

Review of BC Assessment Authority

September 2016

INTERNAL AUDIT
AND ADVISORY SERVICES



Ministry of
Finance

Project No.: 16-04 BCAA

Review of BC Assessment Authority

**Internal Audit & Advisory Services
Ministry of Finance**

Fieldwork completed: September 2016

Table of Contents

Section

Page No.

Abbreviations.....	i
Executive Summary.....	1
Introduction.....	8
Purpose, Scope, and Objective	12
Approach.....	13
Overall Conclusion	14
1.0 Governance.....	15
2.0 Business Planning and Risk Management	17
3.0 Assessment	19
3.1 Quality Assurance	21
3.2 Appeals	22
3.3 Cross-Jurisdictional Comparison.....	23
4.0 Data Management.....	24
5.0 Data Sharing	27
6.0 Financial Management.....	30
7.0 Compensation and Staffing.....	32
8.0 Information Technology	35
8.1 Information Security	36
8.2 Information Privacy.....	37
9.0 Project Management	38
10.0 NextGen.....	40
Appendix 1 – Summary of Recommendations	43

Abbreviations

APPs	Assessment Practices and Procedures
BC	British Columbia
BCAA	British Columbia Assessment Authority
BCP	Business Continuity Plan
Board	British Columbia Assessment Authority Board of Directors
CEO	Chief Executive Officer
CUPE	Canadian Union of Public Employees
IT	information technology
IT and T	Information Technology and Transformation
ITS	Information Technology Services
KPIs	Key Performance Indicators
LTSA	Land Title and Survey Authority
Province or Government	Government of British Columbia
PSEC	Public Sector Employers' Council
VP	Vice President

Executive Summary

The British Columbia Assessment Authority (BCAA) is a provincial Crown corporation established in 1974 to provide uniform, fair and independent property assessments that support property taxation throughout British Columbia (BC).

Last year, over \$7 billion in property tax revenue was generated across BC by local governments and First Nations who set property tax rates to pay for the public services they provide. While BCAA has no role in setting property tax rates, it plays an integral and impartial role in the process by determining the value of properties upon which the taxes are based.

BCAA supports its operations through a tax levy, which amounted to approximately \$86 million in 2015, averaging \$43 per property. As directed by the Province of British Columbia (the Province) in 2014, BCAA has maintained the average tax levy on existing property owners. Additional revenue is generated through other sources, such as data licensing and investment income.

As part of government's commitment to review Crown corporations, Internal Audit & Advisory Services conducted a review of BCAA to ensure it is being well managed and adhering to government's mandate. Working with a Deputy Ministers' Committee, Internal Audit & Advisory Services evaluated BCAA's organizational governance, assessment and financial operations, and information technology.

Governance

The Board of Directors (Board), appointed by and accountable to the Province, provides oversight of BCAA, ensuring the organization follows the direction and mandate laid out for it.

In general, the Board's policies and practices align with the Province's corporate governance guidelines aimed at providing strong governance and accountability in the BC Public Sector. Board meeting packages are comprehensive and include briefing notes that summarize materials to facilitate decision-making. While directors complete annual self-evaluations in governance competency areas, the process does not assess the Board or its committees against their terms of reference, as recommended in best practices.

Business
Planning and
Risk
Management

Strategic planning at BCAA involves both the Board and management with high-level policies guiding the process. The process leads to the development of strategic and corporate business plans, which provide five-year overviews of goals, risks and financial budgets, in addition to corporate and divisional priorities. Throughout the year, corporate performance is reported to the Board, and targets are generally achieved.

BCAA's risk management policies cover strategic and operational risks, and align with its four corporate objectives. Risks and mitigation strategies are monitored and regularly reported to the Board. Business Continuity and Disaster Recovery Plans are important elements of a risk management program and while these are in place, they are not fully developed or tested.

Assessment

Appraisal staff, working in 15 offices, are responsible for assessing all properties throughout BC. The majority of appraisal staff (57%), and all senior appraisers, have real estate appraisal accreditation.

To perform the annual assessment, BCAA verifies and updates information on individual properties, such as ownership and new construction, from various external sources. BCAA also acquires data through physical property inspections and aerial photos. Appraisers use this information, along with recent sale prices, to determine the market value of each property.

Residential properties make up the largest class of properties in BC, representing 76% of the total assessed value and 88% of the total number of properties. These are assessed using a mass appraisal model whereby appraisers apply recent sales data and statistical methods to a group of properties with similar characteristics. Certain industrial, commercial and investment properties are assessed using mass appraisal models that also consider the ability of the property to generate income.

Other property types such as railways and pipelines have specific regulations and assessment methodologies developed in consultation with industry and approved by the Province. While major industrial properties, such as mines and port facilities, are assessed based on internally-developed cost models approved by the Province, it would be beneficial to review and update these models on a more regular basis.

To maximize assessment accuracy, BCAA conducts various quality assurance activities including standard audits and performance monitoring against targets. For example, the Assessment to Sales Ratio measures property assessment accuracy relative to the actual selling price. The residential and non-residential property minimum targets are 97% and 95% respectively, which have been met over the past five years.

Property owners can appeal their assessment through a BCAA appraiser and subsequently through two progressive appeal boards which are independent from BCAA. The percentage of assessments accepted without appeal has consistently exceeded BCAA's target of 98%. While appeals may on occasion result in significant changes for an individual property owner, appeal decisions have had minimal impact to the total value of assessments over the past five years.

Two international property taxation associations jointly conducted a survey in 2014 that graded over 70 property tax jurisdictions for fairness and efficiency. BC was rated the highest-scoring Canadian jurisdiction and in the top four overall.

Data
Management

BCAA has policies and procedures that guide aspects of data management; however, an overall data management plan, including data classification and ownership inventory, has yet to be developed. BCAA is planning to enhance its data management process through upcoming modernization projects.

BCAA collects property data from various sources, storing and processing it in valueBC, the core information technology (IT) application for the property assessment process. When data feeds are received, validation steps are performed to check for missing or invalid data. BCAA is implementing a replacement system, through a project called NextGen, which is expected to improve data integrity controls by automating manual processes.

Data Sharing

BCAA provides free access to assessment data for tax authorities and individuals, as well as access for research purposes. Free public access to individual property data is available through e-valueBC, which enables individuals to compare property assessments, increasing transparency in the assessment process.

In addition, BCAA has licensed data products to government agencies and various private sector organizations. Annual revenues from data licensing are approximately \$3.5 million, or 4% of total revenues. BCAA only identifies staffing costs for the data licensing program and could benefit from performing a full cost analysis including overhead or administrative allocations.

There remain opportunities to further align BCAA's data policies with open data principles which allow for the use, adaptation and distribution of the data by the public. As an example, releasing appropriate raw data with no restrictions on use could create opportunities for companies or individuals to leverage this information and ultimately benefit the citizens of BC. To assist in making informed decisions with regard to any potential policy changes, more information is needed about the social and economic value of BCAA's data, along with potential impacts on existing relationships.

In the course of assessing properties, BCAA has accumulated significant knowledge and expertise on the real estate market. While the Province currently utilizes this data in certain program areas, this could be further leveraged given the significance of the housing market in the economy. Increased utilization of BCAA's knowledge and expertise could assist the Province in understanding and monitoring real estate trends.

Financial Management

As required by the *Assessment Authority Act*, BCAA budgets for zero net income. There is a rigorous budgeting process guided by policies and procedures. Over the past five years, revenues and expenses have varied less than 3% from budgets, resulting in minor surpluses which have been invested in IT and capital projects.

Detailed procurement policies and procedures have been developed and approved by the Board. While these policies align with key requirements of the Province's core policies, some contracts reviewed lacked appropriate justifications to support the procurement.

