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# Inter-Provincial Post-Secondary Student Mobility

A review of data sources from a British Columbia perspective

*Prepared by: Jill Lawrance, Agility Consulting*

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### A review of data sources from a British Columbia Perspective

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## 1.0 Introduction

Researchers in British Columbia (B.C.) have made significant progress in understanding the movement of students into and within the province's public post-secondary system. Because B.C. assigns a unique student identifier (the Personal Education Number or PEN) to all students in the province's public

education system, it is possible to track students as they move through the province's elementary and secondary systems and then on to public post-secondary. The Student Transitions Project (STP) has been established to analyze administrative data linked through the PEN in order to study how students transition from secondary to post-secondary education and then through the province's public post-secondary system.

With the B.C. student mobility picture well established, questions about inter-provincial student mobility are starting to rise to the top of the British Columbia Council on Admissions and Transfer's (BCCAT) research agenda and are of particular concern to the Council's Admissions Committee. There is growing interest in the size and nature of student flows in and out of post-secondary education, between institutions and between provinces, both for students who enter a post-secondary institution directly from high school and students who transfer among post-secondary institutions. At present, very little is known about the number, characteristics, and destinations of students who leave B.C. to attend post-secondary studies in other provinces. Similarly, little system-level analysis has been done on the geographic origins of students enrolled in the B.C. public post-secondary system.

Answers to questions about who leaves B.C. for post-secondary studies and why they go may assist the provincial government and post-secondary institutions to identify where provincial education offerings could be adjusted to better meet local demand. Similarly, understanding where the majority of out-of-province students originate from, and the types of institutions and programs in which they enrol, may assist in identifying areas where B.C.'s post-secondary system is perceived to have a competitive advantage. This information can be useful in many ways, including the recruitment of students from across the country to the B.C. public post-secondary system. Ultimately, BCCAT is interested in the admissions and credit transfer experiences of students who either enter B.C. from other provinces or leave the province for post-secondary studies.

### 1.1 The Purpose of this Study

The purpose of this study is to provide an environmental scan of data sources that have potential to improve our understanding of the inter-provincial movement of students from a B.C. perspective. The study identifies existing administrative and survey data sources and explores their potential to improve our understanding of inter-provincial student mobility, their limitations, and data access restrictions. The study also identifies gaps in existing data sources and makes recommendations to BCCAT for logical next steps in undertaking research in this area.

*WHO COMES TO B.C. FOR POST-SECONDARY STUDIES AND WHICH INSTITUTIONS DO THEY CHOOSE?*

*HOW MANY B.C. STUDENTS ARE STUDYING ELSEWHERE IN CANADA, AND WHERE DO THEY GO?*

## 1.2 Structure of the Report

The remainder of the report is organized into 4 chapters. Chapter 2, Background, provides context for the discussion of data sources. Chapter 3 divides the identified data sources into three groups. The first section profiles two national data sources managed by Statistics Canada: the Post-Secondary Student Information System (PSIS) and the National Graduates Survey (NGS). These data sources have potential to provide a very comprehensive national picture of inter-provincial student mobility. The next section of Chapter 3 reviews data sources that focus on students coming to B.C. from outside the province (Incoming), and the final section describes sources for students who leave the province for post-secondary studies (Outgoing). Chapter 4, Conclusions and Recommendations, summarizes the data landscape as it exists today and makes recommendations for next steps in terms of collecting and analyzing data.

## 2.0 Background

This study identifies a range of administrative and survey data sources that have the potential to support analysis of different aspects of student mobility. There is currently no one data source that can tell the full story of student mobility for the entire Canadian post-secondary system. Each data source was created to address a distinct set of business or research objectives and therefore focuses on a particular slice of the picture, whether it's a single jurisdiction, a subset of students, institutions, or programs. Depending on the specific nature of the research questions about student mobility, some of the data sources profiled in the next chapter may be well suited to provide answers.

This chapter provides some background about the types of data sources identified, how the geographic origin of students is determined, and the dimensions along which the identified data sources differ.

### 2.1 Key Concepts

#### 2.1.1 Administrative and survey data

The two main types of data that support research into student mobility are administrative data sourced from student records held by institutions, and survey data. When compiled at an aggregate level and using a unique student identifier, administrative data has the potential to support detailed analysis of student movement. Survey data is helpful for tracking students who are no longer enrolled in a post-secondary institution and for collecting qualitative information about students' opinions and experiences.

#### 2.1.2 Centralized administrative databases

The administrative data that are used to study student mobility are collected directly from students by the admissions processes at post-secondary institutions. It is here that student records are first established and basic information, such as name, address, previous education, program, courses, etc., is collected.

Some jurisdictions have also established a centralized database of student records that is populated at regular intervals with data from the administrative systems of post-secondary institutions. These

centralized databases are of particular value to studies of student mobility because they maintain a history of a student's interaction with the post-secondary system. Centralized databases also apply consistent definitions and reduce the response burden on individual institutions related to ad-hoc requests for data.

Another key component of a comprehensive analysis of student mobility using administrative data sources is the existence of a unique student identifier. With a unique student identifier, students' current education records can be linked to their pre-existing records in a centralized database. For instance, if students started their studies at one institution and then switched to another, their education records from the second institution could be linked through the unique identifier to their existing records. As each year of data is linked to the last, a rich repository of information develops that yields valuable policy information about student mobility between institutions and the pathways students follow from one program to another through their post-secondary education.

### 2.1.3 Student origin, current study location, and subsequent location

When studying student mobility, researchers may be interested in a combination of where students originate, where they attend post-secondary education, and/or where they go after completing their studies. Post-secondary institutions keep track of enrolments, so the question of where students are attending post-secondary studies is relatively easily answered.

However, the business need for institutions to track where students originated is less pronounced, especially for post-secondary institutions that do not base admission on past credentials or academic performance. For the purposes of studying student mobility, the permanent address should reflect the location where the student resided *prior* to enrolling in the post-secondary institution. There are two main types of issues associated with creating and maintaining records of students' geographic origin: coverage and accuracy.

In terms of coverage, many Canadian public post-secondary institutions do not collect permanent address information from students, focusing instead on current address information that is used for communications purposes. On the accuracy side, institutions that collect permanent address information may have a variety of interpretations for the purpose of the field. Some may see it as a preferred address for communications purposes, others may define it as the address at the time of application or enrolment, and others may see it as the best address for follow-up surveys, reflecting where students are most likely to be contacted after they leave the institution. None of these interpretations would necessarily yield the permanent address that is desired from the perspective of a student mobility study. Further, some institutions may be in the practice of over-writing permanent address information with current information when students change addresses. And finally, as students transfer from one post-secondary institution to another, their permanent address information is increasingly likely to reflect a local address rather than the location from which they originated.

Determining a student's location and further enrolment or employment status after graduation is also difficult to do with administrative data sources. If students remain within a jurisdiction that is covered by a central source of administrative data, their movement within that post-secondary system can be

tracked through current enrolments. However, when students move outside a jurisdiction, their subsequent enrolments are not reflected in that geographically constrained administrative data source. Similarly, movement into employment in any jurisdiction cannot be tracked by administrative data. Surveys are often a useful way to follow-up with students to find out about their future activities after leaving a post-secondary institution.

#### 2.1.4 Survey data sources

The survey data sources that are relevant to a study of student mobility tend to be student outcomes surveys, which are conducted on a regular basis at the national level by Statistics Canada and at the provincial level by the B.C. Ministry of Advanced Education and Labour Market Development (ALMD) and participating institutions. These surveys follow up with students after a defined period has passed since their graduation or departure from a post-secondary institution. A major goal of this type of survey is to gather information about the labour market outcomes of former students from different programs of study. As some former students move on to further post-secondary studies, these surveys also provide an opportunity to learn about the location and nature of further studies pursued by respondents who have already participated in the post-secondary system.

Surveys provide a unique opportunity to explore qualitative issues with respondents and the potential to gather contextual information that cannot be derived from administrative data. The main limitation of survey data from the perspective of a study of student mobility across jurisdictions is sample size. The proportion of students who continue their studies outside of B.C. tends to be quite low and this constrains the level of detail in the analysis.

## 2.2 Variations in Data Sources

Each data source reviewed in Chapter 3 draws a piece of the overall picture and is best suited to answering questions about student mobility within particular geographic regions and subsets of the post-secondary system. This means that caution must be exercised when combining data to obtain a more complete picture of student mobility. Variations among data sources along any of the dimensions listed below can have a substantial impact on the comparability of findings.

- **Geographic coverage:** Each data source refers to the post-secondary system in a particular jurisdiction; almost all data sources are provincial, except for PSIS and the NGS, which are national in scope. The completeness of the story that can be told from any administrative database depends on its geographic coverage. For instance, an administrative database that applies to a single province can provide rich information about movement of students among institutions in that province. However, when students leave the province they are no longer reflected in the administrative records of that jurisdiction. Survey databases are similar in that they may provide information about a broad range of locations that graduates have chosen for further studies, but they often focus on students who graduated from certain institutions in a particular jurisdiction.

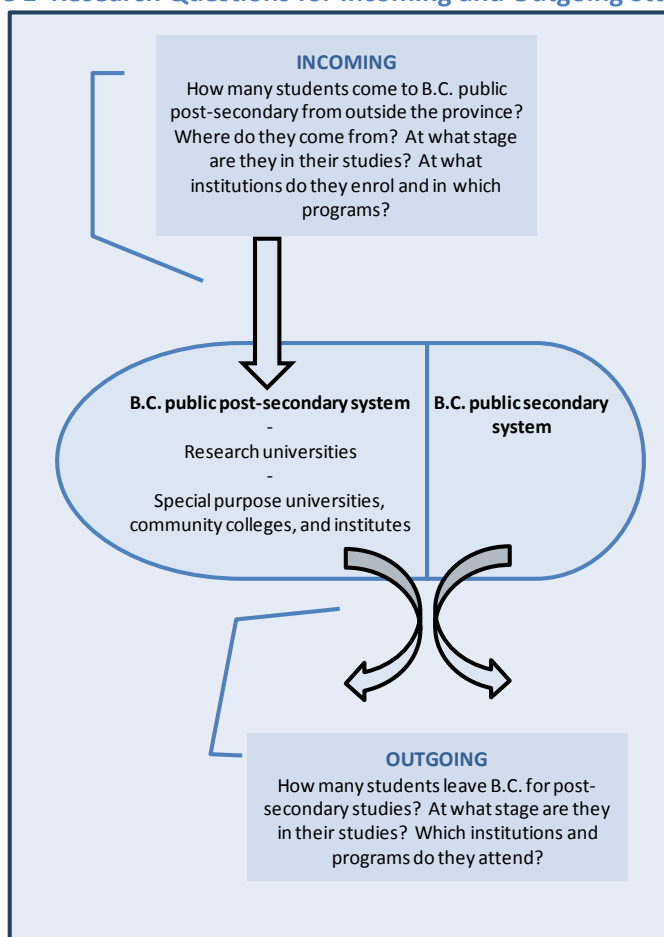


- **Sector of post-secondary:** Within the public post-secondary system there is an enormous variety of institutions. There are community colleges, technical institutes, special purpose universities, and full-fledged research universities. Administrative and survey data sources often focus on students from particular types of institutions.
- **Programs:** The types of programs offered also range from continuing education and career preparation programs to graduate and professional degree programs. Administrative and survey data may include different kinds of programs in different jurisdictions.
- **Student sub-groups:** Some data sources collect variables that permit tabulation of data for students at different stages of study; for example, students transitioning from high school to post-secondary studies or students transferring from one post-secondary institution to another after graduating or completing part of their program of study. At the national level and in many provinces, graduates and students who leave post-secondary studies after completing most of their program are surveyed to inquire about their outcomes and current activities. These surveys are useful for studying students who go on for further post-secondary studies. First-time entrants to post-secondary studies are sometimes identifiable in administrative data sources based on their previous academic history, age, or year of study. .
- **Applicant vs. registrant data:** Applicant data has the potential to help the government, system agencies and individual institutions to better understand demand for education services. High ratios of applicants to registrants for particular programs or institutions, for instance, may help to identify where offerings need to be expanded. Registrant or enrolment data shows the actual distribution of students participating in the post-secondary system. While registrant data are available in most jurisdictions, fewer jurisdictions collect applicant data.
- **Reference period:** Administrative data sets may provide enrolment counts based on a point-in-time estimate (e.g., December, 2008) or a full academic year. Point-in-time estimates may miss a significant amount of enrolment information, particularly for institutions that offer shorter courses. A more complete reflection of enrolments is achieved when enrolment activity over an entire 12-month period (e.g., academic year or fiscal year) is captured.

### 3.0 Data Sources

BCCAT is interested in identifying data sources that answer questions about: 1) students who enter the B.C. post-secondary system from outside the province and 2) B.C. students who leave the province to participate in post-secondary studies elsewhere in Canada. As illustrated in Figure 1, the first group of questions focuses on students coming into the province’s public post-secondary system (Incoming) and the second covers students who leave the province (Outgoing). For the incoming stream, the focus is on students entering the public post-secondary system.<sup>1</sup> For the outgoing stream, the focus is on all B.C. secondary and post-secondary students who leave the province to pursue post-secondary studies.

