

# Ministry of Technology, Innovation and Citizens' Services

Fiscal 2016/17

Estimates Briefing

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BRITISH  
COLUMBIA

July 30, 2015

Honourable Amrik Virk  
Minister of Technology, Innovation and Citizens' Services  
Parliament Buildings  
Victoria, British Columbia  
V8V 1X4

Dear Minister:

On behalf of the people of British Columbia, I would like to thank you for the contributions made by you and your ministry over the past 12 months to make our province stronger.

You have been part of a government that has continued to deliver on the promises we made in our election platform, Strong Economy, Secure Tomorrow during the past 24 months. Balancing the budget for a third time, having our triple A credit rating confirmed and re-confirmed as stable by Moody's Investors Service, and continuing to support the growth of a diverse economy are all accomplishments of which we collectively and you individually can be rightly proud.

I am very pleased to note that you and each of your colleagues were again able to live within your voted legislative budgets. The people of our province elect us to work on their behalf—to control spending.

Living within our means is demonstrating our respect for the people of our province and the tax dollars they send to Victoria. By keeping government lean and reducing the cost of administration, we can make significant investments in people and the infrastructure on which they depend to succeed in a strong and growing economy.

As a result of our strong fiscal position, we have been able to provide new assistance to single parents as they return to the workforce, greater income exemptions for single parents on income assistance and continued record investments in funding for public health care, education and transportation—services on which families depend.

Our government is resolute in our desire to grow the economy as a way to enable more British Columbians to participate in the economy and obtain meaningful, family-supporting work. The work your ministry does each and every day to contribute to these efforts are noticed and valued.

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Office of the  
Premier

Mailing Address:  
World Trade Centre  
740 - 999 Canada Place  
Vancouver BC V6C 3E1

In particular, I would like to congratulate you and your ministry for:

- Investing \$6 million in the BC Innovation Council's Tech Works program to provide funds to BC technology start-up companies to hire undergraduate or graduate students in the province
- Implementing the BC Co-op Grant program to enable technology companies to access grants to offset the cost of student training and job readiness
- The extension of the Small Business Venture Tax Credit program

As you know, the annual mandate letter you receive is designed to be an ongoing workplan for your ministry that is updated on an annual basis. You will undoubtedly notice some changes since last June.

Your mandate for the following year is as follows:

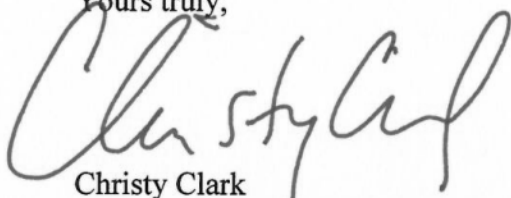
1. Balance your ministerial budget in order to control spending and ensure an overall balanced budget for the province of British Columbia.
2. Support diversification of the BC economy by delivering a Technology and Innovation Strategy that identifies and addresses barriers to growth of the technology sector in B.C. with public release by December 31, 2015.
3. Work with the Ministries of Jobs, Tourism and Skills Training and Advanced Education on the development of a 10-year skills plan for BC's Technology Sector.
4. Deliver the Developers Exchange (DevX) pilot in cooperation with DataBC and report outcomes and findings.
5. Review regulations within your ministry to continue to reduce the red tape and regulatory burden for BC businesses and individuals.
6. Continue to implement the BC Services Card and report to Cabinet on the potential to expand its use.
7. Work with the Ministry of Finance to expand the BC Training Tax Credit program to include co-op placements in small technology firms as committed in Strong Economy, Secure Tomorrow for the 2016/17 budget.
8. Work with the Ministry of Finance to make permanent the \$3 million increase in the value of the Small Business Venture Tax Program for BC companies and add an additional \$2 million to the program to fulfill our commitment in Strong Economy, Secure Tomorrow.

9. Work with the Ministries of Advanced Education and International Trade to develop and present options to Cabinet on ways to improve the availability of venture capital funding in British Columbia.
10. Work with the Ministries of Jobs, Tourism and Skills Development and Health to make recommendations to Cabinet on how to ensure the Life Sciences industry continues to grow and thrive in British Columbia.
11. Work with the Ministry of Education on the upgrading of the Provincial Learning Network and its conversion from copper to fibre optic circuits in schools across British Columbia as part of the TELUS Strategic Investment Fund.
12. Work with the federal government to continue to improve access for high-speed internet connectivity for residents of BC's rural communities.
13. Work with the Minister of Small Business and Red Tape Reduction, to develop a strategy to encourage provincial ministries, crown corporations and agencies to more fully open procurement to BC technology companies.