Compensation
and Staffing

BCAA proactively liaises with the Public Sector Employers' Council to incorporate the Province's compensation guidelines into its human resource management practices. For example, the Chief Executive Officer bonus and employee gainsharing program were converted into base salary. BCAA's executive compensation is generally comparable to the average of similar crowns.

Of the approximately 700 employees at BCAA, 86% are represented by the Canadian Union of Public Employees and 14% are excluded positions. Over the past five years, total salary and benefits have grown by approximately 10% predominantly due to additional union positions and negotiated wage increases. The current collective agreement aligns with the BC Government Employees Union contract. BCAA has compared well against the Province in overall employee sick time and turnover averages over the past five years.

While staffing is BCAA's largest operating cost, employee levels have remained relatively consistent since BCAA's inception in 1974. New technology and appraisal methods adopted over the years have enabled BCAA to maintain staffing levels. This is despite the number of properties assessed increasing from approximately one million in 1974 to two million currently.

Information
Technology

Annual IT strategic planning is conducted to consider technology trends and to define how to support BCAA's objectives. Current strategic plans identify a lack of common understanding of IT services and costs across the organization. These plans include the delivery of 20 projects over the next five years to enhance key IT processes, better support business objectives and ensure better monitoring of IT-related costs. Monitoring project prioritization will ensure appropriate staffing and resources are allocated to those projects of greatest importance.

Although the key processes required to run the IT functions are present, improvements could be made by having performance reports to assess and communicate IT performance at the divisional level.

Various automated tools continuously monitor the IT network for security issues; however, BCAA could benefit from establishing a dedicated information security officer with appropriate independence and authority to implement security related initiatives.

Project
Management

BCAA has a project management office that provides a methodology, tools and training. A management committee monitors the performance of all projects ensuring they align with corporate priorities, resources and budgets. Projects are monitored throughout their life-cycle which includes distinct gates that require specific criteria to be met before progressing to the next stage.

Since implementing its methodology in 2014, BCAA has improved its practices by centralizing budget, resource and schedule monitoring. However, BCAA is still in the early stages of its project management maturity with a limited number of projects completed under the new methodology.

NextGen

With a total project budget of \$33 million, the NextGen project is a multi-year initiative to replace valueBC with off-the-shelf property assessment software selected through competitive procurement. The project is in its early stages and is scheduled to be completed before valueBC's support ends in 2020. NextGen is expected to improve the efficiency of producing assessment rolls and notices as well as enable the retirement of legacy systems.

The project governance established for NextGen includes the involvement and oversight of the Board and an Executive Steering Committee. Risk management practices, such as identification and mitigation, have been carried out and a risk management plan is expected to be developed and regularly reviewed.

The NextGen project is divided into two main phases. The first phase was launched in July 2016 and will lay out a multi-year implementation strategy, including communication and change management plans. The second phase is implementation which includes data conversion, user acceptance testing, and staff training on the new system. The new system is scheduled to be implemented by April 2019, with a three month contingency period. If it is not in production by July 2019, implementation would be delayed until spring 2020 due to the annual assessment deadlines.

Owing to the size, complexity and strategic importance of the NextGen project, ensuring a successful project implementation is critical to the ongoing effectiveness of the organization in carrying out its legislated mandate.

* * *

We would like to thank the management and staff of British Columbia Assessment Authority as well as the other stakeholders who participated in and contributed to this review, for their cooperation and assistance.



Chris D. Brown, CPA, CA, CIA
Assistant Deputy Minister
Internal Audit & Advisory Services
Ministry of Finance

Introduction

The British Columbia Assessment Authority (BCAA) is a provincial Crown corporation established in 1974 to provide uniform, fair and independent property assessments to support property taxation throughout British Columbia (BC). BCAA is governed by the *Assessment Act*, which sets out rules to govern the assessment process, and the *Assessment Authority Act*, which defines the structure, powers and duties for BCAA's Board of Directors (the Board).

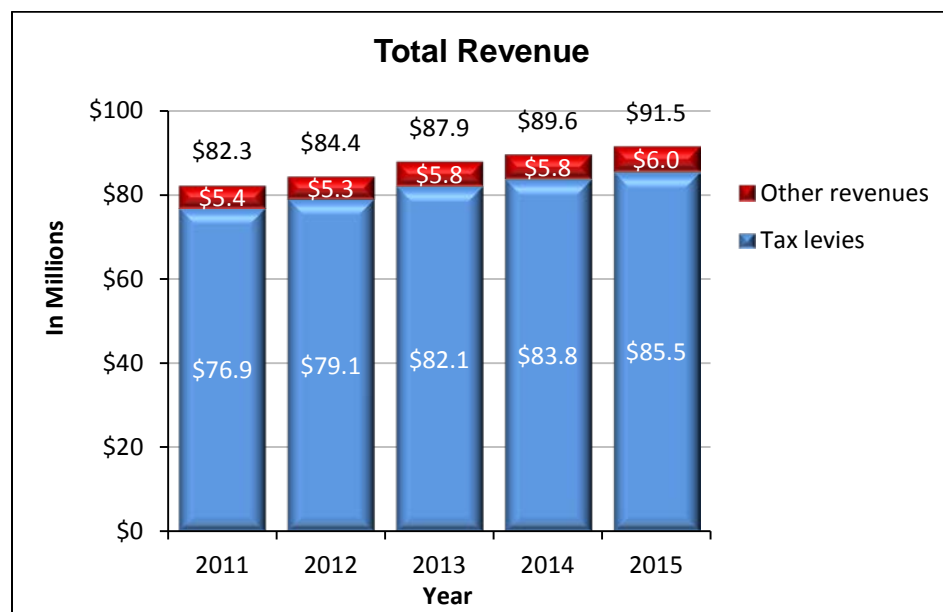
Last year, over \$7 billion in property tax revenue was generated across BC allowing tax authorities, such as local governments and First Nations, to provide community services. Tax authorities set property tax rates to raise the revenue necessary to pay for the public services provided. While BCAA has no role in setting property tax rates, it plays an integral and impartial role in the property tax process by determining the value of properties each year upon which property taxes are based. BCAA also provides a range of assessment-related data and services to various customer groups.

Every year BCAA prepares a listing of assessed properties in BC, referred to as the assessment roll. The 2016 provincial assessment roll includes nearly two million properties with a total value of approximately \$1.3 trillion. For assessment and tax purposes, properties are separated into nine classes with the residential class being the largest.

To develop property assessments, appraisers gather information from a variety of sources that track changes to individual properties, including ownership and new construction. Appraisers from each region in BC use this information, along with recent sale prices, to determine the market value of each property. Quality assurance steps are then performed to enhance assessment roll accuracy.

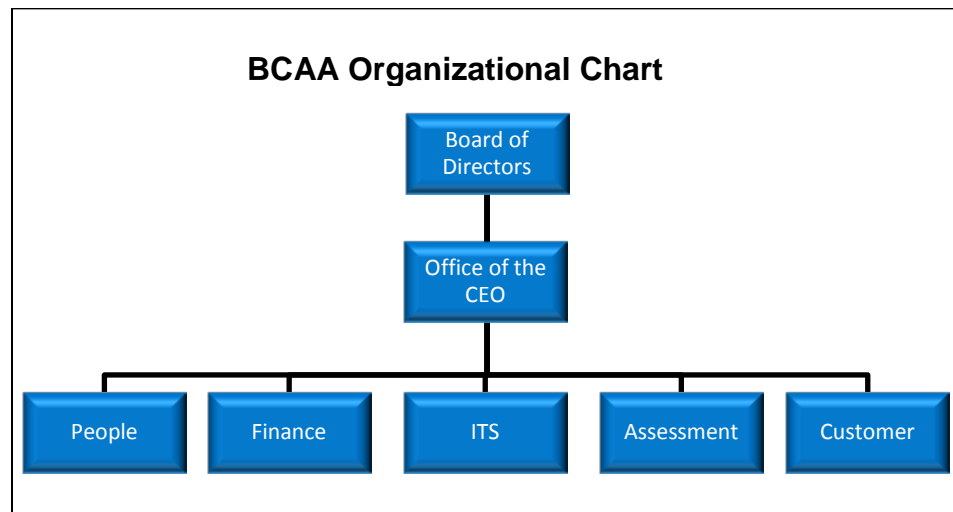
While the *Assessment Act* allows property owners to appeal their assessment notice, more than 98% of property assessments are accepted without appeal. Owners that choose to appeal their assessment can do so through two progressive appeal boards before going to the courts. After the appeals have been completed, BCAA sends updated assessment figures to tax authorities.

