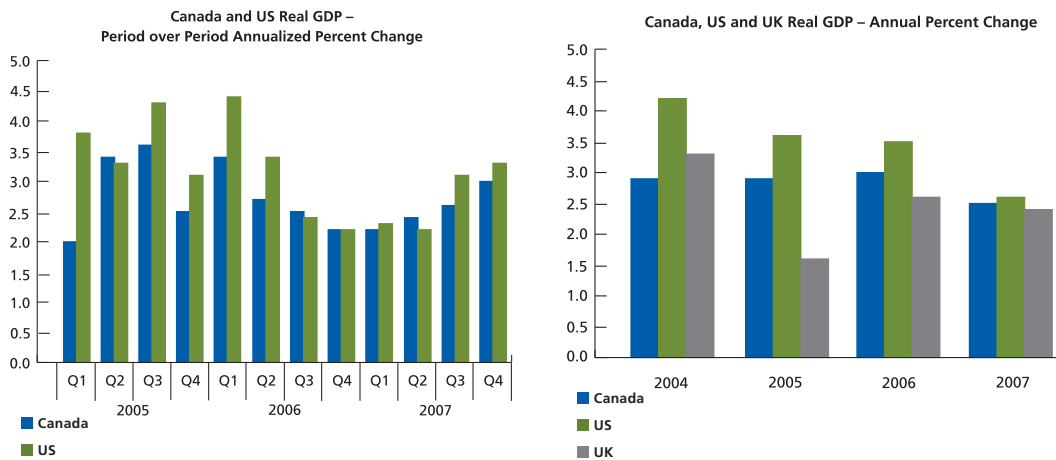
## ECONOMIC FORECAST

### Canadian GDP

In 2005, Canada achieved real Gross Domestic Product (GDP) growth of 2.9%, remaining consistent with that of the previous year, which was a slight increase from the 2% in 2003. The 2005 growth was still slower than in 2002, where GDP was at 3.4%.<sup>1</sup>

A range of forecasts are being made for 2006 real GDP growth. The BMO Bank of Montreal expects a 3.5% growth in 2006.<sup>2</sup> Toronto Dominion Bank calls for 3.0% growth in 2006 and 2.5% in 2007.<sup>3</sup>

TD forecasts that Canada's growth will be slightly below that of the United States (US forecast: 3.5% and 2.6% growth in 2006 and 2007, respectively), but slightly above that of the United Kingdom (UK forecast: 2.1% and 2.4% growth in 2006 and 2007, respectively).<sup>4</sup> Domestic demand continues to grow, led by the growth in business investment and accompanied by outturns from both the consumers and the government sector. Trade contributed a significant 0.7 percentage point to growth proving that Canadian exporters are adjusting to the stronger Canadian dollar.<sup>5</sup>



According to the Conference Board of Canada, consumer spending and strategic business investments will drive Canada's economic performance until 2007.<sup>6</sup> Most domestic areas of the Canadian economy put in strong performances in 2004, with real consumption rising 3.4%, government spending rising 3.0% and investment rising 6.9%. Final domestic demand grew 3.9%.<sup>7</sup>

<sup>1</sup> *Provincial Outlook*. December 29, 2005. BMO Financial Group-Economics Department. <<http://www.bmo.com/economic>>

<sup>2</sup> *Ibid.*

<sup>3</sup> *TD Quarterly Economic Forecast*. December 15, 2005. TD Economics. <<http://www.td.com/economics>>

<sup>4</sup> *Ibid.*

<sup>5</sup> *Ibid.*

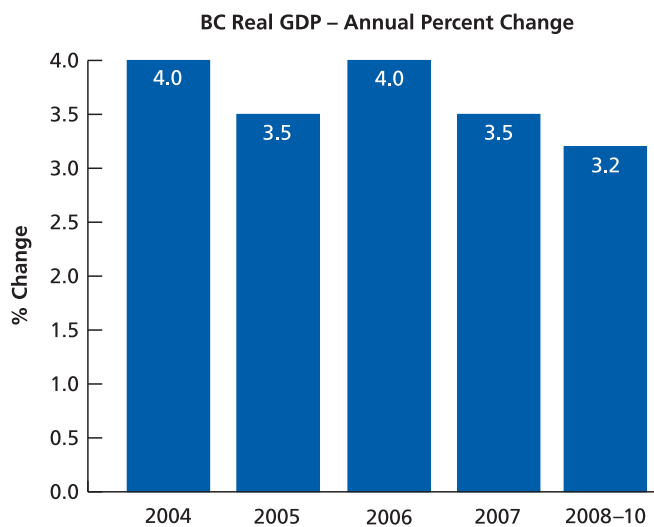
<sup>6</sup> *Conference Board of Canada News Release 05-49*. January 11, 2005, Conference Board of Canada. <[http://www.conferenceboard.ca/press/2005/Canadian\\_wtr05.asp](http://www.conferenceboard.ca/press/2005/Canadian_wtr05.asp)>

<sup>7</sup> *Provincial Outlook*. December 29, 2005. BMO Financial Group-Economics Department. <<http://www.bmo.com/economic>>

## B.C. GDP

In 2005, growth dropped to a still strong rate of about 3.5%. A decrease in the pace of growth in residential construction and forest products restrained growth in 2005. BMO Bank of Montreal predicts that in 2006 growth will rise back to 4.0% because of some major projects including preparations for the 2010 Olympics. Over the 2007-10 periods, growth will continue to be strong, at well over 3%.<sup>8</sup>

BMO Bank of Montreal medium-term outlook indicates that consumption, residential investment and export growth should moderate to more sustainable levels. However, continued strength in non-residential investment and government spending along with a slower pace of import growth will provide enough offset to keep the economy growing.<sup>9</sup>



Key economic drivers for British Columbia are:<sup>10</sup>

- Strong employment
- Healthy consumer spending
- Increased non-residential construction
- Steady housing activity

### Strong Employment

B.C. posted its biggest jump in a decade in the number of businesses with employees. As of the second quarter in 2005, the number of businesses with employee payrolls reached a record 161,000 organizations. There were over 11,000 newly incorporated businesses in the first five months of 2005, a 12% increase over the year before.<sup>11</sup>

B.C.'s unemployment rate was 5.1% in October of 2005, the lowest it has been in over 30 years. The average unemployment rate from 2005–2007 is expected to fall to 6.2%, compared to an average rate of 7.3% between 2002 and 2004.