In addition, as discussed and approved by Cabinet, our government is committed to ensuring British Columbia government services are easily accessed by our citizens and businesses. Minister Coralee Oakes will be leading this initiative on my behalf and over the following 12 months she will be reaching out to all ministries to assist in reducing unnecessary red tape and regulation.

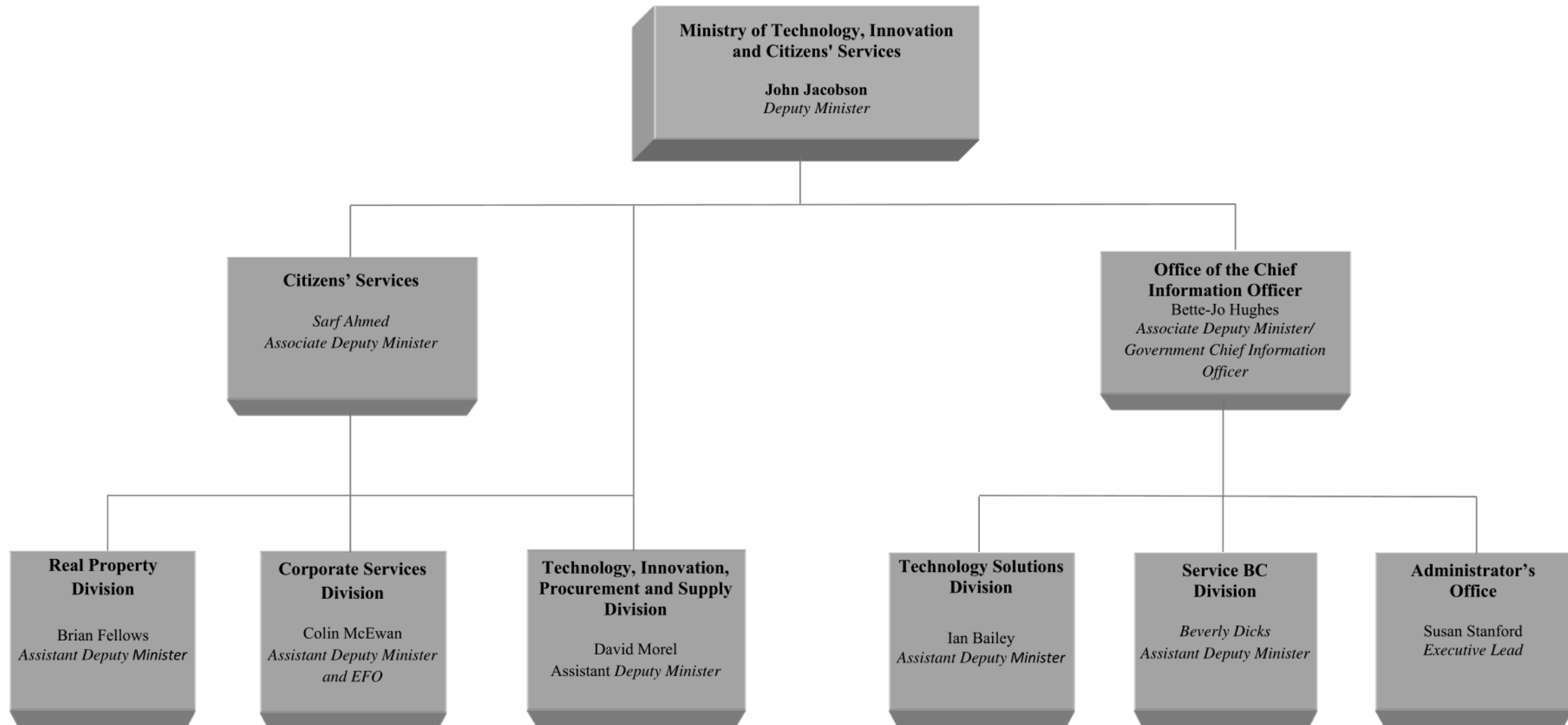
It is hard to believe but it has been two years since the people of British Columbia put their faith in us to lead their province. We have accomplished much in those two years, but much work remains to deliver the promise of a strong economy and secure tomorrow for our citizens. I look forward to working with you over the coming year.

Yours truly,

A handwritten signature in black ink, appearing to read 'Christy Clark', with a stylized, flowing script.