BCAA supports its operations through a tax levy, which amounted to approximately \$86 million in 2015, averaging \$43 per property. As directed by the Province of British Columbia (the Province) in 2014, BCAA has maintained the average tax levy on existing property owners. Subsequently, increases in total tax levy revenues have come from new construction and development in BC. Additional revenue is generated through other sources such as data licensing and investment income. The following chart illustrates BCAA's tax levy and other revenues over the past five years.



Source: BCAA

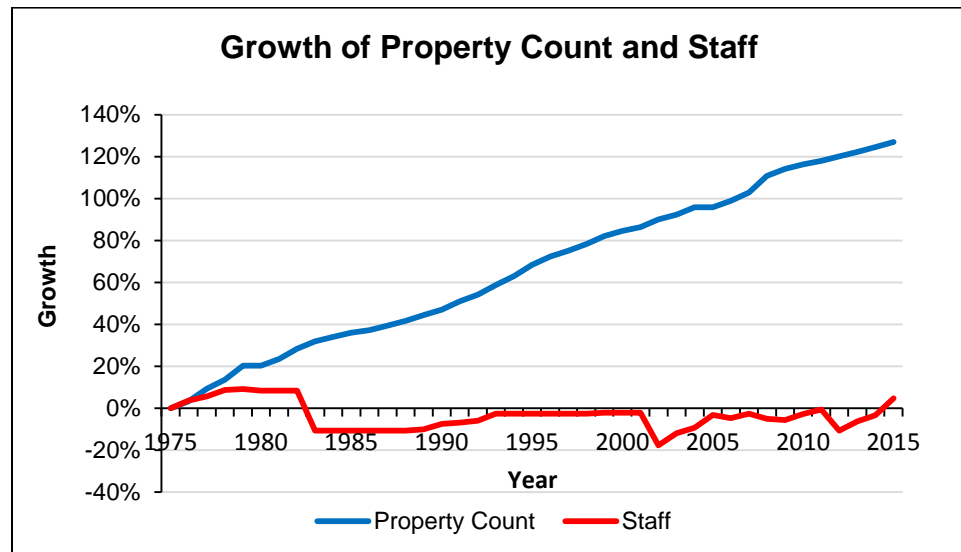
BCAA is led by the Board, a Chief Executive Officer (CEO) and five Vice Presidents (VPs). Each VP is responsible for an operational division as illustrated and defined below.



Source: BCAA

- **Office of the CEO** – responsible for overall management of the organization, communications, legal services, information privacy, quality assurance and internal audit.
- **People** – responsible for human resource planning and management as well as change management.
- **Finance** – responsible for financial management, payroll, and facilities.
- **Information Technology Services (ITS)** – responsible for supporting core business systems and technology requirements.
- **Assessment** – responsible for creating and maintaining the annual assessment roll.
- **Customer** – responsible for addressing the needs of property owners as well as municipal and commercial customers.

As of December 31, 2015, BCAA has approximately 700 employees. While staffing is BCAA's largest operating cost, employee levels have remained relatively consistent since BCAA's inception in 1974. New technology and appraisal methods adopted over the years have enabled BCAA to maintain staffing levels. This is despite the number of properties assessed increasing from approximately one million in 1974 to two million currently.



Source: BCAA

Purpose, Scope, and Objective

The purpose of the review was to examine BCAA's governance framework, operations, planning and forecasting, financial performance, and information technology (IT).

The review evaluated and, as appropriate, made recommendations relating to BCAA's:

- Governance framework, including strategic direction alignment with the Province's priorities.
- Operations, including agreements and relationships with local government and other stakeholders.
- Planning and forecasting, including:
 - Assessment of primary cost drivers and their impact on revenue sources due to the overall economy and real estate market; and
 - Reliability of fiscal forecasts to help plan, budget and manage costs in future.
- Financial performance and information technology practices, including:
 - Operating costs, administrative costs, employee compensation and incentive programs;
 - Adequacy of cost mitigation strategies including the identification of potential efficiencies;
 - Capital asset management;
 - IT project management; and
 - Data administration and information system management.
- Other matters that arose over the course of the review deemed appropriate by the review team.

Approach

Working with an Executive Steering Committee, Internal Audit & Advisory Services conducted a broad review of BCAA. The approach included:

- Conducting interviews with key management and staff across BCAA and relevant stakeholders.
- Reviewing and analyzing legislation and policies.
- Researching comparable information from other relevant organizations and other jurisdictions.
- Reviewing and analyzing financial reports and variance reports.
- Reviewing and analyzing key operations, processes, and information technology systems.

Overall Conclusion

BCAA effectively fulfills its mandate of conducting property assessments, which are critical to property tax administration around the province. In keeping with direction from the Province, BCAA has not increased the average tax levy for property owners since 2014.

BCAA's assessment process is rigorous, with numerous internal quality checks, resulting in a low appeal rate at approximately 2% and a high degree of accuracy when compared to actual sales overall. An international survey rating property tax jurisdictions for fairness and efficiency scored BC in the top 4, the highest ranked Canadian jurisdiction.

A project is currently underway to replace the core assessment IT system before support for the product ends in 2020. While the planning completed to date appears sound, the importance of this system to BCAA's assessment process makes it critical that the project be successful. Adequate planning, prioritization and monitoring are key to this.

Significant knowledge, data and expertise on the real estate market are accumulated through the assessment process. While data is utilized by the Province, in administering the home owners grant for example, there are further opportunities to leverage BCAA's knowledge and expertise. In addition, possibilities exist to apply open data principles to the database that BCAA has accumulated, though potential benefits and impacts should be examined and understood first.

This review also identified opportunities for strengthening BCAA's operations including governance, risk management, procurement and information technology.

1.0 Governance

Each year, the Province issues mandate letters to Crown corporations that provide high-level guidance and direction. In 2015, mandate letters directed Crowns to incorporate Taxpayer Accountability Principles which promote accountability and cost control in their operations.

In addition to incorporating Taxpayer Accountability Principles, BCAA's mandate letters have recently included the following directions, which are being acted upon:

- Develop and evaluate options to replace the existing valueBC system.
- Continue to execute the Property Data Accuracy Program.
- Maintain the previous year's average tax levy on existing taxpayers.
- Provide assessment policy work on emerging issues and consult with industry groups.

The Board, consisting of 12 directors who are appointed by and accountable to the Province, provides oversight of BCAA ensuring the organization follows the direction and mandate laid out for it. Directors are appointed for terms of up to three years and may be reappointed for an additional three years. The Board Chair's term was extended for a third term to allow for continuity in overseeing the replacement of BCAA's primary IT system, valueBC, with a new property assessment system.

The Board currently has the following subcommittees:

- Governance
- Audit and Risk Management
- Human Resources and Compensation
- Information Technology and Transformation (IT and T) Oversight
- CEO Search Committee

In general, the Board's policies and practices align with the Province's corporate governance guidelines aimed at providing strong governance and accountability in the BC Public Sector. However, there are opportunities to improve alignment in the areas of director orientation, succession planning and annual evaluation processes.