<sup>8</sup> Ibid.

<sup>9</sup> Ibid.

<sup>10</sup> *Confidence in B.C. Economy Remains Strong*. January 9, 2006. Ministry of Finance, Economic Forest Council <[http://www.gov.bc.ca/bvprd/B.C/content.do?brwid=@2lgL4j0YQtuW&andnavid=NAV\\_ID\\_province](http://www.gov.bc.ca/bvprd/B.C/content.do?brwid=@2lgL4j0YQtuW&andnavid=NAV_ID_province)>

<sup>11</sup> *B.C. Business Community Continues to Grow*. September 2005. Business Council of British Columbia. <[http://www.gov.bc.ca/bvprd/B.C/content.do?brwid=@2lgL4j0YQtuW&andnavid=NAV\\_ID\\_province](http://www.gov.bc.ca/bvprd/B.C/content.do?brwid=@2lgL4j0YQtuW&andnavid=NAV_ID_province)>

### Healthy Consumer Spending

Real consumer expenditure grew by 2.4% in the second quarter of 2005, down from the first quarter pace of 6.7%.

Personal income indicated a 6% gain in the second quarter. Labour income rose 6.2% as employment and average hours worked per employee increased. Real personal disposable income increased to 2.3%. For the second consecutive quarter consumers spent more than their disposable income.<sup>12</sup>

### Increased non-residential construction

In 2006, real GDP growth is predicted to rise because of the successful bid for the 2010 Olympics. In preparations for this event, growth will continue over the 2007-10 period. Non-residential construction is supported by a large number of projects to prepare for the 2010 Olympic Games. Non-residential building permits are up over 71% from 2004.

Projects that the province will benefit from are:

- \$1 billion expansion at the Port of Vancouver
- A new \$500 million container terminal at the Port of Prince Rupert
- \$650 million Golden Ears Bridge
- \$800 million expansion of the Port Mann Bridge
- \$800 million South Fraser Perimeter Road
- The 10-year \$1.8 billion expansion of the Vancouver airport
- The planned \$1.7 billion Richmond-Airport-Vancouver Rapid transit line
- \$800 million Coquitlam light rail service
- \$626 million upgrade to the Sea to Sky Highway
- \$670 upgrade to the Trans Canada Highway (though the Kicking Horse Canyon)
- \$620 million Olympic infrastructure budget for various sports venues, athletes villages and other facilities
- A four-year \$615 million expansion of the Vancouver Trade and Convention Centre
- Two proposals for multi-billion-dollar oil pipelines from Alberta oil sands to Kitimat, B.C and to build LNG terminals
- \$500 million+ for three ski resorts, two electricity generating stations (one hydro, one wind) and a water treatment plant.

### Steady Housing Activity

B.C.'s real estate market is expected to plateau after the high reached in 2005. Canada Mortgage and Housing Corporation is forecasting healthy activity from continued employment growth, rising incomes and demographic change. Carol Frketich, regional economist for Canada Mortgage and Housing, estimates that 95,000 homes will change hands in 2006 and approximately 31,000 new homes will be built to keep up with demand.

<sup>12</sup> *The Economy in Brief*, Department of Finance Canada, September 2005. <<http://www.fin.gc.ca/ECONBR/ecbr05-09e.html>>

## Exports – Canada

Exports decreased by almost 6% in the second quarter of 2005, but quickly rebounded by over 11% in the third quarter. Exports are forecasted to decline in the last quarter of 2005 and remain somewhat steady into 2006. It is predicted by TD Economics that 2007 will see an even larger decline being approximately 3.5%.<sup>13</sup>

## Imports – Canada

In 2005, real imports registered their first decline after approximately six consecutive gains. The decrease was broadly based, with energy and industrial products falling sharply. Imports of automotive products inched lower and imported parts used in the production of vehicles, declined with falling automotive exports. Investment growth boosted machinery and equipment imports. Imports of services also increased.<sup>14</sup>

## Consumer Confidence

As of March 28, 2006 the Canadian consumer confidence index climbed up to 88.0, up 3.2 points from last quarter. The Canadian index remains slightly above the US equivalent. Data for this index represented a sample of 2,013 Canadians between February 9 and 19, 2006. Bruce Anderson, CEO of Decima stated, "Since the last measurement, inflation has remained low, unemployment has remained low, interest rates have remained low and the TSX has risen by 700 points. The strength of these conditions have helped people get past the anxiety they felt in September after the rapid escalation of energy prices, and the stunning scenes of devastation caused by the hurricane season in the US. Dom Grestoni, Investors Group Senior Vice President feels that the overall feeling of well-being can be attributed to the continued strength of the Canadian economy, driven by booming energy and commodity sectors."<sup>15</sup>

## Interest Rates

Canadian consumers and businesses have been experiencing an unmistakable upward trend which began in 2004. In that year central banks ended a long series of rate cuts that took interest rates to 40-year lows. In April of 2006, the Bank of Canada had increased its overnight lending rate eight times to 4.0%. Its American counterpart raised its rate no less than 15 times to 4.75%. It is indicated that additional hikes were likely.<sup>16</sup>

## Inflation

The tightness of the labour market and the absence of any economic slack more broadly, do raise the risk of higher inflation. But price pressures are not expected to get out of hand. Core consumer inflation remains below 2% at the moment and it is only forecasted to return to the midpoint of the Bank of Canada's 1–3% target range before the end of 2006. This view is forecasted on the assumption that the Bank of Canada will remain observant and that the monetary authority will continue lifting rates towards a more natural level of approximately 4% by mid 2006.<sup>17</sup>

<sup>13</sup> *TD Quarterly Economic Forecast*. December 15, 2005. TD Economics. <<http://www.td.com/economics>>

<sup>14</sup> *The Economy in Brief*. Department of Finance Canada. September 2005. <<http://www.fin.gc.ca/ECONBR/ecbr05-09e.html>>

<sup>15</sup> *Consumer Confidence Continues Recovery*. March 28, 2006. Media Release-Investors Group. <[http://www.investorsgroup.com/english/about\\_us/news\\_releases/2006/060323\\_canadian\\_consumer\\_confidence.htm](http://www.investorsgroup.com/english/about_us/news_releases/2006/060323_canadian_consumer_confidence.htm)>

<sup>16</sup> *Interest rates: The Rising Cost of Money*. April 25, 2006. InDepth: Economy. CBC News Online. <<http://www.cbc.ca/news/background/economy/>>