Christy Clark  
Premier of British Columbia

## Ministry of Technology, Innovation and Citizens' Services



## **Deputy Minister's Office Overview**

### **Executive Responsible**

John Jacobson, Deputy Minister

Sarf Ahmed, Associate Deputy Minister

### **Core Business Description**

Provision of executive leadership to the Ministry of Technology, Innovation and Citizens' Services.

Direction-setting to support the technology industry and enable cost effective and innovative services to citizens and clients.

Overall executive accountability for MTICS strategic and operational performance.

Ensures all deliverables in the Minister's mandate letter are accomplished.

Oversight of MTICS interface and co-ordination within the provincial government, with other governments and with external stakeholders.

John Jacobson holds primary responsibility for the technology and innovation file including the BCTech Strategy; work we see as critical for the further diversification of BC's economy.

This core business also includes the Associate Deputy Minister, Citizens' Services Office. Sarf Ahmed oversees Real Property, Logistics and Business Services, Strategic Partnerships Office and Corporate Services functions.

### Budget at a Glance

	<b>Original 2015-16 Budget</b>	<b>2016-17 Budget</b>
Salaries	\$0.410M	\$0.410M
Operating Costs	\$0.115M	\$0.115M
Grants	-	-
Other Expenses	\$0.016M	\$0.016M
<b>Gross Expenditure Total</b>	<b>\$0.541M</b>	<b>\$0.541M</b>
<b>Total Recoveries</b>	-	-
<b>Net Expenditures</b>	<b>\$0.541M</b>	<b>\$0.541M</b>
<b>Total Capital</b>	-	-

FTE Burn as at January 2016

4.75



## Office of the Chief Information Officer Overview

### Executive Responsible

Bette-Jo Hughes, Associate Deputy Minister and Government Chief Information Officer

### Core Business Description

The Office of the Chief Information Officer (OCIO) leads strategy, policy and standards for information technology, IT security and the management of the IM/IT investment portfolio for the Province. The OCIO is accountable for the operation of a broad government technology infrastructure as a key enabler in support of business transformation for Government, Broader Public Sector organizations and through participation inter-jurisdictionally on initiatives to evolve technology and business.

The OCIO is comprised of the following:

**Technology Solutions** - see separate overview.

**IM/IT Capital Investment** – through the direction of the Deputy Ministers' Committee on Transformation and Technology, provide lifecycle management of government's IM/IT minor capital portfolio and advice to Treasury Board on major IM/IT capital projects

**Strategic Planning and Policy** – develop and manage the OCIO strategic plan, as an enabler of Citizens' @ Centre and government's business transformation and strategic priorities, develop and modernize IT policy, communications including OCIO Connect and project portfolio planning oversight.

**Telecommunications Strategy** –promote and facilitate the expansion of high-speed Internet and cellular services throughout B.C. (Network BC), plan the modernization of government's telecommunications infrastructure, align and coordinate telecommunications infrastructure investments across government and the Broader Public Sector, and manage/leverage strategic telecommunications deals (e.g. Administrator's Office, TELUS Deal).

## Budget at a Glance

	2015-16 Budget	2016-17 Budget
Salaries	\$3.730M	\$3.727M
Operating Costs	\$3.535M	\$3.636M
Grants	\$0.600M	\$0.500M
Other Expenses	-	-
Gross Expenditure Total	\$7.865M	\$7.863M
Total Recoveries	(\$3.478M)	(\$3.478M)
Net Expenditures	\$4.387M	\$4.385M
Total Capital	\$41.590M	\$55.339M

### FTE Burn as at January 2016

39

*Note: Budgets for Strategic Partnerships' Office excluded here as reported elsewhere, also Cross Government Initiatives removed here to be reported with Technology Solutions. Included is the Strategic Investment Fund (SIF) budget.*

## Technology Solutions Overview

### Executive Responsible

Ian Bailey, Assistant Deputy Minister

### Core Business Description

Technology Solutions provides the cost-effective management and supply of IM/IT services such as data and voice networks, workstations and mobile devices, messaging and collaboration services, information security, identity management, data centre and application hosting, and enterprise architecture and standards. These services are essential for providing mission-critical supports to clients as they deliver business solutions to ministries and citizens.