Director orientation and succession planning have been performed on an as-needed basis. Formalized policies and procedures could help ensure orientations and appointments meet desired outcomes. BCAA advised that a governance manual is under development which will include a formal orientation package and succession plan.

While directors complete annual self-evaluations in governance competency areas, the process does not assess the Board or its committees against their terms of reference, as recommended in best practices. This type of evaluation can provide insights into decision-making processes and whether the Board or its committees are effectively discharging their responsibilities.

Board meeting packages are comprehensive and include briefing notes that summarize materials to facilitate decision-making. Since 2013, directors have been encouraged to complete certifications through the Institute of Corporate Directors. In 2015, all but two directors had completed the training.

In 2015, the Board met 12 times and its subcommittees met 31 times. On two occasions, some board members received full day meeting fees for attending multiple meetings with a combined duration of less than four hours on the same day. This does not align with a Treasury Board directive that stipulates only half day fees should be paid for combined meetings that total less than four hours.

Recommendation:

- (1) BCAA should ensure its governance policies and practices fully align with provincial guidelines.**

2.0 Business Planning and Risk Management

Strategic planning at BCAA involves both the Board and management with high-level policies guiding the process. Based on Board direction, management sets organizational objectives and develops and prioritizes business plans to achieve them. The process leads to the development of strategic and corporate business plans, which provide five-year overviews of goals, risks and financial budgets, in addition to corporate and divisional priorities. Three-year service plans are then developed for public distribution, aligning organizational objectives and key performance indicators (KPIs).

The 2016-2018 Service Plan states four organizational objectives:

1. Our work delivers an accurate assessment roll and current property information.
2. Our people are skilled and knowledgeable professionals invested in making our vision reality.
3. Our customers trust us and see us as essential to satisfying their property information needs.
4. Our products and services optimize the value we create for our customers.

These objectives are shared through the Annual Report where they are aligned to strategic initiatives with eight KPIs. Throughout the year, corporate performance is reported to the Board. BCAA generally achieves its KPIs including international standards for assessment accuracy.

Risk Management

BCAA's risk management policies align with the Province's direction. The risk management policy covers strategic and operational risks, and the corporate risk register aligns with the organization's four corporate objectives. Updates on risks and mitigation strategies are reported to the Audit and Risk Management Committee and the Board who provide regular oversight.

A Business Continuity Plan (BCP) is an important element of a risk management program. It is designed to minimize the impact of potential disruptions on key business areas. BCAA has a BCP but it has not been fully developed and tested.

A Disaster Recovery Plan supports the BCP and is designed to ensure that processes and controls are in place to recover the IT infrastructure. While Disaster Recovery Plans exist for key IT systems, they are also not fully developed and are not integrated with the BCP. Without mature contingency plans, BCAA may not be able to recover its key business processes and systems within the desired recovery time.

Recommendation:

- (2) **BCAA should ensure that Business Continuity and Disaster Recovery Plans are fully developed and periodically tested.**

3.0 Assessment

Appraisal staff, working in 15 offices across six regions, are responsible for assessing all property types throughout BC. Each region is led by a Regional Assessor who is responsible for assessment roll quality in that region. The majority of appraisal staff (57%) and all senior appraisers have real estate appraisal accreditation. In addition to regional offices, there are appraisal staff at the Victoria headquarters that support operations across the Province.

Residential properties make up the largest of the nine classes of properties representing 76% of the total assessed value and 88% of the total number of properties in BC. Other property classes are: utilities, supportive housing, business, managed forest land, recreational property/non-profit organization, farm, major and light industry.

The assessment process determines each property's market value and classification. BCAA has developed detailed methods and procedures to evaluate different classifications of property. In addition, quality assurance steps help ensure accurate property information is captured and maintained.

Methodology

To perform the annual assessment, BCAA verifies and updates information on individual properties. Most information is obtained from external agencies including ownership and sales data, legal descriptions, and building permits. BCAA also acquires data through physical property inspections, property owner reporting and aerial photos.

There are over 100 Assessment Practices and Procedures (APPs) that standardize the assessment process across BC. BCAA has identified problems with the APPs such as inadequate guidance on their use. A continuous improvement project is underway to improve the content and use of APPs.

Residential properties in BC are assessed using a mass appraisal model whereby appraisers apply statistics and standard rules and procedures to a group of properties with similar characteristics. BCAA has an extensive property database with specific property information including attributes such as location, size, layout, age, building inventory and condition. This information is used to group similar properties and conduct mass appraisals based on recent sales for residential properties. Mass appraisals for certain industrial, commercial and investment properties also consider the ability of the property to generate income.

Some property types are not assessed using mass appraisal models; rather, they have specific regulations and assessment methodologies applied to each property type. Specific industrial properties such as railways and pipelines are assessed based on valuation rates developed in consultation with industry and regulated by the Province under the *Assessment Act*.

Major industrial properties such as mines, power generating facilities and port facilities are assessed based on internally-developed cost models that generate market valuation rates and are approved by the Ministry of Community Sport and Cultural Development. However, an internal report found that several cost models required improvement and more frequent review. In response, a plan was developed to update these cost models over the next three years.

BCAA has assigned responsibility to specific assessors for major industrial properties, regulated properties, oil and gas facilities, and other unique property types. This was done to improve consistency and efficiency in its assessment approach and enhance relationships with property owners.

Once appraisals are complete, property information is combined into regional assessment rolls that are approved by regional assessors before assessment notices are produced for distribution to owners.

Recommendation:

- (3) BCAA should periodically review all internally-developed cost models.**

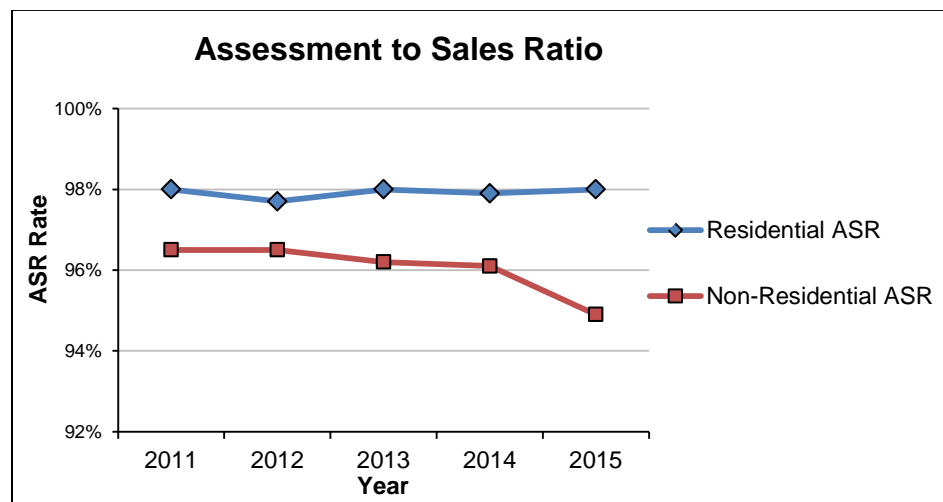
3.1 Quality Assurance

To maximize assessment accuracy, BCAA conducts various quality assurance activities such as audits, performance monitoring and continuous improvement projects. Throughout the year, each region completes over 200 standard audits on its assessment roll information. Regional progress towards completing audits is centrally monitored and errors are tracked to improve data quality.

The International Association of Assessing Officers recommends KPIs that measure assessment accuracy. These reflect how closely a property's assessed value matches its actual selling price. BCAA uses a central dashboard, which includes the International Association of Assessing Officers KPIs, to track and report on the accuracy of assessed values for each region and can display values from a provincial level down to a street level.

Property types are evaluated separately because they each present unique assessment challenges. For example, residential properties typically have more sales than non-residential properties, which allows for more price comparisons resulting in increased accuracy in assessments and higher corresponding performance targets.