Figure 1 Research Questions for Incoming and Outgoing Students



This chapter is divided into three sections. The first section profiles three Statistics Canada data sources that are national in scope: the Post-Secondary Student Information System (PSIS), the National Graduates Survey (NGS) and the Youth In Transition Survey (YITS). These are the only data sources that have the potential to answer research questions about both incoming and outgoing students. The

<sup>1</sup> When use of the PEN has been extended to B.C.’s private post-secondary system, the incoming picture can be expanded to include students entering private post-secondary institutions in B.C. Some of the Outgoing data sources reviewed in this report include students who leave the province to attend a private post-secondary institution.

second section focuses on data sources that have the potential to assist BCCAT to better understand the geographic origins of students applying to and currently studying in the B.C. public post-secondary system. The third section of Chapter 3 profiles data sources that show where B.C. students go when they leave the province to study elsewhere in Canada.

## **3.1 Incoming and Outgoing**

### **3.1.1 The Post-Secondary Student Information System (PSIS)**

#### **3.1.1.1 PSIS background**

PSIS is Statistics Canada's national database of public post-secondary enrolment and graduation data. Post-secondary educational institutions supply institution, program, and course data, as well as information about students, such as graduation and course and program enrolments to Statistics Canada once a year. In the year 2001, the PSIS data warehouse, based on common variables for the entire public post-secondary system, began to replace three former Statistics Canada surveys: the University Student Information System (USIS), the Community College Student Information System (CCSIS), and the Trade and Vocational Survey (TVOC).

Ultimately, Statistics Canada plans to link records within PSIS using the PSIS National Student Number (PSIS-NSN) to uniquely identify students. However, the implementation of the national unique student identifier has met many barriers. Currently, linkage of the records of a student from one year to the next is done within an institution using the institution's unique student identification number, but linkage of records across institutions requires linkage of a probabilistic nature, using name, address, phone number, etc.

PSIS is being implemented in a phased approach. As of the 2007-08 collection year, PSIS was collecting data from 80 percent of Canadian public post-secondary institutions. In its implementation, PSIS has focused first on the public university sector, and university enrolment and graduation data for the years 1992 to 2007 have been released. Community college enrolments and graduation information have been released for the years 1992 to 2005, and Statistics Canada is validating and standardizing the final two years (2006 and 2007) prior to release. Historical data from these former surveys has been converted using PSIS variable definitions to ensure continuity in published historical data series. Statistics Canada has not yet made data available for those institutions that formerly reported through the TVOC.

Another aspect of the phased approach is that Statistics Canada is focusing its collection and validation efforts on a subset of 15 of the approximately 270 variables originally planned for the PSIS database. The other variables are inconsistently reported by post-secondary institutions across the country and are not available for analysis. The 15 variables that are the focus of Statistics Canada efforts and by which enrolment and graduation figures can be tabulated include:

1. Year
2. Country of citizenship
3. Immigration status of student
4. Country of origin
5. Province of origin
6. Province of study
7. Institution – university
8. Institution – college
9. Field of study
10. Program level
11. Classification of instructional program
12. Student registration status
13. Age
14. Age group
15. Gender

### ***3.1.1.2 PSIS data quality and coverage***

Of particular interest from the perspective of mobility studies is the combination of the students' province of origin and their province of study. Statistics Canada considers its information about the province of study to be very accurate as this is derived from the location of the institution reporting the student's enrolment. There is no missing information for this variable.

The province of origin is intended to reflect the initial address reported by students on their application for admission to the institution that submitted their data to PSIS. However, Statistics Canada has concerns about both the accuracy and coverage of this variable. In terms of accuracy, Statistics Canada acknowledges the difficulties experienced at the institution level with maintaining accurate records regarding a student's true geographic origin.<sup>2</sup>

The precise extent of non-response on the province of origin variable is not known, but there is evidence of a substantial degree of non-response for many provinces. PSIS codes the province of origin to a category titled "other" when the student is originally from abroad (neither Canada nor the United States) or their origin is unknown.<sup>3</sup> For students studying in B.C., 19 percent of 2007 university enrolments and 3 percent of 2005 college enrolments are coded to "other" (Table 1). Based on information provided by The Research Universities' Council of B.C., approximately 11 percent of B.C. university students are from outside Canada, and many of these are from the United States.<sup>4</sup> It follows,

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<sup>2</sup> Information obtained from interview with Marie Burton, Centre for Education Statistics, Statistics Canada, on September 10, 2009. See 2.1.3 Student origin, current study location, and subsequent location, page 3 for a discussion of some of the issues associated with maintaining permanent residence information.

<sup>3</sup> A special tabulation that breaks down the "other" category into "unknown", "not applicable" and "from abroad" can be obtained from Statistics Canada. However, this breakdown is not provided in the standard tabulations that are made available to the public.

<sup>4</sup> Calculated for 2005-06 from The Research Universities' Council's Table 3.1 Full-time and Part-time Headcount and Table 3.4 International Student Headcount. Available at <http://www.rucbc.ca/content/view/6/6/>

therefore, that more than 8 percent of B.C. university enrolments in PSIS may be missing a value for geographic origin. With only 3 percent coded to the “other” category, B.C. colleges appear to have excellent coverage on the geographic origin of their students in PSIS.

As indicated in Table 1, the percentage of enrolments coded to the category “other” for province of origin is extremely high for some provinces, suggesting that many institutions in those provinces are not able to report accurately the origin of their students. The issue is most pronounced in the college sector, where several provinces (Saskatchewan, Manitoba, Quebec, and New Brunswick) have over three-quarters of their 2004 and 2005 enrolments coded to the “other” category for the province of origin variable. For the university sector, Manitoba (68%) and Quebec (100%) had the highest percentages of 2007 enrolments coded to “other”; however, in the previous year, only 12 percent of Quebec’s university enrolments were coded to “other”.

**Table 1 Incidence of Province of Residence Coded to "Other" in PSIS, by Province of Study**

Province of Study	% of enrolments with province of origin coded to “other”			
	College 2004	College 2005	University 2006	University 2007
<b>B.C.</b>	4%	3%	19%	19%
<b>Alberta</b>	2%	2%	5%	8%
<b>Saskatchewan</b>	100%	100%	13%	13%
<b>Manitoba</b>	88%	78%	83%	68%
<b>Ontario</b>	53%	47%	13%	13%
<b>Quebec</b>	100%	100%	12%	100%
<b>New Brunswick</b>	99%	99%	10%	11%
<b>Nova Scotia</b>	2%	1%	8%	9%
<b>Prince Edward Island</b>	13%	13%	6%	7%
<b>Newfoundland and Labrador</b>	10%	0%	5%	6%

Poor coverage on the province of origin variable reduces the value of PSIS from the perspective of studying the destinations of outgoing students from B.C., particularly for the college sector. For instance, PSIS data suggest that 90 percent of the 1,890 students from B.C. who were enrolled in colleges outside the province in 2005, were in Alberta colleges. However, this figure is likely over-stated and reflects the fact that Alberta has very good coverage on the province of origin variable (only 2% coded to “other”), while some other provinces have provided very little or no province of origin information for their college students (Saskatchewan, Manitoba, Ontario, Quebec, and New Brunswick).

### **3.1.1.3 PSIS reference period**

The three surveys that PSIS replaced (USIS, CCSIS and the TVOC) used a snapshot reference point for enrolment data. It was originally envisaged that PSIS would provide a more comprehensive understanding of enrolments by capturing all academic activity over a twelve-month period. However, for the time being PSIS is providing enrolment data as of a snapshot date of December 31<sup>st</sup> for universities and October 31<sup>st</sup> for colleges because some institutions continue to report in the traditional format.

### 3.1.1.4 PSIS summary

PSIS has the potential to be an ideal source for research into student mobility at a national scale. However, PSIS is a large undertaking that requires the cooperation of all public post-secondary institutions in the country. An analysis of publicly released data suggests that there are coverage issues in many provinces with the province of origin information, which is critical to a study of student mobility. In addition, with its current focus on a subset of 15 variables, PSIS cannot support study of subgroups of students (e.g., direct high school entrants vs. transfer students). However, it is encouraging that province of origin is included in current efforts to improve data quality. If the coverage for this variable can be improved, PSIS will become an extremely valuable, central source of information about the post-secondary destinations of B.C. students who leave the province.

**Table 2 PSIS Summary**

<b>Data source</b>	Administrative data stored in a centralized database.
<b>Geographic coverage</b>	Canada
<b>Data type</b>	Enrolment data (graduate data is also available).
<b>Sector</b>	Research universities and community colleges. Does not include trade/vocational colleges yet. Currently 80 percent of public post-secondary institutions in Canada are providing data to PSIS.
<b>Field of study</b>	The field of study is coded using the Classification of Instructional Programs (CIP) 2000 codes. For college enrolments, the count excludes students enrolled in pre-employment, apprenticeship, basic training or skills upgrading, second language training, job readiness or orientation programs. There are no program exclusions on the university side – even non-credit courses are included and shown in the “other” programs category of tabulations.
<b>Student sub-groups</b>	PSIS is unable to produce separate tabulations for students transferring after completing some post-secondary studies, or for first-time, first-year entrants. However, age can be used as a proxy for stage of study.
<b>Reference period</b>	PSIS enrolment data is currently based on a snapshot of enrolments and graduations as of December 31 <sup>st</sup> for universities and October 31 <sup>st</sup> for colleges. PSIS is working toward providing data based on an annual reference year.
<b>Data availability</b>	<ul style="list-style-type: none"> <li>- Enrolment data is free of charge for universities, 1992-2007, by province of study, age group, field of study, gender, immigration status, program level, and province of study vs. province of residence.</li> <li>- Enrolment data is free of charge for colleges, 1992-2005, by province of study, age group, field of study, gender, immigration status, and program level.</li> <li>- Special tabulations based on the 15 variables may be requested from the Centre for Education Statistics, Statistics Canada, and are produced on a cost-recovery basis.</li> </ul>

### 3.1.2 National Graduates Survey (NGS)

The NGS is Statistics Canada's national survey of graduates or degree completers from Canadian public post-secondary institutions, including universities, colleges, and trade schools. The main objective of the survey is to learn about the relationship between program of study and future employment outcomes.

The survey includes a series of questions that allow for the identification of respondents' province of residence during the 12 months prior to enrolment in the program from which they subsequently graduated. The survey also inquires about whether students moved for education reasons when they enrolled in their program. Although interesting to a study of student mobility, this information would be quite dated for students who completed four-year degrees. As an example, for the graduating class of 2005, these questions would pertain to their location prior to enrolling in their post-secondary program, in approximately 2000.

The survey also includes information about the highest level of education completed prior to enrolling in the program from which the students graduated, and whether they had taken any education towards a certificate, diploma, or degree for which they had not completed the requirements prior to enrolling. This information could be used to identify different study groups: students enrolling for the first time in post-secondary and students transferring after completing or partially completing a certificate, diploma, or degree.

As an outcomes survey, the NGS also tracks students' whereabouts after graduation. During the interview, the respondent's address is confirmed, which permits the derivation of a variable that identifies respondents' current province of residence. The survey also includes information about whether students have continued with further studies since graduating, the type of program, full-time/part-time status, etc. While the institution and location of subsequent studies is not identified by the survey, it may safely be assumed that students who are currently studying at the time of the interview are located at the address they confirm during the interview. However, for those students who took further studies subsequent to graduating, but were not studying at the time of the interview, a study of student mobility would have to make an assumption about where those studies occurred for respondents who moved after graduation.

Table 3 reviews a selection of survey questions and derived variables from the NGS that would be of interest to a study of student mobility.

#### **SOME NGS RESULTS**

Nine percent of students who graduated from post-secondary institutions in 2005 studied in a different province or territory from where they lived during the year prior to enrolling in their post-secondary institution. In all, about 3,600 post-secondary graduates originally from B.C. studied in another province or territory; to provide some perspective, that amounts to 9 percent of all graduates who were originally from B.C. An approximately equal proportion of students left Alberta (11%), and Manitoba (9%). Students were overall less likely to leave Quebec (3%) and Ontario (5%), and more likely to leave Saskatchewan, Nova Scotia, and New Brunswick (all 18%), Newfoundland (20%) and PEI (36%). Overall, about three-quarters of students who moved did so specifically to enrol in the program from which they graduated.