Technology Solutions delivers services through seven areas:

**Architecture, Standards, and Planning** - IM/IT standards and architecture development for government

**Service Management** - IT change, incident, and problem management; order management and reporting

**Device Services** - contract and vendor management, mobile and desktop device services

**Information Security** - governance for information security, secure use of sensitive or personal information in the custody of government

**Data Centre Hosting Services** – contract and vendor management data centre services, application hosting services, managed print services

**Network, Communications and Collaboration Services** - voice and data network services, email and collaboration services for government and some broader public sector clients

**Provincial Identity Information Management Program** - secure authentication for public servants and citizens for online applications or services; BC Services Card

### Budget at a Glance

	2015-16 Budget	2016-17 Budget
Salaries	\$31.446M	\$30.882M
Operating Costs	\$212.116M	\$212.335M
Grants	-	-
Other Expenses	\$0.300M	\$0.301M
Gross Expenditure Total	\$243.862M	\$243.518M
Total Recoveries	(\$94.699M)	(\$94.332M)
Net Expenditures	\$149.163M	\$149.186M
Total Capital	\$18.561M	\$15.558M

**FTE Burn as at January 2016**

**295**

*Note: Budget does not include Enterprise-Wide Applications Services (EWAS) or Strategic Investment Fund (SIF). Included is Cross Government IM/IT Initiatives, Information Security, and Architecture & Standards.*

## **Service BC Overview**

### **Executive Responsible**

Beverly Dicks, Assistant Deputy Minister

### **Core Business Description**

Service BC is the government's chief provider of general advice and transactional services to citizens and businesses. Service BC works with all ministries to design and co-ordinate improved service delivery through various access points (telephone, online and in-person), to make it easy for citizens and businesses to find the information and services they need. Services are delivered by staff and through service agreements with private sector service providers.

Service Transformation, Design and Integration - Works with cross-government service delivery partners to shape the future of service delivery. Manages partner relationships and designs and develops services in support of delivering integrated services on behalf of government.

Service Delivery – Provides citizens with access to government services in-person and over the phone, through 62 Service BC Centres located throughout the Province, and via the telephone through the Service BC Contact Centre.

Strategic Support Services - Provides centralized information systems and financial operations support for the entire Division, including financial budgeting, forecasting and reporting.

Registry and Online Services - Facilitates and supports commerce in the Province through the administration and verification of business, personal property and manufactured home registrations. BC Online is government's electronic service delivery channel for online access to information products and services.

BC Stats - Provides statistical information and analysis on the economic, social and demographic conditions of the Province and its people, to support informed decision-making and policy development.

### Budget at a Glance

	Original 15-16 Budget	2016-17 Budget
Salaries	\$26,811	\$26,922
Operating Costs	10,213	10,213
Grants	0	0
Other Expenses	904	904
<b>Gross Expenditures</b>	<b>37,928</b>	<b>38,039</b>
Total Recoveries	-20,005	-19,995
<b>Net Expenditures</b>	<b>\$17,923</b>	<b>\$18,044</b>
<b>Total capital</b>		

FTE Burn as at March 2016

397.63

## **Logistics and Business Services Overview**

### **Executive Responsible**

David Morel, Assistant Deputy Minister

### **Core Business Description**

Logistics and Business Services provides many of the supplies and services needed for the day-to-day operation of government, including:

- Specialty and generic supply services (e.g., medical and emergency products)
- BC Mail Plus
- Print brokerage and electronic publishing services
- Disposal, warehousing, distribution services
- Vehicle fleet co-ordination
- Procurement, strategic contracting and advisory services

Logistics and Business Services has three main lines of business:

Procurement Services –responsible for procurement advice to Ministries for purchase of goods and services, BC Bid, corporate vehicle fleet management, corporate charge card program, software licensing and corporate supply arrangements.

Strategic Business and Procurement Transformation – responsible for implementation of the public recommendations from the Doing Business with Government report and #BCTechSummit, continuous improvement, web, marketing and business development.

Supply Services – provides full service inventory management and product distribution to ministries, Crown corporations and other government-funded organizations; process and distribute mail and manage disposal or redistribution of surplus assets (including BC Auction); print brokerage and publishing services, including distribution and electronic publishing (BC Laws).