The Assessment to Sales Ratio is a KPI BCAA uses to measure property assessment accuracy relative to its actual selling price. The residential and non-residential property minimum targets are 97% and 95% respectively. As illustrated in the following chart, recent residential and non-residential accuracy rates have met or exceeded their respective targets.



Source: BCAA

Continuous improvement projects strive to improve specific issues such as agricultural land reserve boundary accuracy and property data accuracy. BCAA developed a tool to compare property and agricultural land reserve boundaries to improve property coding accuracy within the boundaries. In addition, a five-year project was launched to update property data across BC with the following objectives:

1. Validate and update property data for 1.9 million residential, strata, industrial, commercial, and investment properties by the end of 2017.
2. Develop and operationalize a consistent and simplified set of sustainable and innovative validation practices and tools for achieving accurate property data.

As of September 2016, this project had validated approximately 1.5 million properties (77%) within the project's scope. With respect to the second objective, a plan to integrate new data accuracy methods into standard assessment procedures is expected to be developed by December 2016. It is anticipated these new methods will maintain data accuracy as the number of properties grows in the province.

3.2 Appeals

When property owners do not agree with their assessment notice, the owner can contact BCAA and speak with an appraiser. When the owner and appraiser agree on the issue, the assessment can be adjusted without an independent appeal review. If an agreement cannot be reached, the property owner can take it to the first of two appeal levels. In the event neither party is satisfied with the first level decision, they can progress to the second level. Each appeal is heard by a panel appointed by the Province and is independent from BCAA. Final panel decisions can be appealed to the BC Supreme Court.

The percentage of assessments accepted without appeal has consistently exceeded BCAA's target of 98% and is comparable to other jurisdictions in Canada. While decisions may result in significant changes for an individual property owner, appeal decisions have had minimal impact to the value of the assessment roll over the past five years.

3.3 Cross-Jurisdictional Comparison

While some provinces in Canada have provincial assessment authorities, significant differences exist in the assessment process and coverage which limits the usefulness of inter-provincial comparisons. For example, the assessment period in Ontario is four years compared to annually in BC. As well, the Saskatchewan assessment authority does not conduct property assessments for major cities.

Two international property taxation associations jointly conducted a survey in 2014 that graded over 70 property tax jurisdictions for fairness and efficiency. As shown in the following table, BC achieved a grade of B+ on the scorecard, ranking it among the top four overall and the highest-scoring Canadian jurisdiction.

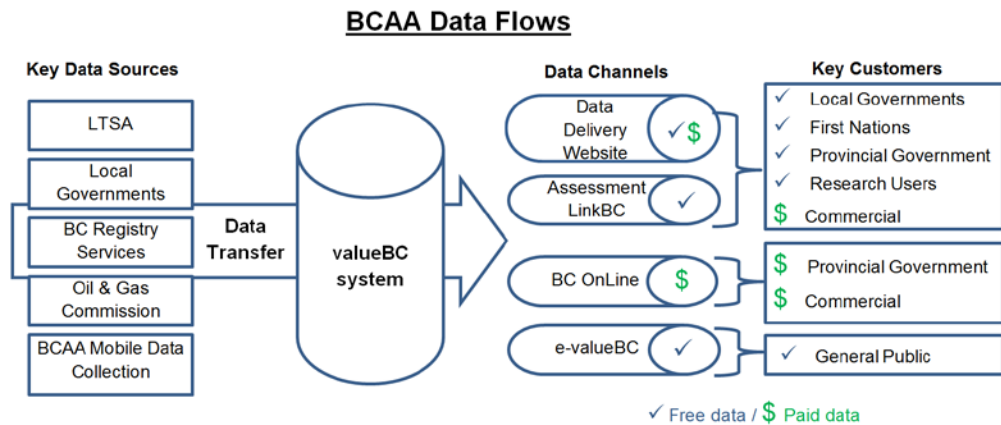
Top Four Jurisdictions	Scoring
Hong Kong	A-
British Columbia	B+
South Australia	B+
Western Australia	B+
Other Provinces	
Ontario	B
Nova Scotia, Quebec, New Brunswick	B-
Alberta, Saskatchewan, Newfoundland and Labrador	C+

Source: Council on State Taxation and International Property Tax Institute Scorecard

The survey focused on three areas of property tax administration: transparency, simplicity and consistency, and procedural fairness. BC received an A grade for transparency as well as for simplicity and consistency, but received a C grade for procedural fairness. Factors contributing to the procedural fairness grade were beyond BCAA's control. For example, each tax authority in BC is responsible for setting interest rates on late payment penalties whereas the survey suggests there should be an equal interest rate across the entire jurisdiction. As well, BC's legislated appeal period of 60 days is shorter than the survey's suggested period of 90 days.

4.0 Data Management

BCAA collects property data from external and internal sources. Data is stored and processed in valueBC, the core IT application that supports the property assessment process. Assessment data is then shared electronically in various forms to customer groups primarily through the four data channels illustrated in the following diagram:



Source: BCAA

The following key external agencies provide data to BCAA:

- **Land Title and Survey Authority (LTSA):** Provides information for all private property transactions that have occurred in the Province. LTSA is the primary source of ownership and market sales data, as well as legal property descriptions.
- **Local Governments:** Provide data related to building permits. This allows BCAA to determine value changes that are not associated to market shifts (e.g., new construction and renovations).
- **BC Registry Services:** Provides manufactured homes data, including ownership and market sales data.
- **Oil and Gas Commission:** Provides ownership data and legal descriptions of oil and gas properties.

Data is also gathered using mobile data collection technology and aerial photos to capture attributes unique to an individual property such as land size and lot view. These are classified and contribute to property assessments.

valueBC stores and processes this data to enable the assessment process. Afterward, assessment information is delivered electronically to tax authorities and other customers through the following data channels:

- **Data Delivery Website:** The main channel to publish property data products including assessment rolls, statutory reports, and custom reports. A range of customers access this website including local and provincial governments, First Nations and commercial customers.
- **Assessment LinkBC:** An application used primarily by BCAA and local governments to create statutory reports for assessment roll production. It also provides analytics to support appraisals and deliver customized property data reports.
- **BC Online:** The Province's online sales portal that sells individual property information and standard reports for non-commercial use to government agencies, as well as financial, legal and other corporate organizations.
- **e-valueBC:** A public website where users can compare a particular property with other properties and is not intended for commercial purposes.

BCAA has policies and procedures that guide data management including collection, access, protection and disclosure. These policies and procedures form the basis of a data management program. However, an overall data management plan, including data classification and ownership inventory, has yet to be developed. This plan would help ensure a consistent approach to data management and provide a greater understanding of the required level of data protection based on how information is classified.

BCAA plans to enhance its data management process through several modernization projects. These projects will create an overall data management plan and framework, which will cover data governance, standards, security and inventory functions.

Data Integrity

When data feeds are received electronically, automated and manual validation steps are performed against pre-defined rules. Identified errors are corrected manually and data is stored in valueBC. BCAA also reconciles property sales data feeds to ensure information received is correct.

For data received by other means, such as emails or phone calls, manual validation steps are performed to check for missing or invalid data. Processes embedded within valueBC are designed to ensure data is correctly entered into the system.

Quality assurance audits are performed throughout the year and before assessment rolls are produced. BCAA places significant reliance on these audits and other detective controls to identify and correct data issues. Stronger preventive controls would stop errors from occurring at the source, reducing the risk of inaccurate data affecting assessment rolls.

BCAA is working to implement a replacement system, through a project called NextGen. This project is expected to improve data integrity controls by automating manual processes and increasing the use of preventive checks. The implementation requires data to be converted from the old to the new system which is expected to improve data quality as invalid data can be identified and corrected throughout the process.