<sup>17</sup> *TD Quarterly Economic Forecast*. December 15, 2005. TD Economics. <<http://www.td.com/economics>>



## Canadian Dollar

The Canadian dollar has continued to rise in 2005 and the first quarter of 2006. In the first 11 months of 2005, the Canadian dollar averaged 82.2 cents US. This is an increase of 5.4¢. Richard Egelton, Chief Economist for the BMO Financial Group predicts that the Canadian dollar will average 85–87 cents US over the medium term of 2006.<sup>18</sup> TD economists expect to see the Canadian dollar at 83 cents US in 2006.<sup>19</sup>

### Canadian Dollar – Impact on Industry

The recent decline in the dollar's value may indicate that the peak in the US-Canada exchange rate occurred last November, or conversely, that the US dollar has bottomed. If the latter is the case, the implication on Canada's trade performance is higher economic growth and a need to raise interest rates. The main economic factor that conflicts with the US dollar having bottomed out is the large US current account deficit and the fact that it is unlikely to decline over the next two years. Increasing interest rates will only buoy the currency over the short-term. As a result, the US dollar is considered to be declining over the long-term.<sup>20</sup>

It is important for Canadian firms, especially exporters, to continually adapt to increases in the dollar. The rising commodity prices and stronger foreign demand that offset the effects of the dollar increase in 2004 are unlikely to be available in the next several years.<sup>21</sup> Craig Campbell, Pricewaterhouse Cooper's forest industry expert in Vancouver, states that swings in the exchange rate "have a huge impact." Commodities such as lumber and paper are priced in U.S. dollars; therefore, a one-cent US increase in the Canadian currency over one year will deplete \$180 million in revenue to the B.C. forest companies.<sup>22</sup>

The following list identifies the highly vulnerable industries based on the exchange rate:

#### High vulnerability industries

- Wood products
- Travel and tourism
- Paper manufacturing
- Electrical equipment
- Film production

<sup>18</sup> Provincial Outlook. December 29, 2005. BMO Financial Group-Economics Department. <<http://www.bmo.com/economic>>

<sup>19</sup> TD Quarterly Economic Forecast. December 15, 2005. TD Economics. <<http://www.td.com/economics>>

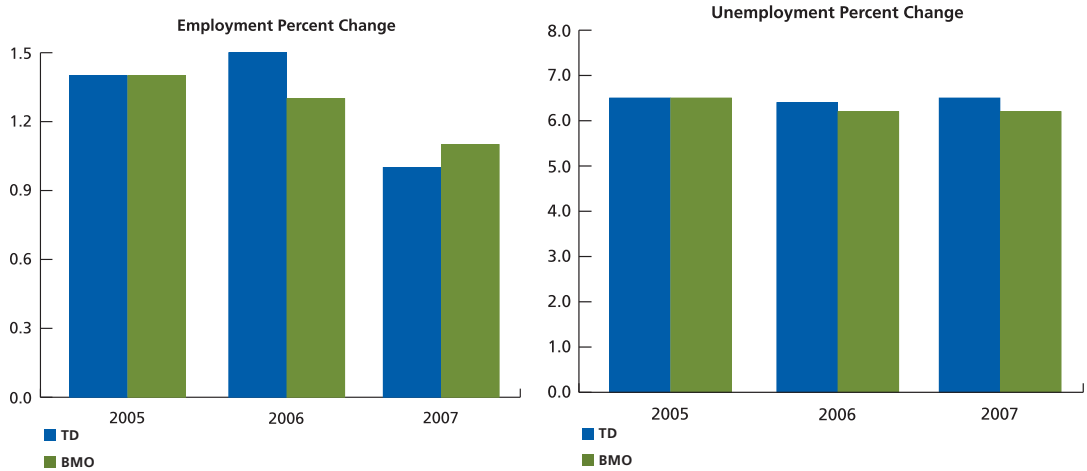
<sup>20</sup> Pastrick, Helmut. Interest Rate and Exchange Rate Forecast. Issue 2, February 2005. Credit Union Central of B.C. 22 Feb. 2005 <<http://economics.cucB.C.com/economics/centralonline/IN-TERESTRATEFORECASTS/feb2005.pdf>>

<sup>21</sup> TD Quarterly Economic Forecast. December 16, 2004. TD Economics. <<http://www.td.com/economics/qef/qef.jsp>>

<sup>22</sup> Penner, Derek. "Cheaper dollar welcomed." Vancouver Sun February 8, 2005: D3.

## Employment – Canada

Canadian employment unexpectedly fell in December 2005 minimally by 2,100 following sharp gains in October and November (68,700 and 30,600 respectively). The average monthly increase in the fourth quarter is about double the normal rate, indicating strength in the economy. December’s job losses were in part-time work and in the private sector totalling 66,000.



Canada created 232,500 net new positions (180,000 for the private sector and 52,500 for the public sector). This gain was limited by the net loss of 100,400 jobs in the manufacturing sector that was greatly impacted by the strong Canadian dollar.

The unemployment rate was up to 6.5% in December from a 31 year low of 6.4% in November, reflecting both fewer jobs and an increase in labour force participation to 67.1% of the working-age population.<sup>23</sup>

## Employment – B.C.

B.C. led all provinces with job growth of 3.8% in 2005. In February 2005, an estimated 2.1 million British Columbians were employed, a 0.4% increase from January 2005. Its unemployment rate ended the year at 5.1%, down from 6.2% in December 2004 and close to three-decade lows. Between January 2005 and January 2006 the public sector had the largest employment increase with 4.1%, followed by the private sector with an increase of 3.3%. The self-employed workforce also had an increase of 1.5% within that period of time.<sup>24</sup>