Source: National Graduates Survey: Class of 2005 Codebook

**Table 3 NGS Questions/Variables Relevant to Student Mobility Study**

<b>Period Prior to Enrolling in Program</b>	
<b>AB_Q06</b>	During these 12 months [before enrolling in the program from which you graduated] was your last principal residence in the province or territory where you graduated? <i>Asked of all respondents.</i>
<b>AB_Q07</b>	In what province or territory was it? <i>Respondents whose province of principal residence was different from the province where the diploma was obtained.</i>
<b>AB_Q08</b>	Did you move from that (province / territory / country) specifically to enrol in the program or for some other reason? <i>Respondents whose province of principal residence was different from the province where the diploma was obtained.</i>
<b>Period of Enrolment</b>	
<b>Institution of Enrolment</b>	
<b>Province of Enrolment</b>	
<b>Program Type</b>	
<b>Period after Graduation</b>	
<b>DPROV</b>	Location of primary residence at the time of the 2007 interview. <i>Derived variable – all respondents</i>
<b>MIG</b>	Indicates the type of inter-provincial migration before and after the studies that the respondent graduated from in 2005. <i>Derived variable – all respondents</i>
<b>LF_Q01</b>	Last week, were you enrolled in any credit courses at an educational or training institution? All respondents
<b>LF_Q02</b>	Were you enrolled full-time or part-time? <i>Respondents who were enrolled in any credit courses last week.</i>
<b>ED_Q01</b>	Since your graduation, have you taken a program towards a diploma, certificate, or degree? That is, a program above the high school level which would take someone 3 months or more to complete if taken full time. <i>All respondents</i>
<b>ED_Q11a</b>	What type of certificate, diploma or degree would someone receive at the end of your first program? <i>Respondents who have taken a program since graduating</i>
<b>ED_Q16a</b>	Are you still taking education toward your first program? <i>Respondents who have taken a program since graduating</i>
<b>ED_Q31a</b>	Are/were you enrolled full-time only, part-time only, or both? <i>Respondents who have taken a program since graduating</i>

### **3.1.2.1 NGS data quality and coverage**

The NGS is a sample survey of graduates and program completers from the Canadian public post-secondary system. The sample is stratified by geographical location, level of certification, and field of study. The 13 geographical locations include the 10 provinces and three northern territories. There are five levels of certification: trade/vocational, certificate or diploma, college diploma, bachelor's degree, master's degree, and doctorate. The following graduates/completers are not included in the study



population: graduates from private post-secondary institutions, completers of continuing education programs, those who completed vocational programs of less than three months duration, and completers of provincial apprenticeship programs, as well as those living outside Canada or the United States at the time of the survey. As well, students who do not graduate or complete their programs are not included in the survey. Statistics Canada reports that some institutions were unable to provide a survey frame and therefore, although their graduates were within the scope of the study population, they were not included in the sample. It is estimated that 10,000 college graduates from Ontario and 5,000 college graduates from Alberta were missing from the survey population.

As is the case with any survey, there are errors resulting from non-response.<sup>5</sup> However, the NGS response rate is quite high in comparison with other surveys of this type. The most recent survey conducted in 2007, which surveyed the graduating class of 2005, had a sample size of 60,701 and a response rate of 68 percent. Statistics Canada applies weights to each responding graduate so that their response corresponds to the number of people represented by them in the target population. The weights ensure that voices that are under-represented in the ultimate sample of survey responses relative to the target population are amplified and *vice-versa*.

#### **3.1.2.2 NGS reference period**

Graduates are surveyed two years after graduating and then again five years after graduation. The survey is administered using a 'funnel' design, which means that only graduates that respond to the initial interview two years after graduation will be traced for follow-up in the final survey. The 2007 survey, which contacted students who graduated in 2005, is the most recent data available.

#### **3.1.2.3 NGS summary**

Statistics Canada performs cross-tabulations of NGS data on a cost-recovery basis. A public use microdata file is available for the NGS; however, the variables of interest have been suppressed. The sample size for B.C. could be a possible limitation for the level of detail that the NGS could support. For the 2007 survey, the sample included 5,238 graduates who originated in B.C., and this was weighted up to 39,201 responses. Issues with sample size can be assessed by Statistics Canada when a specific data request is made.

The NGS, like PSIS, has the great advantage of being a national data source. The survey provides information about graduates' location before enrolling in their program, where they study, and where they are after graduation at the time of the interview. Sample size permitting, the NGS has the potential to support the development of a detailed demographic and educational profile of B.C. students who leave the province for post-secondary studies and out-of-province students who come to B.C., and the types of programs and institutions they subsequently graduate from. It can also profile where post-secondary graduates from B.C. go when they pursue further studies.

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<sup>5</sup> Non-response errors arise because a portion of the sampled graduates do not respond to the survey. To the extent that the experiences and views of non-responders differ from those who respond, the survey results will not be entirely representative of the study population.

**Table 4 NGS Summary**

<b>Data source</b>	NGS
<b>Geographic coverage</b>	Canada The sample is stratified by geographical location, level of certification and field of study. The 13 geographical locations include the 10 provinces and three northern territories.
<b>Data type</b>	Graduate and completer survey data.
<b>Sector</b>	Public post-secondary system.
<b>Field of study</b>	The field of study is coded using the Classification of Instructional Programs (CIP) 2000 codes at the primary grouping level (12 categories).  Levels of certification are classified as follows: trade/vocational, certificate or diploma, college diploma, bachelor's degree, master's degree, and doctorate.
<b>Student sub-groups</b>	The NGS can differentiate between students who enrolled with some post-secondary education and students who enrolled directly from secondary school.
<b>Reference period</b>	Graduates are surveyed two years after graduating and then again five years after graduation. The survey is administered using a 'funnel' design, which means that only graduates that respond to the initial interview two years after graduation will be traced for follow-up in the final survey. The 2007 survey, which contacted students who graduated in 2005, is the most recent data available.
<b>Data availability</b>	- NGS information can be obtained from Statistics Canada in the form of a cost-recovery, special tabulation.

### 3.1.3 Youth in Transition Survey (YITS)

YITS is a national, longitudinal survey that focuses on major transitions in the lives of young people, particularly with respect to education, training, and work. The survey was developed by Statistics Canada and Human Resources and Skills Development Canada, in consultation with provincial and territorial ministries, and departments of labour and education. YITS uses a longitudinal approach and has been following up every two years since 2000 with two cohorts: individuals aged 15 (Cohort A) and 18-20 (Cohort B) in 2000. The most recent data collection took place in 2008, when Cohort A respondents were 23 years old and Cohort B respondents were between the ages of 26 and 28.

YITS is a promising source of information for studies of student mobility because it tracks respondents over an extended period, and collects information about their province of residence and participation in formal education with each survey. Because it is national in scope, YITS has the potential to provide

information about students transitioning into the B.C. post-secondary system from outside the province, as well as students leaving B.C. to study at another location in Canada.

Each follow-up survey asks respondents if they have taken any post-secondary education. Those who have participated in post-secondary studies are asked to provide institution and program information. The types of post-secondary education are divided into five categories:

1. Trades certificate or diploma from a vocational or apprenticeship training program;
2. Non-university certificate or diploma from a community college, CEGEP, school of nursing, etc.;
3. University certificate below the bachelor level;
4. Bachelor degree; and
5. University degree or certificate above the bachelor degree.

Information on students' primary and secondary fields of study is used to derive the major field of study using Classification of Instructional Programs (CIP) coding. In addition to standard demographic elements, such as age and gender, the survey captures other information that might assist in explaining student mobility, such as marital status, number of dependent children, language, citizenship, income, and first year academic performance.

### 3.1.3.1 YITS data quality and coverage

The target population for both cohorts was defined as residents of the ten provinces of Canada who met the age criteria for inclusion in a cohort in the year 2000 (born in 1984 or born between 1979 and 1981). These initial cohorts have been surveyed five times at two-year intervals since 2000 and may be interviewed one more time in 2010. The YITS survey uses a funnel approach, which means that only those who responded to the most recent survey cycle are traced for follow-up in the subsequent cycle. Table 5 shows the impact of sample attrition on the number of respondents to each cycle for the province of B.C. and for all ten provinces.

**Table 5 YITS Sample Sizes for B.C. and All Provinces, By Cycle**

<b>Cohort Sample</b>	<b>Cycle 1 2000</b>	<b>Cycle 2 2002</b>	<b>Cycle 3 2004</b>	<b>Cycle 4 2006</b>	<b>Cycle 5 2008</b>
<b>Cohort A</b>	<b>Age 15</b>	<b>Age 17</b>	<b>Age 19</b>	<b>Age 21</b>	<b>Age 23</b>
<b>B.C.</b>	3,611	3,037	2,648	2,049	1,630
<b>All provinces</b>	34,275	29,687	26,845	22,626	18,762
<b>Cohort B</b>	<b>Age 18-20</b>	<b>Age 20-22</b>	<b>Age 22-24</b>	<b>Age 24-26</b>	<b>Age 26-28</b>
<b>B.C.</b>	2,594	1,857	1,482	1,082	884
<b>All provinces</b>	29,164	22,378	18,741	14,753	12,360

Source: Statistics Canada (2009). Youth in Transition Survey (YITS) Cohort A – 23 Year-Olds, Cycle 5 User Guide and Youth in Transition Survey (YITS) Cohort B – 26-28 Year-Olds, Cycle 5 User Guide.

Cohort A is considered better suited to a study of student mobility than Cohort B. Cohort A would have transitioned to post-secondary more recently, likely during cycles 3, 4, and 5, and the sample size is larger. However, the sample size is likely to be a factor that limits the type of analysis that can be supported by YITS. Of the original 3,611 B.C. Cohort A respondents, 1,026 transitioned to post-

secondary studies in Cycles 3, 4 or 5. Two-thirds of these remained in B.C., a quarter took some post-secondary in B.C. and some outside of B.C., and the remaining 9 percent took all of their post-secondary outside of B.C. The total number of Cohort A respondents who reported taking all or some of their post-secondary studies outside B.C. in Cycles 3, 4 or 5 is 343. This is a small number of responses on which to base a study of post-secondary students who leave B.C.

**3.1.3.2 YITS reference period**

The five cycles of YITS cover the reference period from 2000 to 2008. Data collection for the most recent YITS took place from mid-January to mid-June 2008. For most data elements, the reference period for the 2008 cycle was up to December 2007. The exception is for personal characteristics, which are collected as of the date of the interview.

**3.1.3.3 YITS summary**

Statistics Canada performs cross-tabulations of YITS data on a cost-recovery basis. The sample size for B.C. could be a possible limitation on the level of detail that the YITS could support.

YITS is a national data source that has the potential to provide information about student mobility both from incoming and outgoing perspectives. The survey tracks two groups of Canadians from ages 15 to 23 and from ages 18-20 to 26-28. Along the way, their transitions in and out of post-secondary are recorded, as well as the institutions that they attend. Sample size permitting, YITS has the potential to support a study that compares the educational experiences, achievement, aspirations, and expectations of students who move out-of-province for post-secondary education and students who stay.

**Table 6 YITS Summary**

<b>Data source</b>	YITS
<b>Geographic coverage</b>	Canada
<b>Data type</b>	YITS data is based on individuals that qualified for inclusion based on residing in one of the ten provinces and being a certain age in the year 2000. Some of the respondents will be post-secondary participants and others will not.
<b>Sector</b>	Any education, above the high-school level and more than three months in duration, that can be counted towards a degree, certificate, or diploma.
<b>Field of study</b>	The field of study is coded using the Classification of Instructional Programs (CIP) 2000 codes at the four-digit level.
<b>Student sub-groups</b>	YITS can differentiate between students who enrolled with some post-secondary education and students who enrolled directly from secondary school.
<b>Reference period</b>	The five cycles of YITS cover the reference period from 2000 to 2008.
<b>Data availability</b>	- YITS information can be obtained from Statistics Canada in the form of a cost-recovery, special tabulation.

## 3.2 Incoming

This section reviews three centralized, B.C. administrative data sources that have the potential to answer questions about the magnitude and nature of out-of-province demand for the province's public post-secondary services.

### 3.2.1 Post-Secondary Application Service of BC (PASBC)

#### 3.2.1.1 *PASBC background*

The Post-Secondary Application Service of BC (PASBC) is a centralized, on-line application service for students applying to B.C. public universities, colleges, and institutes, as well as one private university. PASBC is administered by BCcampus with funding from ALMD and participating institutions. BCcampus delivers the PASBC service under the guidance of the PASBC Steering Committee, comprised of members of participating institutions, ALMD, and system agencies.

The 26 B.C. post-secondary institutions listed in Table 7 participate to varying degrees in PASBC. All student applicants who use PASBC complete an on-line common form that is hosted by BCcampus. In addition to demographic information, the common form includes the applicant's residential address, province, territory or state, postal code, and country. The common form also collects academic history information, including the students' PEN or Ontario Education Number, their last grade completed or in progress and the name of their high school and its location (city/town), as well as information about post-secondary institutions attended, their location, program of study, and credentials awarded.

#### 3.2.1.2 *PASBC data quality and coverage*

While all 25 public post-secondary institutions, as well as one private university, use PASBC to receive applications, it is not mandatory for them to receive applications through the PASBC on-line application service. Some institutions maintain a parallel application service through their own institution websites, and these institutions do not redirect applicants or provide institutional applicant data to PASBC.<sup>6</sup> To the extent that students apply directly through institution-specific application channels, data from PASBC does not present a complete picture of applications to the B.C. public post-secondary system. As well, many institutions require international students to apply directly to the institution using a downloadable application form, rather than PASBC.

The common form collects helpful information for profiling applicants to different institutions, but it does not provide information about the program to which the applicant is applying. After completing the common form, applicants proceed to an institution-specific form where they select their program and courses, whether they are applying for full- or part-time studies, and ultimately submit their application. BCcampus hosts the institution form for 13 of the 26 institutions, which means that it also has centralized applicant information at the program level for half of the participating institutions (see Table 7). For the 13 institutions where BCcampus does not host and maintain the institution form, it is

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<sup>6</sup> Applicants who visit the UBC, UNBC, BCIT, Kwantlen Polytechnic University, Okanagan College, Vancouver Community College and the University of Canada West websites are not redirected to PASBC if they wish to apply. PASBC coverage may be particularly poor for students applying to these institutions.

not possible to know which programs applicants applied to and whether, in fact, they actually completed and submitted an application.