Recommendation:

- (4) BCAA should ensure that a data management plan and framework are developed and consistently applied.**

5.0 Data Sharing

BCAA has long-established data sharing arrangements with the government agencies and private sector organizations needed to enable it to carry out its legislated mandate. These arrangements define the basis on which data is shared with customers and generate additional revenue, helping to offset operating costs.

Data Licensing

For approximately 30 years, BCAA has licensed data products to government agencies and various private sector organizations. Annual revenues from data licensing have been consistent at approximately \$3.5 million, or 4% of total revenues. Similarly, other Canadian provincial assessment agencies, including Ontario and Saskatchewan, also license data to external clients.

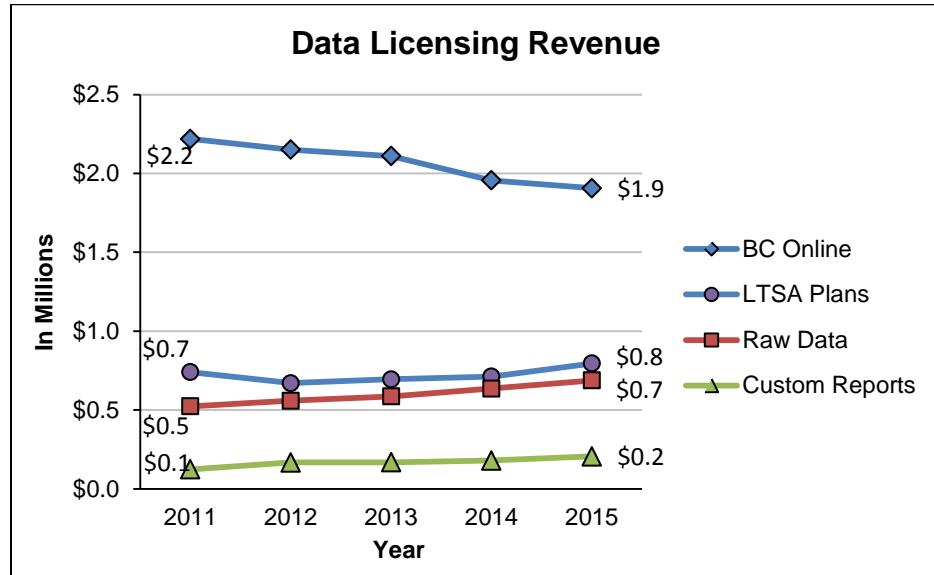
BCAA's data policy ensures free access for tax authorities and individuals, as well as for research purposes. In addition, the policy allows for data licensing which involves commercializing data on a fee basis. The policy further articulates three goals underlying the data licensing program:

1. Generating revenue to offset costs of delivering BCAA's mandate.
2. Maximizing the data's socio-economic value.
3. Ensuring data licensing revenues cover the estimated costs of providing the data.

The following revenue-generating data products are licensed in support of these goals:

- **BC Online Reports:** Individual property information and standard reports sold through BC Online. Customers include government agencies, legal and real estate professionals. Data accessed is only intended for individual purchasers and not for commercial redistribution.
- **Raw Data:** Property data licensed in multi-year contracts to commercial customers. These customers use the raw data to create value-added property information reports for sale to third parties.
- **Custom Reports:** Customized reports capturing data within specific parameters as requested by external parties and only intended for their own use.

As noted in the graph below, BCAA receives steady revenue streams from its data licensing. Over 50% of data licensing revenues are received through BC Online, although annual figures are declining. While raw data and custom report revenues are increasing, these only amount to 25% of total data licensing revenues. BCAA also receives revenue from LTSA as payment for digitalizing survey plans in prior years.



Source: BCAA

In determining costs for the data licensing program, BCAA only identifies staff wages and could benefit from performing a full cost analysis including overhead or administrative allocations. Custom reports are known to be labour intensive and are sold at a loss compared to their staffing costs. Therefore, standardizing reports to the extent possible would help to lower costs on its data products.

Leveraging Data

In July 2011, the Province launched its open data program, DataBC, and published the Open Information and Open Data Policy offering increased access to its data “enabling its use, adaptation, and distribution by the public”. BCAA’s 2012 mandate letter included an expectation to participate in the Province’s open data opportunities. BCAA provides some public access to its data while restricting redistribution and unlicensed commercialization.

Free public access to individual property data is available through e-valueBC which enables individuals to view and compare property assessments. This information increases transparency in the provincial property assessment process. In addition, raw property data is provided free of charge to universities for research purposes.

There remain opportunities to further align BCAA's data policies with open data principles. As an example, releasing appropriate raw data through DataBC with no restrictions on use could create opportunities for companies or individuals to leverage this information to ultimately benefit the citizens of BC. However, this approach could jeopardize existing relationships and revenue streams without ensuring increased social value or other benefits. More information is needed about the social and economic value of BCAA's data to assist in making informed decisions with regard to any potential policy changes.

In the course of assessing properties, BCAA has accumulated significant knowledge and expertise on the real estate market. While the Province currently utilizes this data in various functions associated with property tax administration, there remain opportunities for BCAA and the Province to further leverage this inherent expertise. Given the significance of the housing market to the provincial economy, increased utilization of BCAA's knowledge and expertise could assist the Province in monitoring and understanding trends in real estate.

Recommendations:

- (5) BCAA should conduct cost analysis of the data licensing program.**
- (6) The Province should confirm its direction with regard to BCAA's Open Data Policy and strategy.**
- (7) The Province and BCAA should work together to maximize the value of BCAA's real estate market knowledge and expertise.**

6.0 Financial Management

The Finance Division is responsible for financial management functions including planning and budgeting, treasury, accounts payable and receivable, procurement and payroll.

As required by the *Assessment Authority Act*, BCAA budgets for zero net income. There is a rigorous budgeting process guided by board-approved policies and documented instructions for each division to use in developing their budgets. The process starts with the previous year's final forecast and builds in projected cost savings, divisional priorities, and strategic initiatives. Five-year budgets are developed with an emphasis on the first year.

Department managers monitor spending in relation to budgets and, where necessary, take action to ensure planned initiatives are delivered within budget. Over the past five years, revenues and expenses have varied less than 3% from budgets, resulting in minor surpluses. BCAA advised it has used prior year surpluses to invest in IT and capital projects.

Executive expenses and a sample of other corporate expenses were reviewed with no significant issues identified.

Procurement

Responsibilities of the procurement office include updating policies and procedures, administering contracts and ensuring contract documents are properly documented and executed. The office also provides procurement training and assistance to staff throughout BCAA. Individual business units are responsible for monitoring contractor performance and deliverables against their respective contracts.

Detailed procurement policies and procedures have been developed and approved by the Board. These policies align with key requirements of the Province's Core Policies and Procedures Manual, and comply with the New West Partnership Trade Agreement thresholds for competitive public procurements. BCAA regularly reviews its policies and procedures against the Core Policies and Procedures Manual and is planning to conduct this analysis of its purchasing policies by the end of 2016.

Over the past five years, total vendor contracts awarded each year ranged from \$4 - \$10 million, this includes directly awarded contracts ranging from \$800,000 - \$1.8 million in total. Over 90% of individual direct awards were below \$25,000.

Some competitive and direct award contracts over \$25,000 reviewed lacked appropriate justifications to support the procurement. Requiring documentation such as a business case is considered a best practice as it specifies the requirements, includes a cost-benefit analysis to support the expenditure and enables contractor evaluation.

A 2015 internal review identified procurement practices which could be improved. For example clear performance requirements such as KPIs, delivery dates and vendor performance evaluations were lacking. Managers involved in procurement would also benefit from procurement training. BCAA is in the process of implementing these recommendations.

Recommendation:

⁽⁸⁾ BCAA should ensure procurements are supported by appropriate justifications.