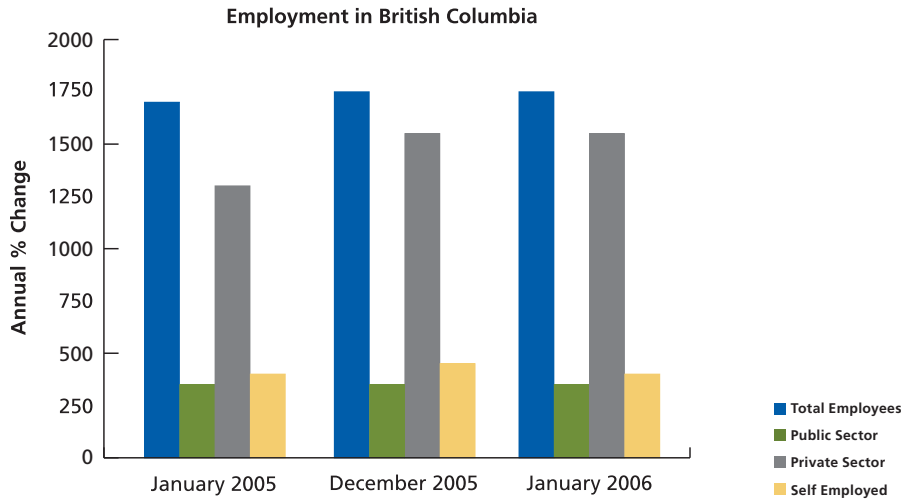
The Labour Force Survey (LFS) indicates that compared to 12 months ago, employment is up 1.7%, slightly less than the rate of employment growth in the US over the same period. In January 2005, there was an increase of 8,700 in the size of the province’s labour force. This growth increased the participation rate up to 65.4%. B.C. lost 14,700 part-time jobs and gained 16,800 full-time jobs.

In January 2005, construction employment continued its strong pace of growth by adding 9,400 jobs and pushing the industry to a record employment level of 166,200. On the down side, there were job losses in Health and Social Assistance and Food and Accommodation.<sup>25</sup>

<sup>23</sup> Egelton, Richard. *Canadian Employment Stalls in December Following Brisk Earlier Gains*. January 6, 2006. BMO Financial Group. <<http://www.bmo.com/economic>>

<sup>24</sup> Egelton, Richard. *Canadian Employment Stalls in December Following Brisk Earlier Gains*. January 6, 2006. BMO Financial Group. <<http://www.bmo.com/economic>>

<sup>25</sup> B.C./Yukon Region – *Labour Force Survey*. January, 2005. <http://www.hrdc.gc.ca/en/B.C/yk/59jwct/lmi/lfs0105.shtml>



## Employment – Industry Trends

According to the Canadian Federation of Independent Business, future employment potential for small and medium-sized enterprises in B.C. is the strongest in the country.

Employment in natural resources rose strongly in January 2006 with the largest increases coming from British Columbia and Alberta. Employment in this industry has shown a strong upward trend with gains totalling 19.2% since the end of 2002. Public Administration also rose with gains at the federal and municipal level. Other upturns in industry growth were seen by Non-residential Construction, Real Estate, Hospitals and Retail.

Downturns in industry growth will be seen in Computer Services and Electronics, Automotive, Clothing, Air Transport, Temporary Help, and Couriers. No change will be seen in Business Services, Education, Consumer Services or Goods-handling sectors.<sup>26</sup> Among the fastest expanding industries over the next two years are Oil and Gas, Non-electrical Machinery, Mineral Extraction, Electronic Products and Wholesale Trade.

In Canada the Top-ten Performers are:

- Oil and Gas Services
- Non-electrical Machinery
- Mineral Extraction
- Electronic Products
- Wholesale Trade
- Communication and Info. Services
- Rental and Leasing
- Business Services
- Miscellaneous Manufacturing
- Transport and Warehousing

26 Cross. P. Feature Article: *Emerging Patterns in the Labour Market: A reversal from the 1990s*. February, 2006. Canadian Economic Observer. Statistics Canada – Catalogue no. 11-010

“A major driver in economic activity over the last several years has been residential construction. Overall in Canada there is a projected slowdown in residential construction, however the same level of slowdown is not expected in B.C. Also, a shift is taking place where the growth is now being experienced in commercial construction.”

## Demographic Trends

### B.C. Population Statistics

British Columbia faces unique challenges within Canada. Some major issues include:

- Managing population growth that will put pressure on our urban communities, or environment and our government resources;
- Recognizing the changing ethnic make-up of the population and the need for better understanding of the values of cultural diversity;
- A health care system that must meet the needs of a growing and aging population; and
- Growing economic and income disparities between our province’s regions and people.

The median age of British Columbians is 39.6 years and rising due to boomers being a large percentage of the population cohort, as well as an accompanying low birth rate.

The following table shows projected population numbers, in thousands, for three working age cohorts, the entire working age population (15–64) and B.C.’s total population.<sup>27</sup>

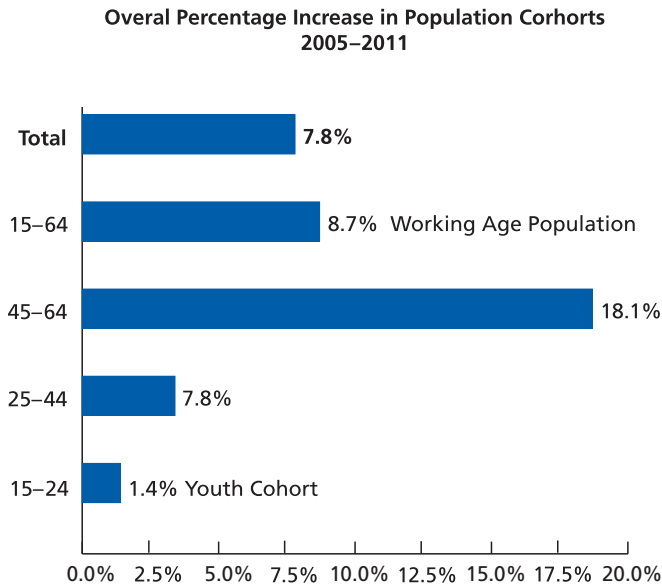
B.C. Population Projection (x 1,000)					
	Age Group ('000)				
Year	15-24	25-44	45-64	15-64	B.C. Total
2006	582.1	1232.1	1183.9	2998.2	4284.1
2007	582.1	1237.3	1217	3036.5	4331.6
2008	579.6	1243	1250.2	3072.8	4380.2
2009	576.2	1251.8	1281.3	3109.3	4431.7
2010	573.4	1264.8	1309	3147.2	4485
2011	571.9	1280.3	1330.4	3182.5	4539.1
2012	570.2	1297.3	1340.1	3207.6	4594.2

The British Columbia population is getting larger and older. Between 2001 and 2031, the population will have increased by over 36% and the median age will have increased to 45.2 years. Even though the number of births in B.C. will rise, near the end of the forecast the number of deaths will exceed the number of births.