PASBC does not provide information about the outcome of applications and this information cannot be achieved by linking PASBC records with other data sources, such as the Post-Secondary Central Data Warehouse (CDW), because of missing PEN information. If applicants do not enter a PEN on the common form, the field remains null; BC campus does not validate or generate PENS with the Ministry of Education, although efforts are being made to make this possible in the future.

**Table 7 PASBC Participating Institutions**

	BCcampus hosts common form	BCcampus hosts institution form
<i>Community Colleges (11)</i>		
Camosun College	X	X
College of New Caledonia	X	X
College of the Rockies	X	X
Douglas College	X	
Langara College	X	
North Island College	X	X
Northern Lights College	X	X
Northwest Community College	X	X
Okanagan College	X	
Selkirk College	X	X
Vancouver Community College	X	
<i>Institutes (3)</i>		
BC Institute of Technology (BCIT)	X	
Justice Institute of BC	X	X
Nicola Valley Institute of Technology	X	X
<i>Special Purpose Universities (7)</i>		
Capilano University	X	
Emily Carr University of Art and Design	X	X
Kwantlen Polytechnic University	X	
Royal Roads University	X	
Thompson Rivers University and Open-Learning	X	X
University of the Fraser Valley	X	X
Vancouver Island University	X	X
<i>Research Universities (4)</i>		
Simon Fraser University (SFU)	X	
University of British Columbia (UBC)	X	
University of Northern British Columbia (UNBC)	X	
University of Victoria (UVic)	X	
<i>Private Universities (1)</i>		
University Canada West	X	

### 3.2.1.3 PASBC reference period

PASBC data is available from August of 2006 forward and could be tabulated based on a reference year or other time period.

### 3.2.1.4 PASBC summary

BCcampus plans to publish summary applicant and application information in the future; however, it does not currently release any standard data tables to the public. At this point, BCcampus will not be able to publish applicant data for those applicants who apply directly to institutions. A request for applicant data can be made to BCcampus and, depending on the nature of the request, it may require approval from the PASBC Steering Committee.

In light of the coverage issues reviewed above, PASBC is best-suited to provide an order-of-magnitude estimate of out-of-province demand for B.C. public post-secondary education services.

**Table 8 PASBC Summary**

<b>Data source</b>	Administrative data stored in a centralized database.
<b>Geographic coverage</b>	B.C.
<b>Data type</b>	Applicant and application data
<b>Sector</b>	All 25 public research universities, special purpose universities, community colleges, and institutes in B.C and one private university.  <i>Note that some institutions do not receive all of their applications through PASBC.</i>
<b>Field of study</b>	Field of study is available for applicant data for 13 of the 26 participating institutions.
<b>Student sub-groups</b>	The common form, which is collected by BCcampus for all applicants, provides enough applicant information to distinguish between different cohorts of interest.
<b>Reference period</b>	PASBC data has been collected since August of 2006 and can be tabulated based on a reference year.
<b>Data availability</b>	<ul style="list-style-type: none"><li>- No summary PASBC data is currently available.</li><li>- A request for a special tabulation could be made by contacting BCcampus and approval of the PASBC Steering Committee may be required.</li></ul>

## 3.2.2 Post-Secondary Central Data Warehouse (CDW)

### 3.2.2.1 CDW background

ALMD's CDW contains standardized registration data relating to student demographics, programs, credentials, courses, campuses, and session registration for 21 of the 25 public post-secondary institutions in B.C., including colleges, institutes, and all universities except the four research universities: UBC, UVic, SFU, and UNBC.<sup>7</sup> For each registered student, the CDW provides rich descriptive information including age, gender, first nations status, immigration status, disability status, permanent postal code, citizenship, high school information for students from B.C., etc.

The CDW is used extensively by ALMD in budget development and funding allocations, accountability reporting, research and analysis, and responding to requests from the media, other government organizations, and the general public. Participating institutions submit data to the CDW bi-annually on October 31<sup>st</sup> and May 31<sup>st</sup>.

To reduce the response burden on participating institutions, the CDW submits registration information to PSIS on their behalf. The CDW is, therefore, preferable to PSIS for information about the geographic origins of students registered at participating institutions for several reasons: the CDW is not constrained to a point-in-time estimate, a broader range of variables are available to assist in understanding student mobility, and it is more readily accessed by BCCAT.

The CDW is currently being expanded to include applicant data. However, this is in the early stages and applicant data are currently only being released to participating institutions for the purposes of validation. Ultimately, the CDW may be preferable to PASBC as a source of applicant data because it provides program-level information and shows the outcome of the application in terms of its highest status: applied, qualified, wait-listed, offered, or registered. Because of the PEN, the CDW can also show if an applicant with a status other than "registered" at one institution achieved a status of "registered" at another CDW-participating institution.

The CDW includes several variables that can be used in combination to identify the geographic origin of students. International students can be identified and their country of origin can be derived from their citizenship. For domestic fee paying students, the PEN may be used to identify those that graduated from a B.C. high school, and these students may then be assigned to their high school graduation district. For students that are not associated with a B.C. high school, the student permanent postal code may be used to identify their geographic origin. The CDW also stores a current postal code data element, which should represent the student's postal code during their stay at the institution.

Twenty-one of the 25 public post-secondary institutions in B.C. participate in the CDW (Table 9). Registration data is available for 2002 forward for most institutions, and the CDW began collecting application data in 2006.

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<sup>7</sup> The CDW will be the source for Royal Roads University (RRU) registration data beginning in the fall of 2010. The Student Transitions Project (STP) is the source for RRU data up to and including 2009-10.



Table 9 CDW Participating Institutions

	Registration Information	Application Information <sup>8</sup>
<i>Community Colleges (11)</i>		
Camosun College	X	X
College of New Caledonia	X	X
College of the Rockies	X	X
Douglas College	X	X
Langara College	X	X
North Island College	X	X
Northern Lights College	X	
Northwest Community College	X	X
Okanagan College	X	X
Selkirk College	X	
Vancouver Community College	X	X
<i>Institutes (3)</i>		
BC Institute of Technology (BCIT)	X	X
Justice Institute of BC	X	X
Nicola Valley Institute of Technology	X	X
<i>Special Purpose Universities (7)</i>		
Capilano University	X	X
Emily Carr University of Art and Design	X	X
Kwantlen Polytechnic University	X	X
Royal Roads University <sup>1</sup>	X	
Thompson Rivers University and Open-Learning	X	X
University of the Fraser Valley	X	X
Vancouver Island University	X	X
<i>Research Universities (4)</i>		
Simon Fraser University (SFU)		
University of British Columbia (UBC)		
University of Northern British Columbia (UNBC)		
University of Victoria (UVic)		

1. See Footnote 7.

### 3.2.2.2 CDW data quality and coverage

Using the methodology described above with data from 2007-08, 96 percent of CDW records for domestic fee paying students had either a B.C. high school or a permanent postal code that placed them in B.C. or elsewhere in Canada. It is suspected that many of the domestic fee paying student records

<sup>8</sup> Northern Lights College is expected to begin submitting application data to the CDW in the fall of 2009. Royal Roads is expected to start in the fall of 2009. There are no plans at the time of writing for Selkirk to submit application data to the CDW.

with missing permanent postal codes are associated with students participating in continuing education courses, which are unlikely to draw out-of-province students.

Because of the issues discussed in section 2.1.3, page 3, regarding the challenges associated with maintaining a permanent student address record at the institution-level, there are concerns with the quality of permanent student postal code information in the CDW. It is possible that some institutions are over-writing the permanent postal code when students provide updated current postal code information. Many records have the same postal code in the current and permanent fields. However, this is not necessarily an indication that the current postal code has over-written the permanent code; the student may not have moved from their original, permanent address.

**Recommendation**

It is recommended that a tabulation of CDW data be prepared to assess the possibility that institutions are over-writing permanent postal code information with current information. Focusing on domestic fee-paying students who are not enrolled in continuing education courses, the PEN could be used to identify the subset of students that originated from B.C. high schools and the subset that originated elsewhere. It would be expected that domestic fee-paying students who originate from B.C. high schools would have a permanent postal code in B.C. It would also be expected that the rate of non-B.C. postal codes among students who did not originate at a B.C. high school would be much higher. This analysis could be conducted at an institution and program level to assist in the identification of outliers and the targeting of feedback to address this potential issue. Direct follow-up should be conducted with registrars at institutions that appear to be misinterpreting the field to explain the purpose of the data and the definition of the data element.

The CDW is able to distinguish between direct entrants to participating post-secondary institutions from B.C. high schools<sup>9</sup> and students transferring between participating institutions. However, for out-of-province students, there is no direct means of making this distinction. Information about the academic history of out-of-province students is not accessible through the PEN because it is stored in databases outside of B.C. As such, a series of assumptions based on a combination of a student's age and the level of the majority of their course work would be required to derive a classification of students into the two groups. As an example, if students from out-of-province were between the ages of 16 and 20 and enrolled mainly in first-year courses, it might be assumed that they were direct entrants to post-secondary from high school.

**3.2.2.3 CDW reference period**

The CDW typically produces reports based on an academic year (September 1 to August 31), a fiscal year (April 1 to March 31), or a calendar year (January 1 to December 31) and based on a point-in-time of November 1<sup>st</sup>; however, reports for any date range are possible.

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<sup>9</sup> Direct entrants from B.C. high schools are identified by linking CDW records through the PEN to B.C. high school records.

### 3.2.2.4 CDW summary

ALMD releases standard reports and summary level registrant information from the CDW; however, none of these reports profile the province of origin information. Access to the CDW is governed by formal access policies and procedures. A request to the CDW Coordinator is the first step to obtain access. If access is authorized, the CDW Coordinator determines the scope and level of access to be granted and authorizes a Research Agreement on the part of the Ministry. ALMD and any identified participating institutions must be given 14 days to review and comment on a draft report that includes data from the CDW.

The CDW is currently the best available source for identifying the geographic origin of students registered in CDW-participating institutions. Understanding the nature of data issues associated with the permanent postal code is important, and therefore a high-level analysis of postal code information to identify any potential data quality issues is recommended. When applicant data in the CDW has been validated and is ready for release, the CDW will likely become the best source of applicant data for participating institutions.

**Table 10 CDW Summary**

<b>Data source</b>	Administrative data stored in a centralized database.
<b>Geographic coverage</b>	B.C.
<b>Data type</b>	Registrant data. Applicant data is in the validation phase.
<b>Sector</b>	Public special purpose universities, community colleges, and institutes in B.C. Twenty-one institutions, altogether.  The four B.C. research universities do not contribute data to the CDW – see STP.
<b>Field of study</b>	The Classification of Instructional Programs (CIP) 2000 codes are used as a standard to classify institution-level program offerings.
<b>Student sub-groups</b>	For those students originating from B.C., the CDW can identify special groups of interest (e.g., first-year students and transfer students). For out-of-province students, this distinction would have to be derived based on assumptions.
<b>Reference period</b>	CDW registration data is available for April 2002 forward and can be tabulated based on a reference year or other periods. Applicant data has been collected to some degree since 2006, but is not available for public release.
<b>Data availability</b>	<ul style="list-style-type: none"> <li>- Standard reports are available on the ALMD website, but they do not provide information based on the permanent postal code variable.</li> <li>- A request for a special tabulation of registrant data can be made by contacting the ALMD CDW Coordinator.</li> </ul>

### 3.2.3 Student Transitions Project (STP)

#### ***3.2.3.1 STP background***

The STP is a collaboration among B.C.'s Ministry of Education, ALMD, school districts, public post-secondary institutions, and BCCAT. To support studies of student mobility within the public post-secondary system, the project has created a database reflecting student registrations at all 25 public post-secondary institutions in B.C. and has linked these registrations to information from the province's kindergarten to Grade 12 school system through the PEN.

Registration data for all post-secondary institutions except the four research universities and RRU is supplied from the CDW. The STP receives data submissions from the 4 research universities and RRU and combines these with CDW data and K to 12 data, creating the most complete picture of student registrations in the province's public post-secondary system. The STP is also starting to explore the feasibility of collecting post-secondary applicant data, but this is still in the early stages. A pilot study, including the collection of applicant data to nursing programs is currently underway. Issues around the quality and consistency of applicant data are being reviewed. The STP includes detailed student demographic variables, as well as institution and program information.

The STP database also includes a permanent postal code field, defined as the postal code of a student's permanent address, provided at the student's first application to the post secondary institution. A student visa field permits the identification of domestic vs. student visa or exchange students. Issues related to CDW data regarding permanent postal code are discussed in section 3.2.2.2. The following section focuses on coverage and quality issues related to permanent postal code data submitted by the research universities that are not included in the CDW submission to the STP database, as well as Royal Roads University, which now submits directly to the STP, but will submit via the CDW as of 2010.

#### ***3.2.3.2 STP data quality and coverage for research universities and Royal Roads University***

Coverage with respect to the student permanent postal code is quite good in the STP for all universities listed in Table 11, except for Simon Fraser University. All other universities listed in Table 11 have a value for permanent postal code in approximately 95 percent or more of the STP student records.

With the implementation of their current records system in 2004-2005, SFU no longer maintains a permanent postal code field. The new system provides for only one student address field, which is updated with new address information when provided by students. At the discretion of the student, the address field may be their mailing, home, campus, or work address. However, SFU is able to produce detailed tabulations of enrolments by location of previous institution dating back to 1991-1992.