7.0 Compensation and Staffing

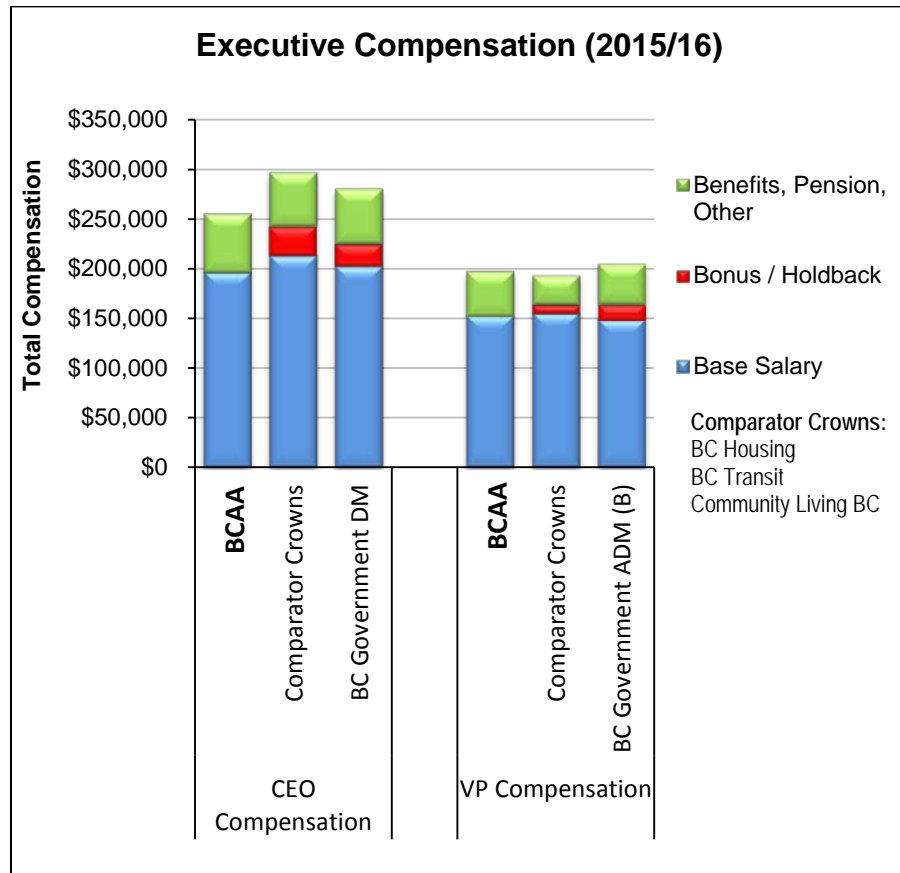
BCAA proactively liaises with the Public Sector Employers' Council (PSEC) on a regular basis to incorporate the Province's compensation guidelines into its human resource management practices.

Of the approximately 700 full time equivalent employees at BCAA, 86% are represented by the Canadian Union of Public Employees (CUPE) and 14% are excluded positions. Over the past five years, total salary and benefits have grown by approximately 10% predominantly due to additional CUPE positions and wage increases. The current collective agreement, effective until 2019, includes general wage increases of 5.5%, which align with BC Government Employees Union increases. Excluded employee wages had been constrained by the Province's salary freeze policy but have recently received two increases of up to 2% at the end of 2015 and in 2016.

BCAA hires approximately 100 temporary employees for three to six months each year to assist with the assessment process. Temporary employees have also been hired to help with corporate initiatives.

Employees do not currently receive incentive-based compensation. In the past, the CEO received a \$10,000 bonus and all other employees participated in a gainsharing program that provided up to 5% of base salary. In keeping with PSEC direction, the CEO bonus and employee gainsharing program were converted into base salary in 2012 and 2014, respectively.

As illustrated in the following chart, BCAA's executive compensation is generally comparable to the average of similar crowns. One exception is the VP of the ITS Division who is on a second one-year contract. In consulting with PSEC, BCAA noted that salary limitations in a competitive job market did not attract qualified candidates to direct the IT initiatives currently in progress. The rate is currently higher than comparable executives due to the challenges faced in recruiting for that position.



Note: Excludes BCAA VP ITS as a contracted position

Source: BCAA, PSEC, BC Public Service Agency

The CUPE Collective Agreement affords employees flexibility to balance their personal appointments and work hours. Employees must work 140 hours every four weeks with a daily maximum of 8.5 hours and minimum of 3.5 hours and are required to schedule personal appointments outside of work hours. In addition, the contract includes a provision to review the progression model between appraiser levels to prioritize education, experience and performance over time in the position.

BCAA has compared well against the Province in overall employee sick time and turnover averages since 2011.

Organization	5 Year Average Per Employee	
	Sick Days	Turnover
BCAA	6.6 days	6.2%
Province of BC	8.6 days	7.2%

Source: BCAA and BC Government

8.0 Information Technology

The ITS Division governs, plans and maintains the technology that supports BCAA's operations, including both property assessment-related technology and back office systems. In 2015, BCAA's total IT spending was approximately \$19.2 million, or 21.2% of total operating costs for the year.

IT Governance

The division is led by a VP position that is currently staffed by an external contractor. The contract was extended for a second year to maintain leadership continuity while key initiatives are implemented.

Annual IT strategic planning is conducted to consider technology trends and defines how to support BCAA's strategic objectives. The 2016 IT Strategic and Division Plans identified a lack of common understanding of IT services and costs across the organization. Planned initiatives are aimed at creating efficiencies and better monitoring IT-related costs, including establishing regular consumption reports showing usage rates and costs for hardware and software.

BCAA plans the delivery of 20 IT-related projects over the next five years to enhance key processes and better support business objectives. These projects include enterprise architecture enhancements and the NextGen project to replace valueBC. BCAA estimates the total cost of these projects at approximately \$55 million, including \$33 million for the NextGen initiative. Monitoring project prioritization will ensure appropriate staffing and resources are allocated to those projects of greatest importance.

Internal and external reviews conducted over the past five years have focused on the effectiveness of IT processes and business applications though these reviews did not include valueBC. With the implementation of a new property assessment system there are opportunities for BCAA to strengthen its quality assurance by including this new software in future reviews.

Although the key processes required to run the IT function are present, improvements could be made by developing performance reports that assess and communicate IT performance at the divisional level.

Recommendations:

(9) BCAA should ensure that information technology costs are properly understood and monitored across the organization.

(10) BCAA should monitor performance of the information technology division.

8.1 Information Security

Staff who are responsible for information security also have day-to-day IT service delivery duties. BCAA could benefit from establishing a dedicated information security officer with appropriate independence and authority to implement related initiatives and promote information security.

BCAA collaborates with external partners for network security, database and server management. In addition, various automated tools continuously monitor the IT network for security issues. BCAA could benefit from enhanced monitoring processes for business systems such as performing periodic reviews of user activities and changes to system controls.

While BCAA has numerous information security policies and procedures, improvements could be made by integrating the materials into one comprehensive framework with an overarching policy. This would also enhance accessibility and awareness of these policies and procedures for staff.

Ad-hoc initiatives such as newsletters, presentations and guides were made available to staff in the past to promote the importance of information security across the organization. Despite these initiatives, no structured information security training program is available for employees and contractors. BCAA advised that this program will be developed and implemented in 2017.

Opportunities to strengthen user account management and related processes were identified. As a result, BCAA added new initiatives to enhance information security practices and better define related responsibilities.

Recommendations:

- (11) BCAA should ensure that the information security function has the appropriate position and authority in the organization.**
- (12) BCAA should develop an organizational Information Security Policy framework.**
- (13) BCAA should ensure information security initiatives are implemented in a timely fashion.**

8.2 Information Privacy

The Office of the CEO is responsible for information privacy with a manager providing advice to program areas on privacy matters, including monitoring compliance with the *Freedom of Information and Protection of Privacy Act*. The manager is the only resource dedicated to overseeing privacy matters. Defining a back-up and a succession plan would ensure appropriate continuity for this position.