27 B.C. Stats Population Projections. April 2005. 21 February 2006. <<http://www.B.Cstats.gov.B.C.ca/data/pop/pop/popproj.asp>>

## Population Growth

The following graph shows the population forecast trend for the three working age cohorts and their overall percentage increases from 2005 to 2011.



New population projections indicate that Canada's population is aging fast and the senior aged citizens (65 and over) will outnumber children (aged less than 15) in a decade. By 2031, the number of people aged 65 and over would range between 8.9 million and 9.4 million and the number of children would range between 4.8 million and 6.6 million. By 2056 an estimated one in 10 Canadians would be 80 years or older, compared with one in 30 in 2005.<sup>28</sup>

## Youth Population

The youth cohort, also known as the Millennial Generation, is currently of great interest. This generation entails those born in the early 1980s and are currently entering the post-secondary system. This cohort has unique characteristics. They are:

- Talented in technology
- Happy to work in teams
- Demanding of a secure environment
- Conventional in their thinking
- Close to their parents.

They also have strong career aspirations and feel that continuous learning is a way of life.<sup>29</sup>

<sup>28</sup> Population Projections. *The Daily*, Thursday December 15, 2005. <<http://www.statcan.ca/Daily/English/051215/d051215b.htm>>

<sup>29</sup> Howe, N. *Millennials go to College*, 2003. American Association of Collegiate Registrars and Admissions Officers

These observed characteristics are echoed by the Millennial cohort in British Columbia. According to the 2002 Youth in Transition Survey, the high school drop out rates in British Columbia were the lowest, with less than 1% of 17-year-olds not attending high school. Drop out rates declined through the 1990s and preliminary data shows this trend is continuing in the current decade. The results from this survey also show that 87% of high school completers (at the age of 17) aspired to attend college or university. Only 6% of respondents wished to complete a vocational or trade program. This low percentage signals problems in supplying a skilled workforce for trades-related jobs and industries. Only 81% of respondents felt they were “smart” enough to do well in university, compared to 90% in relation to their ability to succeed in college.

Post-secondary institutions should consider the characteristics and opinions of the Millennial cohort developing their recruitment program and service plans. This generation is very close to their parents, therefore parents must also be considered in the student recruitment strategy.

### Youth in the Workforce

According to the Organisation for Economic Cooperation and Development (OECD), there is a trend amongst the youth cohort to spend more time educating themselves and delaying their participation in the workforce. Once they do join the workforce, they switch between various part-time jobs before settling into full-time employment. This trend will directly impact Canada’s ability to be economically competitive, especially in areas of industries experiencing labour shortages.<sup>30</sup>

In January 2006, there were 22,000 added part-time jobs among youths. However, this was offset by a similar decline in full-time, leaving the year-over-year increase in youth employment at 2.1% or 51,000. More youths entered the labour market in January in search of work, pushing their unemployment rate up 0.5 percentage points to 12.4%.<sup>31</sup>

### Working Age Population

The Canadian labour force is aging and is projected to shrink in absolute size after 2016. This size reduction is due in part to three major trends:

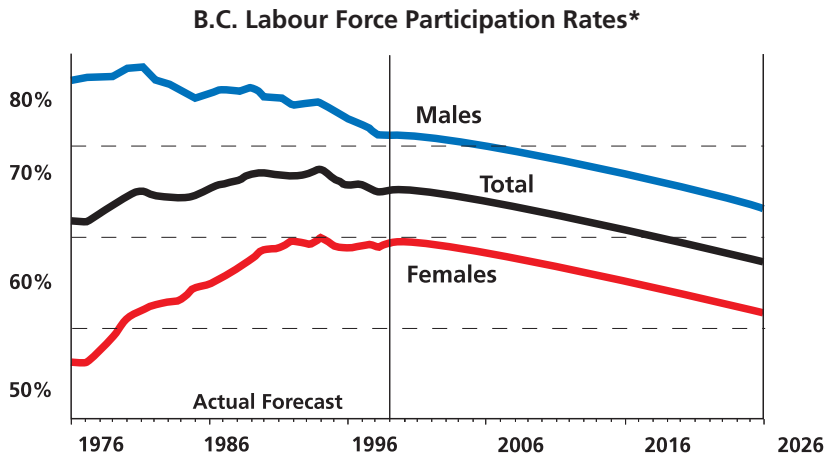
1. The youth population are taking longer to complete their education and begin career employment.
2. Although retirement may be delayed for some, others are ending their careers earlier than 60.
3. Demographic aging and a low birth rate is causing the proportion of the working age population to become smaller over the next two decades.<sup>32</sup>

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<sup>30</sup> Bushnik, Tracey; Tomkowicz, Joanna. *Who goes to post-secondary education and when: pathways chosen by 20 year-olds*. Statistics Canada. Ottawa: 2003

<sup>31</sup> *Labour Force Survey*. Statistics Canada. Friday Feb 10, 2006 <<http://www.statcan.ca/english/Subjects/Labour/LFS/lfs-en.htm>>

<sup>32</sup> Cooke, Martin, McMullin, Julie Ann. *Canadian Policy Research Networks, Inc. Labour Force Aging and Skill Shortages in Canada and Ontario*. London, Ontario, August 2004.



According to the B.C. Stats Labour Force participation forecast, only 60% of B.C.'s population will be in the labour force by 2016. This graph shows that even if the individual age/gender group rates are kept constant at their 1999 values, the overall male, female and total participation rates will continue to decline.<sup>33</sup> Participation rates decline with age and 41% of boomer-age Canadians will be between 45 and 64 by the year 2011. The leading edge of this demographic is already starting to retire.<sup>34</sup>

\*Footnote: The graph was created by B.C. Stats based on May 2005 population stats. Forecast methodology: The population was adjusted to match the labour force definition (i.e., non-institutionalised, non-reserve) by taking the average from 1976 to 1999 of the labour force population divided by the total population and multiplying this ratio by the population forecast.

## B.C. Aboriginals

The Aboriginal population is growing at a faster rate than the non-Aboriginal population. For example, in 2001, Aboriginal people represented 4.4% of British Columbia's population compared to just 2.8% of the population in 1996. It is now estimated that approximately 5% of British Columbia's current population is Aboriginal — and this number keeps growing. Also, 50% of the Aboriginal population is under 25 years of age. Indian and Northern Affairs Canada predicts that in 2007, the Aboriginal workforce will be just shy of one million people in Canada, with young men and women under the age of 35 representing the bulk of that number. These are all significant statistics when considering British Columbia's future labour pool.