For the purposes of studying student mobility, the objective is to identify the locations where students resided prior to enrolling at their current institutions. The postal code of the previous institution would make a reasonable proxy for a student's permanent code in achieving this objective. With the exception of students participating in distance education, it may be safely assumed that students reside in the same community where they attend school. Given that SFU no longer maintains a student permanent postal code, it may be worth exploring the possibility of substituting the previous institution postal code

for the student’s permanent postal code in the STP for SFU. The student permanent postal code is required for the PSIS submission, so another line of inquiry would be to determine how SFU is supplying PSIS with these data and if whatever approach is being used would also satisfy STP requirements.

**Table 11 Coverage on Permanent Postal Code in STP, by Institution, Fall 2007**

University	% of STP enrolment records with a value for permanent postal code
Royal Roads University (2009-10 and earlier)	99.3%
Simon Fraser University	6.0%
University of British Columbia – Vancouver campus	97.4%
University of British Columbia – Okanagan campus	99.5%
University of Northern British Columbia	98.8%
University of Victoria	94.9%

**Recommendation**

Explore possibilities for SFU to populate its student permanent postal code information in the STP with a proxy. For instance, the possibility of SFU using the postal code of the previous institution as a substitute for the students’ permanent postal code should be assessed. This solution could also be applied to other institutions whose students may not have a permanent postal code. As well, SFU’s approach to providing student permanent postal code information to PSIS should be reviewed to determine if this approach could also satisfy STP requirements.

Another possible solution would be to add a previous institution and province variable to the research university STP data request. A change of this nature would require a clear definition regarding previous institution (i.e., last institution attended, last institution from which the student obtained the most credits, or the last institution from which the student obtained a credential, etc.?). As well, decisions would need to be made about whether the new data element would pertain to all enrolments, or new enrolments. Under this scenario, system-level studies of student origins would use the previous institution postal code for research universities and the student permanent postal code for all other institutions because special purpose universities, colleges, and institutes do not generally collect previous institution information.

In addition, as with the CDW, there are concerns about the possibility of inconsistent interpretations across institutions with respect to the student permanent postal code and also with the maintenance of this information over time. If a decision is made not to expand the scope of the STP research university data request to include previous institution and province variables, it is recommended that registrars at research universities be contacted to review how the permanent postal code is defined and interpreted, and how it is maintained during the student’s stay at the institution.

**Recommendation**

Identify and resolve possible data quality issues with the student permanent postal code variable in the STP by contacting research university registrars to explore how the permanent postal code is defined, interpreted, and maintained.

Like the CDW, the STP is able to distinguish between direct entrants to participating post-secondary institutions from B.C. high schools<sup>10</sup> and students transferring between participating institutions in the B.C. public post-secondary system. However, for out-of-province students, there is no direct means of making this distinction. If previous institution is added to the STP for research universities, a distinction can be made between out-of-province students entering from high school and students transferring to a B.C. research university from another post-secondary institution.

**3.2.3.3 Reference period**

The STP typically collects data annually in the fall and produces reports based on an academic year (September 1 to August 31), and can also report based on a term.

**3.2.3.4 STP summary**

STP data are generally released in the form of pivot tables and analytical reports exploring a variety of topics related to student transitions from B.C. high schools to post-secondary, as well as transitions within the B.C. post-secondary system. No analysis of student origins outside B.C. based on STP data has been released, to date. A request to the STP Steering Committee is required in order to access STP data. Data is available starting in the academic year 2002-2003 up to the fall of 2008.

Because of its coverage of the entire public post-secondary system, the STP is currently the best available source for identifying the geographic origin of students attending public post-secondary in B.C., and in the future, when and if applicant data have been collected and validated, it will also likely be the best source for system-level applicant information.

However, there are coverage and possibly accuracy issues to resolve with the permanent postal code information in the STP. The direction to be taken depends on the outcome of a decision of whether to expand the variables included in the research university data request to include information about student's previous institution (postal code, name, province), or to maintain the current data request and improve the coverage and accuracy of the student permanent postal code information.

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<sup>10</sup> Direct entrants from B.C. high schools are identified by linking STP post-secondary records through the PEN to B.C. high school records.

**Table 12 STP Summary**

<b>Data source</b>	Administrative data stored in a centralized database.
<b>Geographic coverage</b>	B.C.
<b>Data type</b>	Registrant data. Applicant and application data will be available at a later date.
<b>Sector</b>	All 25 institutions that comprise the B.C. public, post-secondary system.
<b>Field of study</b>	The Classification of Instructional Programs (CIP) 2000 codes are used as a standard to classify institution-level program offerings.
<b>Student sub-groups</b>	For out-of-province students, the STP is currently unable to distinguish between students entering directly from high school and students transferring after completing some post-secondary studies.
<b>Reference period</b>	STP registration data is available from 2002-2003 to fall 2008 and can be tabulated based on a reference year or a term. Applicant data is not currently available for release.
<b>Data availability</b>	<ul style="list-style-type: none"> <li>- Analytic reports are available on the BCCAT website (<a href="http://bccat.ca/publications/index.cfm">http://bccat.ca/publications/index.cfm</a>) and at <a href="http://www.aved.gov.bc.ca/student_transitions/welcome.htm">http://www.aved.gov.bc.ca/student_transitions/welcome.htm</a></li> <li>- Data is available to authorized STP partners at BC public post-secondary institutions via an STP SharePoint site.</li> <li>- A request for a special tabulation can be made by contacting the STP Steering Committee.</li> </ul>

### 3.3 Outgoing

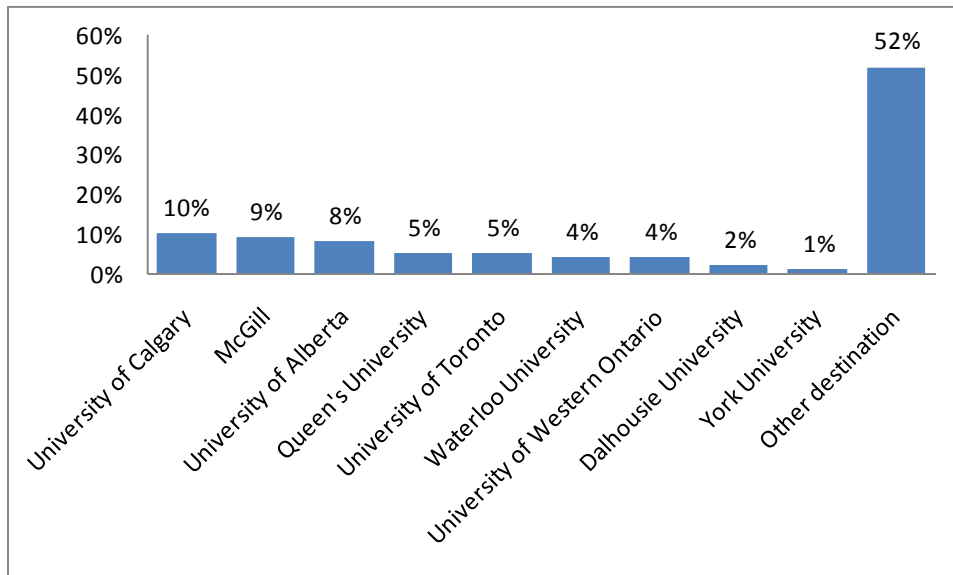
This section of Chapter 3 identifies data sources that would permit BCCAT to explore the post-secondary destinations of B.C. students who leave the province to enrol in post-secondary education elsewhere in Canada. The post-secondary destinations of students who leave the province for post-secondary education, whether they be high school graduates, partial degree completers, or graduates from B.C. post-secondary institutions, are not well understood. These students are not reflected in the STP because they are not enrolled in the B.C. public post-secondary system. The purpose of this section is to identify data sources that have the potential to assist in identifying how many students leave the province to enrol in college or university and where they go.

In 2009, The Canadian Council on Learning and BCCAT released the results of a survey that explored what happened to B.C. high school graduates from the class of 2005-2006 who had not enrolled in the province's public post-secondary system by the fall of 2007 (herein referred to as the CCL/BCCAT study). By extrapolating the survey results, it was concluded that about 6.2 percent of the 44,978 high school graduates had registered at a Canadian post-secondary institution outside B.C., and a further 1.4 percent had enrolled outside of Canada.

Those students who enrolled in Canadian post-secondary institutions outside B.C. generally had high school GPAs of at least 80 percent. About 3 out of 10 students who left the province for post-secondary studies reported that their choice was based on the reputation of the school or a recommendation made to them. The CCL/BCCAT study also found that close to half (46%) of the students who left were found in just nine well-known Canadian universities. Further, Alberta and Ontario institutions each accounted for about one in five B.C. high school graduates who left the province for post-secondary studies elsewhere in Canada.



**Figure 2 Primary Destinations of High School Grads who Pursued Post-Secondary Studies Outside B.C.**  
*Proportion of all B.C. high school graduates who left the province, by receiving institution<sup>11</sup>*



Based on the findings of the CCL/BCCAT study, it may be estimated that a relatively small proportion of B.C. high school graduates enrol in Canadian post-secondary institutions outside B.C. each year; about 6.2 percent or roughly 2,800 to 3,000 students. Further, close to 40 percent of the students who leave enrol in universities in Alberta or Ontario. It should be noted that the CCL/BCCAT study understates the number of students who leave B.C. for post-secondary studies because many students are not part of the population of study: mature students, post-secondary graduates, partial completers of post-secondary, etc.

This section of Chapter 3 reviews a number of data sources that have the potential to assist in the identification of the destinations and the number of students who leave B.C. for post-secondary studies. The first is a B.C. administrative data source that covers a wide range of possible destinations of B.C. students who leave the province for post-secondary studies. The other administrative data sources reviewed in this section focus on the top two destinations of students leaving the province: Alberta and Ontario. This section also reviews two outcomes surveys that provide information about where students go when they continue their post-secondary studies after having participated in the B.C. post-secondary system.

<sup>11</sup> Source: Canadian Council on Learning and BC Council on Admissions and Transfer (2009). *Where Did They Go? Post-Secondary Experiences, Attitudes & Intentions of 2005/06 BC High School Graduates Who Did Not Pursue Public Post-Secondary Education in British Columbia by Fall 2007*. Retrieved October 7, 2009, from BCCAT website: <http://www.bccat.bc.ca/publications/index.cfm>

### 3.3.1 Passport to Education and StudentAid BC

#### ***3.3.1.1 Passport to Education and StudentAid BC background***

This data source combines data from two B.C. programs that maintain records of where selected students register for post-secondary education.

The first is the Passport to Education Program, which recognizes and rewards student achievement in Grades 10 to 12 in a broad range of academic and non-academic areas according to guidelines set out by the Ministry of Education. The intent of the program is to motivate all students to study consistently during the years leading to graduation and to encourage secondary school students to pursue further education through post-secondary institutions and job-training programs. Passport stamps, valued from \$250 to \$500 in post-secondary tuition credits, are awarded annually by B.C. public and independent schools to qualified students (roughly 30 per cent of students) in grades 10 through 12. Stamps can be redeemed upon registration at accredited public or private post-secondary institutions or job training institutes anywhere in the world. The Passport to Education Program includes the PEN and maintains a record of the institution at which passport stamps are redeemed.

The second program is StudentAid BC, which maintains a record of all B.C. students who receive financial assistance and the post-secondary institution at which they enrol. StudentAid BC assists eligible students through loans, grants, bursaries, scholarships, and special programs. Students who are eligible to receive financial assistance must attend at an eligible institution anywhere in the world; the list of institutions is very comprehensive and includes both the public and private sectors. The StudentAid BC database includes all students who receive financial assistance. The PEN and institution of enrolment are included in the StudentAid BC database for all students receiving assistance.

#### ***3.3.1.2 Passport and StudentAid BC data quality and coverage***

This data source is valuable for identifying student transitions outside the B.C. public post-secondary system to destinations in the B.C. private post-secondary system, as well as outside the province. Given that the list of eligible institutions is extensive, the combination of these two data sources provides excellent coverage of possible post-secondary destinations in and outside of Canada.<sup>12</sup>

However, this data source does not present a complete picture of students who leave the province for post-secondary studies for several reasons:

- not all students who leave the province apply for financial assistance;
- only 30 percent of high school students earn Passport stamps for their post-secondary education; and
- not all students who earn Passport stamps actually redeem them when they enrol in post-secondary studies.

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<sup>12</sup> While the coverage of destinations is good, the institution codes used by the two data sources are inconsistent. Re-coding to a standard would be required in order to provide a provincial or institution-level breakdown of student destinations.

Under-coverage of students attending post-secondary education outside the B.C. public system is attenuated somewhat by the fact that the 30 percent of high school students who receive Passport credits are also the most likely graduates to leave the province for post-secondary studies because of their high academic standing. Nonetheless, there is evidence of substantial under-coverage of students by the combination of Passport and StudentAid BC data (see text box, below).

Another caution related to this data source is that it is based on programs that may change over time. Changes in qualifying criteria, eligible institutions, etc., would have implications for the comparability of information over time. For this reason, it is not recommended that this data source be incorporated as part of a long-term strategy for measuring student mobility.

In spite of the caveats mentioned above with respect to the coverage and stability of this data source, there are several advantages. It is a B.C. source of data that could be accessible to BCCAT by request, and both Passport to Education and StudentAid BC data are PENned. It is also unique among administrative data sources in terms of the coverage it provides of possible destinations, including the private system in B.C., elsewhere in Canada, and outside Canada.