### Budget at a Glance

	<b>Original 2015-16 Budget</b>	<b>2016-17 Budget</b>
Salaries	\$36.116M	\$25.197M
Operating Costs	\$21.976M	\$17.265M
Grants	-	-
Other Expenses	\$70.995M	\$70.995M
<b>Gross Expenditure Total</b>	<b>\$129.087M</b>	<b>\$113.457M</b>
<b>Total Recoveries</b>	<b>(\$116.616M)</b>	<b>(\$110.548M)</b>
<b>Net Expenditures</b>	<b>\$12.471M</b>	<b>\$2.909M</b>
<b>Total Capital</b>	<b>-</b>	<b>-</b>

**FTE Burn as at January 2016**

333.69



## **Corporate Services Overview**

### **Executive Responsible**

Colin McEwan, Assistant Deputy Minister

### **Core Business Description**

The Corporate Services division provides leadership, direction, governance and support services to the Ministry with respect to financial management, strategic human resources management, information management/information technology (IM/IT) management services, strategic internal and client communications, and strategic planning and performance management. The division is also accountable for leading strategic corporate projects.

The division has five areas:

Corporate Projects Office - provides a leadership role for corporate and special projects on behalf of the Deputy Minister, Associate Deputy Minister, and Assistant Deputy Minister/Executive Financial Officer.

Financial and Administrative Services - provides expert financial, budget, governance, risk management, internal control, administrative and business advisory services support to ministry operations.

Information Management - responsible for fulfilling the Ministry Chief Information Officer mandate for the ministry, including maintaining ministry specific information systems.

Planning & Performance - provides human resource strategies, and ministry corporate and divisional planning support.

Corporate Communications – provides guidance on client facing operational communications; leads external facing strategic communications as well as the planning and delivery of ministry focused strategic communications.

## Budget at a Glance

	Original 2015-16 Budget	2016-17 Budget
Salaries	\$15.910M	\$14.405M
Operating Costs	\$7.706M	\$5.766M
Grants	\$6.260M	\$6.260M
Other Expenses	\$1.026M	\$0.980M
<b>Gross Expenditure Total</b>	<b>\$30.902M</b>	<b>\$27.411M</b>
<b>Total Recoveries</b>	<b>(\$0.058M)</b>	<b>(\$0.058M)</b>
<b>Net Expenditures</b>	<b>\$30.844M</b>	<b>\$27.353M</b>
<b>Total Capital</b>	<b>\$0.010M</b>	<b>\$0.010M</b>

## FTE Burn as at January 2016

141.32
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*Note: This budget and FTE burn includes EWAS (TSD), Client Services (RPD) and the Knowledge Network Grant which has been moved to a new sub-vote but is managed by CSD*

## **Real Property Overview**

### **Executive Responsible**

Brian Fellows, Assistant Deputy Minister

### **Core Business Description**

The Real Property Division (RPD) provides everything needed to design, set up and manage a government workplace. The division is also responsible for the Province's real estate portfolio (excluding schools, post-secondary, and hospitals), office space inventory, furniture procurement, project and construction management, and real estate services for special-purpose facilities (such as courthouses, laboratories, and correctional facilities). Our client base includes ministries (mandated) as well as voluntary customers (broader public sector).

RPD is authorized and mandated under the *Public Agency Accommodations Act* to provide a broad suite of real estate services to public agencies. We serve the needs of approximately 30,000 public servants in the British Columbia Public Service and many more in the broader public sector. Our real estate portfolio has almost 14 million square feet of space, comprised of 7.4 million in approximately 425 owned buildings and 6.4 million in 624 leased buildings.

The division also oversees sale of surplus properties on behalf of Government.

The following branches fall within the Real Property division:

- Accommodation Management
- Asset Management
- Client Services
- Facilities Management Services
- Financial Planning and Reporting
- Real Estate Business Services
- Release of Assets for Economic Generation (RAEG)
- Workplace Development Services

### Budget at a Glance

	<b>Original 2015-16 Budget</b>	<b>2016-17 Budget</b>
Salaries	\$14.616M	\$14.642M
Operating Costs	\$352.841M	\$359.901M
Grants	-	-
Other Expenses	\$27.145M	\$33.740M
<b>Gross Expenditure Total</b>	<b>\$394.602M</b>	<b>\$408.283M</b>
<b>Total Recoveries</b>	<b>(\$128.657M)</b>	<b>(\$129.110M)</b>
<b>Net Expenditures</b>	<b>\$265.945M</b>	<b>\$279.173M</b>
<b>Total Capital</b>	<b>\$130.412M</b>	<b>\$133.752M</b>

**FTE Burn as at January 2016**

166.18

*Note: Budget allocation does not include Client Services-Ministries (RPD)*

## Strategic Initiatives and Partnerships Overview

### Executive Responsible

David Morel, Assistant Deputy Minister

### Core Business Description

Strategic Initiatives and Partnerships consists of two areas:

Strategic Partnerships Office - strategic deal support, deal performance management, procurement modernization, knowledge management, capacity building.