Progress has been made in recent years in terms of the number of Aboriginal students enrolled in British Columbia's public post-secondary system. Initiatives such as the Ministry's Aboriginal Special Projects Fund (ASPF) program, which assists public post-secondary institutions in promoting relevant, quality educational programs and support activities for Aboriginal learners have made inroads in this area. However, recently published reports regarding the educational attainment of Aboriginal people indicate that only four out of 10 Aboriginal people in British Columbia complete a post-secondary credential, compared to six out of 10 non-Aboriginal students, and that Aboriginal people are particularly underrepresented in university level programs. Also significant is the fact that Grade 12 graduation rates for Aboriginal learners, although improving, are still significantly lower than the provincial average.

<sup>33</sup> B.C. Stats. *B.C. Labour Force Participation Rate Model*. Schrier, Dan. B.C.: June 2000

<sup>34</sup> "Survey: Forever young." *The Economist* 370.8368 (27 Mar. 2004): 53-54

Unemployment rates for Aboriginal people are also significantly higher than for the non-Aboriginal population; however, when employment rates are compared between Aboriginal and non-Aboriginal people with the same levels of education, many of the differences in labour market outcomes disappear.<sup>35</sup>

### Boomer Population

The population of the mature aged labour force age (45–54 years) went through a period of slow growth. In the last 10 years, this growth has increased in part due to the entry of older baby boomers into this age group. As a result, the population is increasing. This will have repercussions on the labour force. Many people in this age group will be competing for a limited number of higher-level jobs.<sup>36</sup> According to *Canadian Business Magazine*, 80% of boomers say they plan to continue working after retirement.<sup>37</sup>

According to Statistics Canada, the trend towards earlier retirement may be reversing. The median age of retirement for females increased from 59 to 60 between 1997 and 2001. During this same time period, the median age of retirement for men increased from 61 to 62.

### Industries Impacted by Retirement

With the retirement of many baby boomers, the majority of job openings during 2004–2008 will be due to the need to replace retired workers. It is estimated that 1.5 million positions will be freed up by retirements, which is approximately 54%.<sup>38</sup>

Ian Cullwick, the national leader of Deloitte’s Human Capital practice, says that certain industries are at risk. “The predicted shortage is a talent shortage, rather than a labour shortage — it will affect selective industries and certain workforce segments within those industries,” he says. “It will only be specific skilled positions that will see shortages.” The hardest hit will be oil and gas, utilities, government and some related sub sectors.<sup>39</sup>

In 2001, there were 2.7 workers per retiree. The projection indicates that by 2011, there will be approximately 1.8 workers per retiree.<sup>40</sup> 36% of this workforce is currently 45 years or older, representing 823,000 workers. Within this group, 255,000 workers — 11% of the sector’s workforce are 55 or older. Given a median retirement age for the sector of 61, the age distribution implies that a large contingent of these 255,000 workers will leave the labour force over the next five years.<sup>41</sup>

<sup>35</sup> British Columbia, Ministry of Advanced Education, PROPOSED ABORIGINAL POST-SECONDARY EDUCATION STRATEGY DISCUSSION DRAFT, March 1, 2006

<sup>36</sup> Cooke, Martin; McMullin, Julie Ann. Canadian Policy Research Networks, Inc. *Labour Force Aging and Skill Shortages in Canada and Ontario*. London, Ontario, August 2004

<sup>37</sup> Gray, John, Raizel, Robin. “Tomorrow’s Hot Jobs.” *Canadian Business* 77.5 (14 Mar. 2004): 37–40

<sup>38</sup> *Looking Ahead: A 10 year outlook for the Canadian Labour Market (2004–2013)*. July 25, 2005. <file:///C:/weB.Content/port284/Backgrounder25july05-E.html>

<sup>39</sup> *Understanding Human Capital Shortages in Canada*. February 22, 2006. Deloitte and Touche LLP.

<<http://www.deloitte.com/dtt/article/0,1002,sid%253D3678%2526cid%253D104784,00.html>>

<sup>40</sup> Hadzipetros, Peter. *In Depth: Retirement*. February 11, 2005. CBC News Online. <<http://www.cbc.ca/news/background/retirement/>>

<sup>41</sup> *Just the Facts*. Skills Canada – Ontario. <<http://www.skillsontario.com/media/pdf/Just%20the%20facts.pdf>>



Industrial groups with earlier than median retirement age:

- Utilities (56.6 years)
- Educational services (57.1 years)
- Public administration (58.2 years)
- Finance, insurance, real estate, and leasing (60.0 years)
- Health care and social assistance (60.3 years).<sup>42</sup>

Broad SOC (Standard Occupational Classification) occupational categories with earlier median retirement ages include:

- Social Science, Education, Government Service and Religion (57.0 years)
- Management (60.0 years)
- Natural and Applied Sciences (60.1 years)
- Health (60.3 years)
- Business, Finance and Administrative occupations (60.3 years).<sup>43</sup>

The following are selected occupations where there will be large numbers of workers retiring by 2010.

	% age 45+
Registered nurses.....	32.1%
Elementary school teachers .....	44.4%
Aircraft Electrical and Avionics Mechanics.....	47.8%
Industrial Electricians.....	44.4%
Telecommunications Installation and Repair .....	44.2%
Plumbers.....	28.4%
Steamfitters, Pipefitters and Sprinkler .....	35.3%
Welders and Soldering Machine Ops .....	34.3%
Millwrights and Industrial Mechanics .....	46.0%
Heavy Duty Equipment Mechanics .....	40.8%

Source: 1996 Census, tabulations by AVED, 2001

<sup>42</sup> Cooke, Martin; McMullin, Julie Ann. Canadian Policy Research Networks, Inc. *Labour Force Aging and Skill Shortages in Canada and Ontario*. London, Ontario, August 2004.  
<<http://www.longwoods.com/product.php?printable=Y andproductid=17044 andpage=1>>

<sup>43</sup> Ibid

## Changing Labour Market Environment

### Labour Market Challenges

A study entitled “Labour Force Aging and Skill Shortages in Canada and Ontario” performed by the Canadian Policy Research Network, identifies four key factors that affect skill shortages. They are the:

1. Age structure of the current work force
2. Length of time required to train
3. Geographic mobility of workers
4. Working conditions that make it difficult to attract or retain workers.