### ***3.3.1.3 Passport and StudentAid BC reference period***

This data source applies to an academic year, September 1 to August 31.

### ***3.3.1.4 Passport and StudentAid BC summary***

If recipients of Passport credits and financial aid who leave the province for post-secondary studies can be considered an approximately representative sample of all B.C. students who study outside the province, then this data source could be effective at indicating the range of possible destinations for students who leave the province. Because of under-coverage, this data source would not provide an accurate estimate of the overall magnitude of the out-flow of students from B.C. However, it could help

#### **EVIDENCE OF UNDER-COVERAGE**

Analysis of STP data shows that the five-year transition rate from high school to post-secondary studies increases by six percentage points, from 72 to 78 percent, when Passport to Education and StudentAid BC data are used to identify registrations at non-B.C. post-secondary and B.C. private institutions (see source note below) .

This is a substantially lower percentage than was found by the CCL/BCCAT study, which reported that 6.9 percent of B.C. high school graduates enrolled in the private B.C. system, and a further 7.6 percent enrolled in post-secondary outside of B.C. While a rough estimation, these findings suggest that the combination of the Passport to Education and StudentAid B.C. data sources captures about half of the students who enrol in post-secondary outside the B.C. public system, assuming that the self-reported survey data are accurate.

Source: Student Transitions Project (2008). Research Report: Movement Among B.C. Public Post-Secondary Institutions. Retrieved October 7, 2009, from AVED website: [http://www.aved.gov.bc.ca/student\\_transitions/documents/STP-Movement-Among-Report\\_2008-10-20.pdf](http://www.aved.gov.bc.ca/student_transitions/documents/STP-Movement-Among-Report_2008-10-20.pdf)

to improve BCCAT’s understanding of the relative magnitude of students enrolling in different post-secondary destinations outside B.C.

**Table 13 Passport and StudentAid BC Summary**

<b>Data source</b>	Administrative data created by combining data from two separate B.C. programs.
<b>Geographic coverage</b>	Students originating in B.C. and studying at an eligible institution anywhere in the world.
<b>Data type</b>	Passport redeemers and StudentAid BC recipients.
<b>Sector</b>	Private and public post-secondary institutions that are on the eligible list.
<b>Field of study</b>	This data source does not include information about field of study.
<b>Student sub-groups</b>	Passports are issued only to students in high school to be used for their first entry to post-secondary studies, and thus passport redeemers cannot be post-secondary transfer students. StudentAid BC recipients may be at any stage of study.
<b>Reference period</b>	This data source applies to an academic year, September 1 to August 31.
<b>Data availability</b>	<ul style="list-style-type: none"> <li>- There are no standard tabulations of this data source. It has been used by the STP project to study transitions of high school graduates to post-secondary studies outside the B.C. public system.</li> <li>- To use the data for a study of student mobility, permission would be required from the Ministry of Education for access to Passport data, and from ALMD for access to StudentAid BC data.</li> </ul>

### 3.3.2 Alberta

#### 3.3.2.1 Alberta background

Alberta is one of the largest recipients of post-secondary students who leave B.C. According to PSIS, which is based on a fall snapshot, there were 1,707 B.C. students enrolled in Alberta’s college system in 2005, and a further 6,012 enrolled in Alberta universities in 2007. Alberta’s Learner and Enrolment Reporting System (LERS), which covers the full academic year, shows just over 11,000 students from B.C. enrolled in the province’s post-secondary system in 2007-2008.<sup>13</sup> Alberta’s two largest universities, the

<sup>13</sup> The LERS captures more enrolments than PSIS because: 1) The LERS figures are based on an academic year, as opposed to a snap-shot of the fall session; and 2) The LERS includes more programs than PSIS (e.g., open studies programs, ESL, academic upgrading, etc.).

University of Calgary (1,526) and the University of Alberta (1,812), report a combined total of 3,338 full-time undergraduate and graduate registrants with permanent addresses in B.C.<sup>14</sup>

The Alberta Ministry of Advanced Education and Technology (AAET) maintains two centralized administrative databases that track enrolments and applications to the Alberta post-secondary system. LERS is Alberta's central registration database. This system collects information about learners and their enrolment in credit programs offered by 20 public and 8 private post-secondary institutions located in the province of Alberta (see Table 14). Registration data is submitted annually by July 31 to the LERS. This annual submission covers enrolments for all sessions of the academic year (i.e., spring/summer, fall, and winter).

The LERS can support the production of detailed tabulations of B.C. students studying in Alberta by institution, full-time/part-time, graduate/undergraduate, program of study, age, gender, etc. The LERS can distinguish between students at various stages of study. For instance, first year students entering the Alberta post-secondary system can be distinguished from transfer students entering for the first time into their 2<sup>nd</sup>, 3<sup>rd</sup>, or 4<sup>th</sup> year of study.<sup>15</sup> Annual enrolment tabulations by institution can be prepared dating back to 1997-1998. The AAET uses LERS data to prepare the PSIS submission for Statistics Canada on behalf of participating institutions.

The Application Submission Initiative (ASI) collects student application and enrolment status information for applicants, continuing, and returning students for the fall session. The information is used to assist post-secondary institutions and the AAET to ensure enrolment capacity in the post-secondary system meets learner and labour market demand. Each fall, a file is created that includes a record for each application and a record for each registration. The file consists of 21 variables, including age, gender, term start and end dates, last institution type, aboriginal status, program, and application status (qualified, offered, or attending). The file also includes a field that distinguishes between applicants and those students who are continuing for another year. Applicant and application data is available from the ASI dating back to the fall of 2005.

Student records are linked within the LERS and the ASI using the unique Alberta Student Number (ASN). The student's "source" postal code, which is described in data submission documentation as the geographic source of the student, is a data element in both databases. Data submission documentation clearly states that the postal code is used to identify foreign students and to perform analysis by location. Further, the instructions remind institutions that the field typically does not change during the student's stay at an institution.

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<sup>14</sup> Sources: University of Calgary, Office of Institutional Analysis (2009). University of Calgary Fact Book 2008-2009. Retrieved October 7, 2009, from the University of Calgary website <http://oia.ucalgary.ca>. University of Alberta (2008). Summary of Statistics 2007-2008. Retrieved October 7, 2009, from the University of Alberta website [www.registrar.ualberta.ca/stats](http://www.registrar.ualberta.ca/stats) University of Calgary data is for 2008-2009 and the University of Alberta data is for 2007-2008.

<sup>15</sup> The LERS includes a current status variable that identifies post-secondary transfer students. These are students who are new to the institution at entry and who are not Freshmen; that is, students who are granted transfer or advanced credit, and the last institution attended was not a high school. LERS also collects detailed information regarding the highest level of education attained prior to the current enrolment.

Table 14 shows which Alberta post-secondary institutions are included in the ASI.

**Table 14 Alberta Post-Secondary Institutions Participating in LERS and ASI**

	LERS	ASI
<b>Universities (4)</b>		
Athabasca University	X	X
University of Alberta	X	X
University of Calgary	X	X
The University of Lethbridge	X	X
<b>Public Colleges (14)</b>		
Alberta College of Art and Design	X	X
Bow Valley College	X	X
Grande Prairie Regional College	X	X
Grant MacEwan College	X	X
Keyano College	X	X
Lakeland College	X	X
Lethbridge College	X	X
Medicine Hat College	X	X
Mount Royal College	X	X
NorQuest College	X	X
Northern Lakes College	X	X
Olds College	X	X
Portage College	X	X
Red Deer College	X	X
<b>Technical Institutes (2)</b>		
NAIT	X	X
SAIT	X	X
<b>Private Colleges with Accredited Degree Programs (8)</b>		
Ambrose University College	X	X
Canadian Nazarene University College	X	
Canadian University College	X	X
Concordia University College	X	X
DeVry Institute of Technology	X	
St. Mary's University College	X	X
Taylor University College	X	X
The King's University College	X	X

B.C. and Alberta have been sharing tabulations of post-secondary registration information from time to time in an effort to better understand the nature and size of student flows between the provinces. The two provincial governments are currently exploring a more formalized arrangement for the sharing of a defined set of standardized data tabulations on a regular basis.

### **3.3.2.2 Alberta data coverage and quality**

Both the LERS and the ASI have very good coverage of post-secondary institutions in the province. All publicly funded universities, colleges, and technical institutes are included, as are several privately funded institutions offering accredited degree programs. The AAET has experienced issues with student

postal code information in the past, and has responded by providing very clear direction in data submission documentation regarding the intended use of the data and instructions that this information should not change during a student’s stay at the institution.

### 3.3.2.3 Alberta reference period

The LERS supports the production of reports based on a reference year (e.g., September 1 to August 31) or a point-in-time. The ASI provides a snapshot of applications to the fall session; that is, programs starting between August 1<sup>st</sup> and September 30<sup>th</sup>.

### 3.3.2.4 Alberta summary

Together, the LERS and the ASI provide excellent coverage of B.C. enrolments and applications to the Alberta post-secondary system. Special tabulations are created upon request by the AAET.

**Table 15 Alberta Summary**

<b>Data source</b>	Administrative data stored in centralized databases: 1) Learner Enrolment Reporting System (LERS) and 2) Application Submission Initiative (ASI).
<b>Geographic coverage</b>	Alberta
<b>Data type</b>	Registrant data. Applicant and application data.
<b>Sector</b>	All 20 public post-secondary institutions, as well as a collection of privately funded institutions with accredited degree programs.
<b>Field of study</b>	The LERS and the ASI collect a program ID and a program specialization code from each record. By linking this information with the Program Registry System, the corresponding CIP code can be obtained for any program offered by an Alberta post-secondary institution.
<b>Student sub-groups</b>	The LERS is able to provide tabulations of student sub-groups, such as first year students, vs. new students entering at later stages of study. The ASI is able to distinguish between first-time applicants, continuing students, and students returning after a break.
<b>Reference period</b>	The LERS can produce reports based on a reference year (e.g., September 1 to August 31) or a point-in-time. The ASI provides a snapshot of applications to the fall session; that is, programs starting between August 1 <sup>st</sup> and September 30 <sup>th</sup> .
<b>Data availability</b>	A request for a special tabulation can be made by contacting the AAET.

### 3.3.3 Ontario

#### **3.3.3.1 Ontario background**

The Ontario provincial government does not maintain a central data warehouse of post-secondary applications and/or registrations, and thus a reliable estimate of the total number of B.C. students enrolled in post-secondary institutions in Ontario is not readily available. The CCL/BCCAT study found that five of the top nine out-of-province university destinations for B.C. high school graduates were in Ontario: Queen’s, the University of Toronto, Waterloo, Western, and York (see Figure 2, page 29). Statistics Canada’s PSIS database indicates that there were 6,180 students of B.C. origin studying in Ontario universities in 2007, second only to Quebec, with 7,941 students enrolled in Ontario universities.<sup>16</sup> Data provided by Queen’s University shows that, in 2008, there were 209 full-time graduates and 956 full-time undergraduates of B.C. origin enrolled at that institution. Further, in 2008, 261 B.C., first-year, full-time students registered in bachelors programs at Queen’s University.

Although the Ontario provincial government does not maintain a centralized source of registration and application data, there are three system-level sources of data that can potentially provide information about B.C. students in the Ontario post-secondary system. There are two not-for-profit organizations in Ontario that manage applications to the province’s university and college sectors and both of these maintain statistics on applications and confirmations.<sup>17</sup> The organization responsible for applications to the college system also collects system-level enrolment data. The third data source is the result of an initiative to provide standardized data for the university sector that has been undertaken by the Ontario Council of Universities, the province’s 19 publicly-funded universities, and the Ontario College of Art & Design.

#### *Central application processing data sources*

The Ontario Universities’ Application Centre (OUAC) provides centralized application processing services for applicants to Ontario universities. The OUAC operates under the auspices of the Council of Ontario Universities and manages applications to Ontario’s 19 publicly-funded universities and the Ontario College of Art & Design. The organization, which was established in 1971, collects university applications for undergraduate studies, medical schools, law schools, faculties of education and rehabilitation sciences. Students apply directly to universities for graduate programs and schools of dentistry.

The Ontario College Application Service (OCAS) was created in 1992 by the Colleges of Applied Arts and Technology, and Institutes of Technology and Advanced Learning in Ontario. This organization provides centralized application processing services, transcript document management, online confirmation of admission, and data warehousing services for Ontario’s 24 publicly-funded Colleges of Applied Arts and

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<sup>16</sup> Thirteen percent of 2007 enrolments in Ontario reported by PSIS were coded to “other” for province of residence, so it is likely that the PSIS estimate understates B.C. enrolments in Ontario universities. PSIS data cannot be used to estimate B.C. student enrolments in Ontario colleges because of a very high incidence of missing data on province of residence (47%).

<sup>17</sup> Confirmations are accepted offers of admissions. Applicants can only confirm one offer of admission at a time.



Technology and Institutes of Technology and Advanced Learning, as well as three regional campuses of the University of Guelph, and the Michener Institute of Applied Health Sciences.

Both organizations maintain a central data warehouse of application and confirmation data and are able to provide tabulations by the applicants' province of origin, as well as demographic, institution and program breakdowns. In addition, the OCAS collects enrolment data from participating colleges each term and is able to report on total enrolments in the college system for a given term. Depending on the nature of the request, some suppression of detail may be required in order to comply with data sharing agreements in place between each application processing organization and participating institutions. Data provided for research purposes are in aggregate form to protect personal information.