BCAA follows government guidelines and templates for Privacy Impact Assessments, which identify potential privacy risks and develop mitigation strategies. The organization has conducted these assessments on new initiatives and prior to renewing or amending agreements with third parties. However, there are additional data channels where privacy assessments have not been conducted.

BCAA is developing an online privacy training program that is expected to be completed in early 2017. This program will be made up of several modules, some of which will be mandatory for all staff, while others will be targeted to specific groups such as supervisors or employees who lead projects.

Recommendation:

- (14) BCAA should ensure privacy assessments are conducted on all data channels.**

9.0 Project Management

The Corporate Portfolio Management Office provides project management tools, support and training, and monitors compliance with project management methodology requirements. In addition, it delivers status updates on current projects to the executive.

A committee, composed of management from every division, monitors the performance of all projects and ensures they align with other corporate priorities, resources and budgets. Larger projects may have a project-specific steering committee assigned.

Projects are monitored throughout their life-cycle which is made up of key phases, each phase having distinct gates that require specific criteria to be met before progressing to the next stage. In addition, the methodology describes roles and responsibilities, and includes forms and templates such as charters, plans and reports.

The methodology requires teams to prepare bi-weekly status reports for executive sponsors and steering committees. When the project is complete, teams are required to prepare a lessons learned report including budget variance analysis. Benefits and budget to actual results were not consistently reported in the projects sampled from prior to 2016, making it difficult to accurately assess achievements to date.

BCAA has identified that IT and financial controls in managing projects could be improved. To address these concerns, a review of planning and project management processes and governance frameworks is currently being conducted. This review hopes to develop:

- More effective and efficient planning and project management practices.
- Clarity of roles and responsibilities of various stakeholders.
- Broad support for planning and project management practices.

Since implementing its project management methodology in 2014, BCAA has improved its project management practices by centralizing project budget, resource and schedule monitoring. However, BCAA is still in the early stages of its project management maturity with a limited number of projects completed under the new methodology.

Recommendation:

(15) BCAA should ensure projects comply with the project management methodology for reporting and monitoring.

10.0 NextGen

The NextGen project is a multi-year initiative to replace valueBC with off-the-shelf property assessment software selected through competitive procurement. The project is in the planning stage and is scheduled to be completed in 2019 before valueBC's support ends in 2020.

With a total project budget of \$33 million, NextGen is the largest project BCAA has recently undertaken. Given this initiative's size and importance to the organization, BCAA must ensure strong project management practices are in place.

NextGen is expected to achieve or contribute to the following:

- Reduce labour demands by automating repetitive tasks.
- Implement technology that can be integrated with existing and other planned systems.
- Introduce required functionalities not available in valueBC.
- Retire legacy systems and reduce the number of systems to be maintained.

The full set of financial and non-financial benefits of the NextGen project have yet to be identified. As a key deliverable, BCAA plans to establish a comprehensive set of benefit targets, including baselines and a plan for monitoring and regularly reporting on the actual levels of achievement.

Project Phases and Timelines

The NextGen project is divided into two main phases. The Fit-Gap phase was launched in July 2016 to compare the features of the selected software with requirements, identify gaps, and decide on approaches to resolve those gaps. This phase will lay out a multi-year implementation strategy, which is expected to include communication, change management, data conversion and decommissioning plans.

A quality management plan, to be developed as part of the implementation strategy, is expected to detail specific requirements for project milestones. Vendor payments will be linked to BCAA's acceptance of each milestone completion. The quality management plan should be developed with careful consideration of how milestones are defined.

Following the completion of the Fit-Gap phase at the end of 2016, BCAA will begin the implementation phase. This phase has several steps including data conversion, testing and validation of data conversion results, user acceptance testing, and staff training on the new system. The new property assessment system is scheduled to be implemented by April 2019, with a three month contingency period extending to July 2019.

Implementation

Changeover to the new system is expected to occur at a single point in time. After the new system is implemented, valueBC is expected to be maintained until the end of 2019 as a contingency in the event the new system faces a critical issue that prevents it from producing assessment rolls.

Due to BCAA's dependence on valueBC and the strict schedule required under the *Assessment Act*, there is a short window in which the new system can be implemented in any calendar year. If it is not in production by July 2019, implementation will be delayed until spring 2020.

This approach, along with the short implementation window, leaves little room for error. Therefore, key project management aspects including resource allocation, data migration, system testing, user training, and stakeholder consultations must be properly conducted.

Project
Governance and
Risk
Management

Project governance is important as it defines the decision making framework to be applied within a project, including the roles, responsibilities and accountabilities of key project stakeholders, as well as the mechanisms through which they can meet those responsibilities.

Following best practices, the project governance structure established for NextGen includes the involvement of the Board and executive team as follows:

- The Board is ultimately accountable for the success of the project. It is supported by the IT and T Committee, which was created with the mission of reviewing major IT projects including risks, schedule, budget and benefits.
- The Executive Steering Committee, chaired by the CEO and comprised of VPs, provides overall project guidance and recommendations to the Executive Sponsors for decision making, as well as to resolve project issues.
- Two Executive Sponsors are tasked with the project delivery. This includes ensuring sufficient resources are available for the project and confirming project goals and outcomes.

As part of the governance framework, BCAA has established a change management process that defines the thresholds and the escalation requirements for different levels of change in budget, scope and schedule.

Risk management practices, such as risk identification, monitoring, and mitigation, have been carried out to date for the NextGen project. These are expected to continue throughout the project. A risk management plan will be developed during the Fit-Gap phase and key risks are expected to be regularly reviewed by the Executive Steering Committee and the IT and T Committee.

Due to the size, complexity, and strategic importance of the NextGen project, ensuring successful project implementation is critical to the ongoing effectiveness of the organization in carrying out its legislated mandate.

Recommendations:

- (16) BCAA should ensure NextGen is prioritized and resourced accordingly.**
- (17) BCAA should ensure the NextGen implementation plans are developed in a timely manner and closely monitored.**
- (18) BCAA should provide regular progress updates on NextGen to the Ministry of Community Sport and Cultural Development.**

Appendix 1 – Summary of Recommendations

1	BCAA should ensure its governance policies and practices fully align with provincial guidelines.
2	BCAA should ensure that Business Continuity and Disaster Recovery Plans are fully developed and periodically tested.
3	BCAA should periodically review all internally-developed cost models.
4	BCAA should ensure that a data management plan and framework are developed and consistently applied.
5	BCAA should conduct cost analysis of the data licensing program.
6	The Province should confirm its direction with regard to BCAA's Open Data Policy and strategy.
7	The Province and BCAA should work together to maximize the value of BCAA's real estate market knowledge and expertise.
8	BCAA should ensure procurements are supported by appropriate justifications.
9	BCAA should ensure that information technology costs are properly understood and monitored across the organization.
10	BCAA should monitor performance of the information technology division.
11	BCAA should ensure that the information security function has the appropriate position and authority in the organization.
12	BCAA should develop an organizational Information Security Policy framework.
13	BCAA should ensure information security initiatives are implemented in a timely fashion.
14	BCAA should ensure privacy assessments are conducted on all data channels.
15	BCAA should ensure projects comply with the project management methodology for reporting and monitoring.
16	BCAA should ensure NextGen is prioritized and resourced accordingly.

Appendix 1 – Summary of Recommendations (continued)

17	BCAA should ensure the NextGen implementation plans are developed in a timely manner and closely monitored.
18	BCAA should provide regular progress updates on NextGen to the Ministry of Community Sport and Cultural Development.