The study states that shortages can be quantitative or qualitative in nature. Quantitative shortages exist when potential workers lack specific skills. Qualitative shortages occur when current workers in an occupation lack the skills required by employers in a changing environment. Economists’ site that a balance between labour supply and demand is important as labour shortages will increase wage rates. Higher wages will likely result in inflation which will be offset with interest rate hikes. The severity of the labour shortage is moderated by higher wages attracting more individuals into the labour force.

According to a 2004 B.C. Stats Earnings and Employment report, there are three factors that could change projections of labour shortage:

1. An increase in the flow in of young workers to the labour market.
2. Greater migration from other provinces and countries.
3. A rise in the average retirement age.<sup>44</sup>

### Labour Market Forecast

Education will be the key factor in the employment forecast for the 2004–2008 periods. It is estimated that two-thirds of new jobs will require post secondary education for management positions. The highest rate of employment growth is expected to be in occupations that require post secondary education (annual average of 2.3%)

Within the services producing sector, the forecast over the short-term (2004–2008) indicated the strongest employment growth in health occupations (3.5% annually) reflecting increased public spending for the provision of health care services. It also shows employment growth in the systems design and services industry (2.8% annually) due to the increase of use of computer technology and in professional services such as scientific, technical and advertising services (2.4% annually) reflecting a recovery in non-residential investment. An improving budget situation in the public sector should help employment growth for social science, education and government service occupations (2.0% annually). Employment gains in finance, insurance and real estate industry should be modest at 0.5% annually as a result of the decline in residential construction and the increase in automated financial services.

Within the goods-producing sector, employment growth is expected to be strong in areas such as mining (2.4% annually), electronic products (2.9% annually), and transportation equipment other than motor vehicles (2.7% annually). Employment is expected to decline in both forestry and fishing.<sup>45</sup>

<sup>44</sup> B.C Stats. Earnings and Employment Trends Jan/Feb 2004. Kittredge, Anne. B.C.: April 5, 2004

<sup>45</sup> Looking-Ahead: A 10-year outlook for the Canadian Labour Market (2004–2013). July 25, 2005. <file:///C:/web.Content/port284/Backgrounder25July05-E.html>

In B.C., the industries forecast to 2011 to have the greatest total job openings due to retirements and new job creation are:<sup>46</sup>

- Retail Trade
- Accommodation and Food Services
- Business Services
- Health
- Transportation, Communication, and Utilities
- Manufacturing
- Construction
- Education
- Wholesale Trade
- Finance, Insurance and Real Estate
- Other Service Industries
- Personal and Household Services
- Public Administration
- Primary Goods

## Services Sector

In B.C., the services sector accounts for 78% of total employment. In 2005, there were 1,631,200 people employed in this sector with a net increase of 1,400 since January 2004.<sup>47</sup>

### Health Care

Health and social services was the province's second biggest employer in 1999, with 197,600 employees. Hospital workers held 36% of the jobs. Doctor's and surgeons offices, medical labs, and offices of other health practitioners such as chiropractors, optometrists, and physiotherapists provided jobs for 19% of the work force. Nearly 45% of the people working in this industry were employed by other types of positions. This includes nursing homes and other institutions, home care services, daycares, or other similar establishments.

Analysts anticipate that the demand for health and social services will increase over time. The aging of the population is expected to continue to put pressure on the health care system. Employees will be in demand for this industry due to both the retiring workforce and the additional pressures on the system due to an elderly population.<sup>48</sup>

### F.I.R.E — Financial, Insurance, and Real Estate

According to B.C. Stats, the financial services industry is the largest in B.C. Banks, credit unions and other financial-services providers employ more than 160,000 people, which is 6% of B.C.'s total workforce.<sup>49</sup> The number of full time banking jobs across the country has increased by over 27% in the last decade. Hiring is "on the mind of most bankers" as baby boomers approach retirement in the midst of a booming industry.<sup>50</sup>

<sup>46</sup> *Where Will the Jobs Be? Employment Growth by Industry and Occupation to 2011*. Vol. 35, No. 07, July 22, 2003. Business Council of British Columbia. March 2, 2005  
<<http://www.B.C.B.C.com/download.asp?file=ecv35n07 andtype=pdf>>

<sup>47</sup> B.C./Yukon Region – Labour Force Survey. January, 2005. <<http://www.hrdc.gc.ca/en/B.C/yk/59jwrc/lmi/lfs0105.shtml>>

<sup>48</sup> A Guide to the B.C. Economy and the Labour Market – Health and Social Services <<http://www.guidetoB.Ceconomy.org/chap5/chap5-3.html>>

<sup>49</sup> Trends-2005 Marks aBanner Year for Realtors. February 2006. The Bulletin, B.C. Real Estate Association. Vol. 29 No. 1. <<http://www.B.Crea.B.C.ca/publications/2006-02.pdf>>

<sup>50</sup> Banks Rush to Expand as Business in B.C Grows. Tuesday, January 31, 2006. Vancouver Sun. F11

The real estate market in B.C. reached a level in 2005 that very few predicted, especially after the record-setting year in 2004. Last year, 106,290 homes were sold in B.C., which translates into a \$35.3 billion in total dollar volume. This represents more than a 10% increase in units sold and over a 26% increase in dollar volume. These unprecedented figures are an indication that the market is strong and the economy is vibrant. Looking ahead to another healthy year for 2006, the issue of affordability continues to be a primary concern, therefore, both the Credit Union Central of B.C. and the Canada Mortgage and Housing Corporation predict a slightly more moderate real estate market for 2006.<sup>51</sup>

### Trade

According to P. Cross of the Canadian Economic Observer, trade employment received a boost from wholesalers as international trade rebounded. Retail jobs were lifted by double digit gains in building materials, electronics and appliance stores. Since 2000, employment in the trade industry has already exceeded its growth in the 90's due to greater gains in retail sales.<sup>52</sup>

### Education

The education industry typically accounts for about 6% of the province's GDP and about 7% of its workforce. By 2008, employment in education is forecast to increase at the same rate as the number of jobs overall during the next few years, maintaining its share at 6.5%. However, its forecast that GDP growth won't be as strong as in other industries, and education's share of total GDP is expected to fall 0.6 percentage points to 5.6%.<sup>53</sup>

### Film

B.C.'s film and television industry had seen two decades of strong growth up until 2003, when the industry spent a record \$1.405 billion in the province. During this time, employment in the sector reached 35,000 people. Even though a record amount was spent in 2003, there was an 18% reduction in production numbers, with a subsequent 25% reduction in 2004. The strong dollar and the current political climate in California are two reasons behind the industry's downturn. Action must be taken to attract production back to the province.<sup>54</sup>

### Tourism

In 1999, there were 106,800 people working in British Columbia's tourism sector. Approximately one in every 14 jobs in British Columbia is a result of tourist activity, making the tourism industry one of the largest employers in the province. Within the tourism sector, the food and beverage service and accommodation industries account for just over half of all jobs. Wholesale and retail trade is the third largest employer, followed by the transportation and communication industries.