#### *Common University Data Ontario (CUDO)*

Ontario's 19 universities and the Ontario College of Art & Design, in conjunction with the Ontario Council of Universities, have also created a database offering key university data in a common format for Ontario universities: Common University Data Ontario (CUDO). CUDO consists of several standard data tables that all participating universities provide on their websites and update each year, dating back to 2006. The data are targeted to prospective students and include such items as: number of degrees awarded, student enrolment and entrance requirements, student satisfaction, tuition, class size, etc. CUDO currently includes a breakdown of the geographic origin of first-year, full-time registrants, but the tabulation includes B.C. in a "rest of Canada" category with all provinces other than Ontario.

#### **3.3.3.2 Ontario coverage and data quality**

The centralized application services have been part of the post-secondary system in Ontario for many years and use of their services is mandatory for publicly-funded<sup>18</sup> universities and colleges. All of the websites of public post-secondary institutions direct students wishing to apply to the OUAC or the OCAS. The only exceptions are for students applying to graduate programs and schools of dentistry; these students apply directly to the university. The OCAS does not process applications to part-time programs, such as continuing education.

The OUAC and the OCAS are able to uniquely identify applicants within their own computer systems and both organizations track the status of an application through to confirmation. However, their data systems are separate, so it is possible that tabulations produced by each organization could double-count those who apply to both colleges and universities in Ontario.

The CUDO project provides standardized data, including enrolments, for publicly-funded universities and the Ontario College of Art & Design. This data source, however, does not currently include a geographic breakdown of enrolments to show the geographical origins of all enrolments by province. BCCAT may wish to explore with CUDO the possibility of expanding the standard set of data tables currently in CUDO

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<sup>18</sup> There are estimated to be over 500 private career colleges in Ontario and approximately 20 private universities. There does not appear to be a central source of enrolment statistics for these institutions.

to include a breakdown of total enrolments by province of origin, or to request a special tabulation of Ontario university data.

### ***3.3.3.3 Ontario reference period***

The OUAC and the OCAS both provide statistics regarding the number of applicants and confirmations for the fall term in a given academic year. The OCAS can also provide statistics regarding the winter term. CUDO enrolment data is based on a snapshot of the fall term in a given year.

### ***3.3.3.4 Ontario summary***

In terms of applicants and confirmations for Ontario universities and colleges, the OUAC and OCAS have the potential to provide information on students from B.C. Both organizations produce standard tabulations; however, these tables do not show applicants from B.C. separately. Requests for a special tabulation of B.C. applicant data must be accompanied by a description of the mandate of the requesting organization and a statement of the purpose for which the information is requested. In terms of the business cycle, the OUAC and OCAS are most likely to be able to accommodate requests for special tabulations in the months of November/December and February/March.

There is no single, provincial data source that provides information on total registrations sourced from B.C. in the university and college sectors in Ontario. The OCAS collects enrolment data from publicly funded Ontario colleges and can tabulate this information by students' province of origin. Program-level information is available for first-year enrolments, but is not available for subsequent years of study.

Given that CUDO does not provide a breakdown of university enrolments by province of origin, Statistics Canada's PSIS may be the best data source for an estimate of the total number of B.C. students enrolled in Ontario universities. Thirteen percent of the 446,313 Ontario university enrolments in PSIS for the year 2007 were coded to the category "other" for province of residence. From CUDO statistics, it is estimated that approximately 7 percent of students in Ontario universities are international students, which means that at least 6 percent of Ontario records in PSIS are missing a value for province of residence.

**Table 16 Ontario Summary**

<b>Data source</b>	Administrative data stored in centralized databases: 1) Ontario Universities' Application Centre (OUAC), 2) Ontario College Application Service (OCAS), and 3) Common University Data Ontario (CUDO).
<b>Geographic coverage</b>	Ontario
<b>Data type</b>	Applicant and confirmation data (OUAC and OCAS). Registrant data (CUDO and OCAS).
<b>Sector</b>	Ontario's 19 publicly funded universities and the Ontario College of Art & Design (OUAC and CUDO), and Ontario's 24 publicly funded Colleges of Applied Arts and Technology and Institutes of Technology and Advanced Learning , as well as 3 regional campuses of the University of Guelph and the Michener Institute of Applied Health Sciences (OCAS).
<b>Field of study</b>	The field of study is broken down into 19 categories by the OUAC and data is also available at the program level from the OCAS. CUDO provides a different program breakdown with 14 program categories. Data for first-year enrolments is available from OCAS based on CIP codes and Ontario Ministry codes.
<b>Student sub-groups</b>	Both the OUAC and the OCAS are able to provide a demographic breakdown of applicants and confirmations. They are also able to distinguish first-time applicants to first-year vs. applicants transferring into subsequent years.
<b>Reference period</b>	The OUAC and CUDO produce data based on a fall snapshot. The OCAS produces data for the fall and winter sessions.
<b>Data availability</b>	A request for a special tabulation can be made by contacting the OUAC and/or the OCAS. A request regarding CUDO should be made to the Ontario Council of Universities.

### 3.3.4 Diploma, Associate Degree, and Certificate Student Outcomes (DACSO) Survey

#### **3.3.4.1 DACSO Description**

DACSO is a student outcomes survey of graduates or near-graduates of diploma, associate degree or certificate programs offered by colleges, institutes, and special purpose universities in B.C. The survey is funded by ALMD and participating institutions. The British Columbia Outcomes Working Group (OWG) oversees the survey project and the project is managed by BC Stats.

DACSO is an annual survey that contacts students who have been out of their programs for between 9 and 20 months to ask about their level of satisfaction with their program of studies, their employment outcomes, and further studies they may be pursuing. Of interest to a study of mobility, the survey asks about the post-secondary institution and location of any further studies the respondents are either currently pursuing, or had pursued subsequent to completing their program (Table 17).

**Table 17 DACSO Survey Questions Relevant to a Student Mobility Study**

<b>Period After Completion or Near Completion</b>	
<b>Q.9E</b>	Are you presently taking any other education or training? <i>All respondents</i>
<b>Q.9F</b>	Are you currently studying on a full or part-time basis? <i>Respondents who are currently studying</i>
<b>Q.10</b>	Since you took your last course [or graduated], have you taken any further studies? <i>Respondents not currently studying</i>
<b>Q.12</b>	What is the name of the institution at which you were enrolled or at which you are currently enrolled? <i>Respondents who are either continuing their studies at the time of the interview or had taken further studies subsequent to leaving their program.</i>
<b>Q.12C</b>	Where is this institution located? <i>Respondents who are either continuing their studies at the time of the interview or had taken further studies subsequent to leaving their program.</i>

### **3.3.4.2 DACSO coverage and quality**

The 2008 survey received 17,671 responses out of a possible 33,258 former students, for a response rate of 53 percent. A total of 8,211 (46%) respondents continued their studies after completing or nearly completing their program. Of those who continued, 94 percent remained in B.C., 6 percent transferred to another province in Canada, and less than 1 percent continued their studies outside Canada. Alberta (2%) and Ontario (1%) were the most popular destinations for out-of-province studies. As is the case with all telephone surveys, it is likely that the estimate of students continuing their studies out-of-province is conservative because it is difficult to trace and contact students by phone who have left the province.

The DACSO survey collects the names of the institutions at which respondents have been enrolled since leaving their previous program. However, the small number of respondents who reported continuing their studies outside B.C. means that a breakdown by institution would not be possible. For instance, even at the provincial level, Alberta (146) and Ontario (61) were the only provinces that had more than 30 respondents who reported attending further studies in those provinces in 2008.

### **3.3.4.3 DACSO reference period**

The survey contacts students between 9 and 20 months after leaving their institution. The survey questions reference the period prior to enrolment, the enrolment period, and the period after graduation.

### **3.3.4.4 DACSO summary**

In 2008, the DACSO survey identified 282 respondents who continued their studies in a province other than B.C. This number of responses is too small to support analysis of out-of-province post-secondary destinations. Data collection companies use contact information provided by the previous institution, and it can be difficult to trace students who are studying outside the province because they have moved.

**Table 18 DACSO Summary**

<b>Data source</b>	DACSO Survey
<b>Geographic coverage</b>	B.C. and anywhere in Canada or the United States where respondents can be traced.
<b>Data type</b>	Graduate and near-completer survey data.
<b>Sector</b>	Graduates or near-completers of diploma, associate degree, or certificate programs at B.C. colleges, institutes and special purpose universities.
<b>Field of study</b>	Data is <i>not</i> captured regarding the field of study for further studies. The respondents' original field of study is coded using the 2000 edition of CIP codes.
<b>Student sub-groups</b>	DACSO has demographic and program information for all respondents. However, the number continuing out-of-province is too small to conduct such analysis.
<b>Reference period</b>	9-20 months after completing or almost completing a diploma, associate degree, or certificate.
<b>Data availability</b>	DACSO data is available through BCStats upon approval of the OWG.

### 3.3.5 Baccalaureate Graduates Survey (BGS)

#### **3.3.5.1 BGS Description**

The Baccalaureate Graduates Survey (BGS) gathers information on baccalaureate graduates' education satisfaction levels, education financing, and student debt, as well as further education and employment outcomes. Until 2005, the project targeted only university graduates from the four provincial research universities, as well as Royal Roads University. Since 2005, the survey has expanded to include baccalaureate graduates from 22 public degree-granting institutions in B.C., including research universities, special purpose universities, colleges, and institutes.

Like the National Graduates Survey (NGS), the BGS interviews graduates both two and five years after graduation. The BGS asks graduates if they have taken any formal post-secondary studies since graduating and if they are currently enrolled in formal post-secondary education or training. Respondents' postal codes are confirmed during the interview and their geographic location can be derived from this information. As is the case with NGS, this means that an assumption must be made about the location of studies for students who moved after graduating, are not currently studying, but did some further pos-secondary studies after graduating.

**Table 19 BGS Survey Questions Relevant to a Student Mobility Study**

<b>Period After Graduation</b>	
<b>D1</b>	Since graduation, have you taken any other formal post-secondary education or training? <i>All respondents</i>
<b>D2</b>	Are you currently enrolled in formal post-secondary education or training? <i>Respondents who have taken some post-secondary education or training since graduating</i>
<b>D3</b>	Are you currently enrolled on full-time or part-time? <i>Respondents who are currently enrolled</i>
<b>D6</b>	What type of formal post-secondary education or training are/were you taking? <i>Respondents who have taken some post-secondary education or training since graduating</i>

### ***3.3.5.2 BGS coverage and quality***

The 2008 survey, which followed up with the class of 2006, received 8,836 responses out of a possible 18,214 graduates, for a response rate of 49 percent. Twenty-nine percent or 2,585 respondents were currently enrolled in post-secondary studies at the time of the survey. The number of respondents studying in Canada, but outside B.C., was 240. As is the case with the DACSO, the number of respondents is considered to be too low to support an analysis of out-of-province post-secondary destinations through the BGS.

### ***3.3.5.3 BGS reference period***

The BGS surveys graduates of B.C. baccalaureate degree programs both two years and five years after graduation. The survey questions make reference to the period prior to enrolment, the enrolment period, and the period after graduation.

### ***3.3.5.4 BGS summary***

In 2008, the BGS survey identified 240 graduates who continued their studies in Canada outside of B.C. As in the case of DACSO, this is too small a number of responses to support analysis of out-of-province post-secondary destinations.

**Table 20 BGS Summary**

<b>Data source</b>	BGS Survey
<b>Geographic coverage</b>	B.C. and anywhere in Canada or the United States where respondents can be traced.
<b>Data type</b>	Graduates
<b>Sector</b>	Graduates of baccalaureate programs in B.C. from all post-secondary sectors.
<b>Field of study</b>	The respondents' original field of study is coded using the 2000 edition of CIP codes. Data is <i>not</i> captured regarding the field of study for further studies. However, the survey captures the type of further formal education (undergraduate degree, masters, doctorate, applied program certification, professional certification, etc.), and the type of undergraduate program (education/teacher training, law, etc.).
<b>Student sub-groups</b>	BGS has demographic and program information for all respondents.
<b>Reference period</b>	Two and five years after graduation with a baccalaureate degree.
<b>Data availability</b>	BGS data is available through BCStats upon approval of the BGS Steering Committee.

### 3.4 Summary of Data Sources

Eleven different data sources were reviewed in this chapter. Some of these data sources have great long-term potential to support studies of student mobility, but are less useful in the short-term. Others are available and ready to support research on student mobility from a B.C. perspective. Table 21 summarizes the data sources in terms of their utility in the short- and long-term as a source for studies of incoming and outgoing students.

**Table 21 Summary of Data Sources and Utility Rating in the Short- and Long-Term**

Data Sources Utility (L, M, H)	Incoming		Outgoing	
	Short-term	Long-term	Short-term	Long-term
<i>National Incoming and Outgoing Sources</i>				
PSIS	L	L	L	H
NGS	M	M	M	M
YITS	M	M	M	M
<i>Provincial Incoming Sources</i>				
PASBC	L	M		
CDW	M	H		
STP	M	H		
<i>Provincial Outgoing Sources</i>				
Passport/StudentAid BC			M	L
Alberta			H	H
Ontario			M	H
DACSO			L	L
BGS			L	L

Note: L=low utility, M=moderate utility, and H=high utility

## 4.0 Conclusions and Recommendations

The conclusions and recommendations provided below are divided into two groups: 1) those that relate to students coming to the B.C. public post-secondary system from outside the province (Incoming), and 2) those that relate to students leaving B.C. for post-secondary studies (Outgoing).