51 Trends-2005 Marks a Banner Year for Realtors. February 2006. The Bulletin, B.C. Real Estate Association. Vol. 29 No. 1. <<http://www.B.Crea.B.C.ca/publications/2006-02.pdf>>

52 Cross, P. Feature Article – Emerging Patterns in the Labour Market: A Reversal from the 1990s. Canadian Economic Observer February 2006, Statistics Canada – Catalogue no. 11-010

53 A Guide to the B.C. Economy and the Labour Market - Education <<http://www.guidetoB.Ceconomy.org/chap5/chap5-7.html>>

54 Andrews, Marke, Penner, Derrick. "Currency concerns hit film industry." Vancouver Sun January 26, 2004. D8+

## Goods Sector

In 2005, there were 460,400 people employed in the goods sector with a net gain of 35,200 jobs between January 2004 and January 2005.<sup>55</sup>

## Construction

In January 2005, more than 166,200 B.C. residents were employed within the construction sector. This is an increase of 34,400 jobs since January 2004.

The residential construction sector decelerated in 2005. Home building activity slowed slightly after a 17-year high. Housing starts eased to a year-to-date average of 223,000 units through November 2005. Non-residential construction has strengthened driven by the rise in the oil and gas sector. Overall construction grew by 2.7% in 2005. Trends for both the residential and non-residential side are expected to persist through in 2006 and 2007.<sup>56</sup>

Planned major projects (>\$40 million) account for \$16 billion in activity between now and 2010. The majority of new construction projects are occurring in the Lower Mainland, at 65% of B.C.'s total non-residential construction.<sup>57</sup> The growth rate in the industry is expected to decline after 2007, when construction related to the 2010 Olympic Games is completed. Credit Union Central's Economic Analysis of B.C. puts construction growth climbing to a peak of 9.3% in 2007 from 7.4% in 2005, before a sharp drop to 2.9% in 2008.<sup>58</sup>

## Forestry

More than 270,000 British Columbians, or 14% of the total workforce, are employed directly or indirectly by the forest industry. In Metro Vancouver alone, forestry accounts for over 120,000 direct and indirect jobs.<sup>59</sup>

The industry is facing largely offsetting forces in the near term, with reductions in allowable tree harvesting in some areas of the country and stepped up logging to address the pine beetle infestation in B.C. Overall the negative influences — which also include slowing demand in key markets and validation of pulp and paper mills — are expected to dominate the near future.<sup>60</sup>

## Mining

The oil and gas industry is forecast to remain Canada's top performer in the coming years, with increased output an average of 3.1% and projected real growth rates of more than 15% in 2006 and 12% in 2007. High commodity prices, healthy cash flows at production companies, exploitation of existing wells and rising exploration and developing investments will support a high expansion rate for oil and gas service companies.

Mining outside of oil and gas led all industries with a 16% increase in jobs in 2005.<sup>61</sup> The industry has also responded positively to rising commodity prices as output increased by 7.5% in 2004. In 2005 extraction output was estimated to have increased by slightly over 4%. The prices of industrial and precious metals are expected to remain high in 2006. Metal markets will continue to grow which will be reflected by healthy operating profits.

55 B.C./Yukon Region – Labour Force Survey. January, 2005. <<http://www.hrdc.gc.ca/en/B.C/yk/59jwrc/lmi/lfs0105.shtml>>

56 Sectoral Outlook. January 2006.. BMO Financial Group-Economics Department. <<http://www.bmo.com/economic>>

57 British Columbia. Ministry of Skills Development and Labour. "Profile of B.C.'s Construction Sector." July 2004. <<http://www.labour.gov.B.C.ca/skills/profile-construction.pdf>>

58 "Games building key to growth." Vancouver Sun February 9, 2005: D1

59 Hamilton, Gordon. "As B.C. forestry goes, so goes the economy." Vancouver Sun January 26, 2005: D5

60 Sectoral Outlook. January 2006.. BMO Financial Group-Economics Department. <<http://www.bmo.com/economic>>

61 Cross, P. Feature Article – Emerging Patterns in the Labour Market: A Reversal from the 1990s. Canadian Economic Observer February 2006, Statistics Canada – Catalogue no. 11-010.

Coal production and mine development will further benefit from continued high energy prices. Overall this industry is forecast to reaccelerate to an average annual growth of 7% in 2006 and 2007.<sup>62</sup>

### **Resource-Based Manufacturing**

Manufacturing is one of B.C.'s largest economic sectors, supporting 206,000 direct and 200,000 indirect jobs, one fifth of the province's total employment. The industry accounts for 11.5% of the province's GDP. Forestry-related manufacturing accounts for 4.6% of this total.

Canada's manufacturing sector held its own quite respectably in 2005. There is an increased demand for Canadian manufactured goods over the next two years and overall performance in the sector is likely to experience growth rates of 2.5–2.8%.

Current challenges in this industry include increasing competition from China, higher business costs, difficulty in finding skilled workers, higher tax and regulatory costs, and shrinking margins due to a competitive global trading environment.<sup>63</sup>

### **High Tech Manufacturing**

In 1999, there were 52,100 British Columbians who had jobs in high tech industries.

It's unlikely that the rapid growth rates that have been observed in high tech industries can continue indefinitely, but to this point, the sector's rapid growth shows no sign of abating. It's reasonable to expect that the role of high tech in B.C.'s economy will continue to expand over the next few years.<sup>64</sup>

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62 Sectoral Outlook, January 2006.. BMO Financial Group-Economics Department. <<http://www.bmo.com/economic>>

63 Simpson, Scott. "Mood upbeat despite challenges – Most manufacturers expect sales revenue to increase this year." Vancouver Sun January 26, 2005: D16

64 Data for Graphs were taken from BMO and TD financial groups





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