### 4.1 Incoming

Answers to questions about the geographic origin of students enrolled in the B.C. public post-secondary system must come from B.C. At its original source, the information comes from students during the application and enrolment processes administered by public, post-secondary institutions, and system-level services, such as PASBC. Wherever possible, a study of the geographic sources of students applying to and studying in B.C. should use centralized sources of data over information from individual institutions. This approach reduces the burden of reporting at the institution level and takes advantage of work that has been done to establish common definitions and standards for system-level data.



#### 4.1.1 Registrants

In B.C., standardized enrolment data based on common definitions is gathered from institutions and stored in the CDW and/or the STP. Both the CDW and the STP data submissions already include the key data element that is required for a study of the geographic origins of students: the students' permanent postal code at the time of application. However, there are concerns with the quality of the data populating this field in both the CDW and the STP. As a first step, then, **it is recommended that the database manager for the CDW and the Data Management Subcommittee of the STP:**

- *investigate the quality of the student permanent postal code information that has been submitted by assessing tabulations of existing data and/or discussing definition and maintenance practices with registrars;*
- *follow-up directly with institutions that appear to be misinterpreting the field to explain the purpose of the data and the definition of the data element; and*
- *review current data submission documentation to ensure that it states clearly that this field is to reflect the postal code of the student's home or permanent residence at the time of applying for the first time for admission to the institution, that it is used to perform analysis of student location prior to enrolling, and that it should not change during a student's stay at the institution.*

Coverage is not generally an issue with the student permanent postal code data in either the CDW or the STP, with the exception of Simon Fraser University. The new system in use at that university does not accommodate a permanent student postal code. Therefore, **it is recommended that the Data Management Subcommittee of the STP:**

- *explore possibilities for SFU to populate its student permanent postal code information in the STP with a proxy. For instance, the possibility of SFU using the postal code of the previous institution as a substitute for the students' permanent postal code should be assessed. This solution could also be applied to other institutions whose students may not have a permanent postal code. As well, SFU's approach to providing student permanent postal code information to PSIS should be reviewed to determine if this approach could also satisfy STP requirements.*
- *depending on the outcome of efforts to identify a proxy for the existing STP data element of permanent postal code, the STP Steering Committee might wish to consider adding a previous institution and province variable to the research university STP data request. A change of this nature would require agreement on definitions for these new data elements.*

#### 4.1.2 Applications

Data regarding the geographic sources of applicants to the B.C. post-secondary system are less developed than data on registrations in B.C. Unlike Ontario, where it is mandatory for institutions to use centralized application services, B.C.'s central application service, PASBC, is accessed on a voluntary basis by post-secondary institutions. Several institutions supplement with their own on-line application

services or downloadable .pdf application forms. Further, PASBC does not provide full-service to many institutions, and as a result, in many cases it does not have information about whether an application that was initiated was actually submitted. Finally, PASBC records cannot be readily linked to registration records to identify the application outcome because many PASBC records do not have an associated PEN. Should PASBC resolve many of the above issues, working closely with institutions and the two education ministries, and become a universal application service with PENning at the time of application, it could become a reliable source of data on the geographic origins of applicants.

The CDW and STP data projects have begun to collect and validate application data from participating institutions. As these databases have full implementation of the PEN and also include student registration records, it is recommended that studies of the geographic origin of applicants be based on data from the CDW and STP when the data become available. As these projects are in the early stages of developing applicant data, **it is recommended that the CDW and STP data managers:**

- *review current data submission documentation for application data to ensure that it states clearly that the permanent postal code field is to reflect the postal code of the student's home or permanent residence at the time of applying for the first time for admission to the institution, that it is used to perform analysis by student location prior to enrolling, and, should the student enrol at the institution, it should not change during a student's stay at the institution; and*
- *review the purpose and definition of this data element with registrars so that there is a shared understanding from the outset.*

## 4.2 Outgoing

When students leave B.C. for post-secondary studies, it is generally non-B.C. data sources that hold the answers regarding where they go. Evidence from a survey conducted jointly by the Canadian Council on Learning and BCCAT suggests that about 6 percent of high school graduates leave the province for post-secondary studies. According to the NGS, about 9 percent of students who resided in B.C. prior to enrolling in the program they graduated from in 2005, left the province for their post-secondary studies.

### 4.2.1 Overall sources

Because of their broad scope, the three national data sources have the potential to be the most helpful to a study of where students who leave B.C. go for post-secondary studies: PSIS, the NGS and YITS. Unfortunately, coverage on the province of residence variable in PSIS is very poor in many provinces, particularly for enrolments in the college sector. The province of origin variable is among 15 data elements that are the focus of current efforts to improve data quality in PSIS. **It is recommended that BCCAT work with ALMD to:**

- *investigate the source of under-coverage on the province of origin data for B.C. universities in PSIS data; and*

- *communicate the importance of province of origin information to an understanding of inter-provincial student flows and encourage other PSIS contributors to improve their data in this area.*

The NGS has the potential to provide information about inter-provincial migration prior to enrolling and after graduating. In fact, the survey can identify students who migrated from B.C. before graduation and returned to B.C. after graduation; students who migrated before and did not return to B.C.; students who migrated from B.C. after graduation and not before; students who migrated before and after graduation without returning to B.C.; as well as students who originated in B.C., studied in B.C., and stayed in B.C. after graduation. The possibilities for profiling these different groups of students in terms of their demographics, their study locations and programs, etc., are bounded by sample size constraints. **It is recommended that:**

- *BCCAT explore the possibility of obtaining a special tabulation of 2007 NGS survey data to determine if the sample size supports the development of a profile of students who took different migration paths through their post-secondary careers.*

Like the NGS, the YITS also has potential to provide information about individuals who leave B.C. to study in other provinces, and those who come to B.C. to pursue post-secondary studies. The YITS is a longitudinal survey that tracks student transitions through time and identifies those who transition directly to out-of-province post-secondary and those who leave after attending post-secondary in B.C. The main constraint on the value of the YITS is its sample size. **It is recommended that:**

- *BCCAT explore the possibility of obtaining a special tabulation of the Cycle 5 YITS data for Cohort A to determine if the sample size supports the development of a profile of students who left the province for post-secondary studies.*

The Passport and StudentAid BC data source has the potential to provide a general indication of the range of destinations for B.C. students who leave the province for post-secondary studies. Given the substantial under-coverage associated with this data source, and its linkage to programs and policies that could change their parameters in the future, it is not recommended that analysis of this data source be incorporated into a plan to study student mobility.

While outcomes surveys of B.C. graduates and near graduates (DACSO and BGS) appear at first-blush to be an excellent source of information about transitions out of province for studies later in students' educational careers, the sample sizes tend to be too small to support this type of analysis. In both the cases of DACSO and BGS, fewer than 300 respondents were identified as studying outside the province. This number of records would not support an analysis of the provincial destinations of students who continued their studies outside B.C. As well, focusing as they do on graduates and near-completers of post-secondary programs, DACSO and BGS do not provide information about transitions out-of-province for those who were not previously enrolled in the B.C. post-secondary system, or for those who transitioned prior to completing enough of a B.C. post-secondary program to qualify for inclusion in the surveys.

#### 4.2.2 Alberta and Ontario

When students leave B.C. to enrol in post-secondary studies, they tend to enrol in institutions located either in Alberta or Ontario. In the absence of reliable national level data from PSIS, it is recommended that BCCAT focus efforts on improving its understanding of the number and type of students applying to and enrolling in institutions in these two provincial destinations.

The Alberta provincial government, through its Ministry of Advanced Education and Technology (AETT), is able to provide information about B.C. applicants and registrants to that province's university and college sectors. Through its LERS and ASI systems, Alberta can provide program and demographic information about first-year applicants and registrants from B.C., as well as applicants and registrants in subsequent years. **It is recommended that:**

- *BCCAT request a special tabulation focusing on students of B.C. origin in the Alberta post-secondary system. The tabulation could be prepared separately for different groups of students, for example, applicants to first year vs. applicants to second and subsequent years. The tabulation could provide a demographic profile of students in the different groups, as well as a profile of their choices in terms of institutions and programs.*

The B.C. and Alberta governments are embarking on a more formal arrangement for sharing tabulations of enrolment data. To move beyond standard tabulations to more detailed studies of student mobility, it is important to work with case-level data and unique student identifiers. New Brunswick, Nova Scotia and Prince Edward Island share a common student identifier via PSIS that has permitted relatively detailed analysis of the movement of post-secondary students between the three provinces. Subject to privacy and processing constraints, there may be opportunities for Alberta and British Columbia to apply unique identifiers to one another's data to permit a more in-depth study of the movement of students between the two provinces. For example, British Columbia could potentially provide the AETT with the case-level records of students originally from Alberta for application of the Alberta Student Number and linkage to the students' educational history. **It is recommended that:**

- *BCCAT work with ALMD and the AETT to explore opportunities to share case-level data, subject to processing and privacy constraints, to develop a more in-depth study of student mobility between the two provinces.*

The Ontario provincial government does not maintain a central data warehouse of post-secondary registrations and/or applications, and thus an estimate of the total number of B.C. students enrolled in Ontario post-secondary institutions must be pieced together from several sources. The best available source for total B.C. registrations in Ontario universities is PSIS. The OCAS collects college enrolment data from Ontario's publicly-funded colleges and is the best system-level source for this information. For applicant and confirmation data, the OUAC and OCAS provide good coverage of the Ontario public post-secondary system. To create a complete picture of the level of participation of B.C. students in the Ontario post-secondary system, **it is recommended that BCCAT consider requesting:**

- *a custom tabulation of B.C. applicants and confirmations to Ontario universities by institution and program of study from the OUAC;*

- *a custom tabulation of B.C. applicants and confirmations to Ontario colleges by institution and program of study from the OCAS;*
- *a custom tabulation of B.C. enrolments in Ontario colleges from the OCAS; and*
- *a custom tabulation of B.C. enrolments in Ontario universities from PSIS showing institution and program of enrolment.*

### **4.3 Final Comments**

When implemented, the recommendations above will create a solid basis for BCCAT, the two provincial education ministries, and post-secondary institutions to understand the geographic origins of students in the B.C. post-secondary system. Addressing data issues related to identifying the geographic origins of students applying to and studying in B.C. should be a high priority. It is important for B.C. to be able to understand where its post-secondary students come from and, in particular, the types of programs and institutions that attract out-of-province students.

On the outgoing side, steady efforts are needed to improve PSIS coverage on the province of origin data element. PSIS is the ultimate, centralized data source for the Canadian post-secondary system and investing time in ensuring that it is well supplied with quality data will greatly benefit future studies of student mobility and reduce the response burden on other levels of government, system organizations, and institutions. In the meantime, BCCAT may wish to consider pursuing a smaller-scale study of outgoing students through a combination of administrative data sources from Alberta and Ontario, and Statistics Canada's NGS. The NGS would provide a high level view of student mobility at two stages of study: prior to enrolling and after graduating. The focus on Alberta and Ontario would permit a more in-depth study of the number of students who leave B.C. for post-secondary education in those provinces and their program choices.

Studies of inter-provincial student mobility will assist stakeholders to better understand why students leave B.C. for post-secondary studies and why students choose the B.C. post-secondary system over options available in their province of residence. This information may help to identify gaps in provincial offerings that could be filled in order to better meet local demand. It may also assist in identifying areas where the B.C. post-secondary system is perceived as having a competitive advantage in other parts of the country.

## 5.0 Appendices

### 5.1 Appendix 1: List of Contributors

This report brings information provided from a variety of sources together. Contributions from the following individuals are gratefully acknowledged (in alphabetical order).

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- Deanna Underwood, Manager Communications, Ontario Universities' Application Centre
- Dr. Harald Zinner, Director, Business Operations and Reporting, Post-secondary Excellence Division, Alberta Advanced Education and Technology

## 5.2 Appendix 2: List of Acronyms

AAET – Ministry of Advanced Education and Technology (Alberta)

ALMD – Ministry of Advanced Education and Labour Market Development (British Columbia)

ASI – Application Submission Initiative

ASN – Alberta Student Number

BCCAT – BC Council on Admissions and Transfer

BCIT – British Columbia Institute of Technology

BGS – Baccalaureate Graduates Survey

CCL – Canadian Council on Learning

CCSIS – Community College Student Information System

CDW – Post-Secondary Central Data Warehouse

CIP – Classification of Instructional Programs

CUDO – Common University Data Ontario

DACSO – Diploma, Associate Degree, and Certificate Student Outcomes Survey

LERS – Learner and Enrolment Reporting System

NGS – National Graduates Survey

OCAS – Ontario College Application Service

OUAC – Ontario Universities' Application Centre

OWG – British Columbia Outcomes Working Group

PASBC – Post-Secondary Application Service of BC

PEN – Personal Education Number

PSIS – Post-Secondary Student Information System

PSIS-NSN – PSIS National Student Number

RRU – Royal Roads University

SFU – Simon Fraser University

STP – Student Transitions Project

TVOC – Trade and Vocational Survey

UBC – University of British Columbia

UNBC – University of Northern British Columbia

USIS – University Student Information System

UVIC – University of Victoria

YITS – Youth in Transition Survey





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