Technology and Innovation - strategic alignment (BC Innovation Council, Jobs Plan, B.C.'s Technology Strategy etc.), strategic investments (BC Knowledge Development Fund), accelerating commercialization and inter-governmental relations, #BCTECH Strategy development and implementation.

### Budget at a Glance

	Original 2015-16 Budget	2016-17 Budget
Salaries	\$4.696M	\$2.297M
Operating Costs	\$4.098M	\$2.274M
Grants *	\$7.805M	\$7.205M
Other Expenses	\$0.005M	\$0.024M
<b>Gross Expenditure Total</b>	<b>\$16.604M</b>	<b>\$11.800M</b>
<b>Total Recoveries</b>	<b>(\$5.436M)</b>	<b>(\$1.958M)</b>
<b>Net Expenditures</b>	<b>\$11.168M</b>	<b>\$9.842M</b>
<b>Total Capital</b>	-	-

### FTE Burn as at January 2016

20.0
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*Note: This budget allocation includes Technology and Innovation; the Strategic Partnerships Office; and a grant transfer to the BC Innovation Council (BCIC) of \$6.09M (\*).*

**MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES**  
**BUDGET OVERVIEW -**  
**2016/17 Estimates - February 2016**

**KEY MESSAGES:**

- **The Ministry's operating budget has increased by 3% compared to the 2015/16 restated budget. This includes funding in 2016/17 to support the Economic Stability Mandate and the operating costs of two new government owned facilities.**
- **As a result of a mid-year reorganization in December 2015, the Information Management file was transferred out of the ministry to the Ministry of Finance.**
- **The Ministry's capital budget for 2016/17 is \$204.659 million.**

**KEY BUDGET ASSUMPTIONS**

The Ministry of Technology, Innovation and Citizens' Services performs a dynamic role in government to support businesses, citizens, government ministries and broader public sector organizations. As the shared services provider for government, the ministry provides cost effective facilities, technology, and, procurement and supply services to support our clients in achieving their mandates.

The ministry remains focused on several overarching objectives in support of a diverse economy in British Columbia, including: support the BC Jobs Plan to build a strong economy and create high-paying jobs in the technology sector by using levers such as tax incentives to help businesses grow; deliver a BCTECH Strategy that identifies and addresses barriers to growth in B.C.; and, help eliminate barriers to economic development by reducing the red-tape and regulatory burden for B.C. businesses and individuals.

In support of the BCTECH Strategy, the ministry has found operational savings of \$2.550M over the 2016/17 to 2018/19 fiscal plan period that will be redirected fund key initiatives within the strategy.

The 2016/17 *Estimates* for the Ministry of Technology, Innovation and Citizens' Services has been tabled at \$491.997 million (net) up \$12.984 million or 2.7% from the restated 2015/16 budget of \$479.013 million (net).

The basic theme of the 2016/17 budget is continued fiscal discipline and steady economic growth. The approach taken by the ministry was to protect services to citizens and businesses by scaling back on non-core activities that would not impact our external clients. Shared Services continues to look for efficiencies/savings achieved in both office

space and systems charges incurred on behalf of all government ministries. The ministry will continue to look at innovative ways to deliver services to meet our client needs in a cost effective manner.

*Primary areas of change are as follows:*

#### **Changes reflected in the Restated Estimates for 2015/16**

- As part of the December 16, 2015 mid-year reorganization of the Information Management file \$13.774M transferred to the Ministry of Finance consisting of the following:
  - Information Access Operations that resided within Logistics and Business Services for \$9.618M;
  - Privacy and Policy Branch that resided with Office of the Chief Information Officer funding for \$2.035M was transferred to the Ministry of Finance as a result of the December reorganization.
  - Information Management related support for \$1.573M from Technology Solutions and \$0.548M from Corporate Services
- Real Property received \$0.698M in operating funding from Jobs, Tourism and Skills Training to support the Wood Innovation and Design Centre.
- Real Property transferred \$0.644M to the Public Safety and Solicitor General for leased space used by the Liquor Control and Licensing Branch.
- Real Property received \$0.433M from clients (ministries) to cover ongoing operating costs associated with leased space.
- A transfer out of \$0.572M to Ministry of Advanced Education (AVED) to fund the management wage increase for Government Communications and Public Engagement (GCPE) staff that transferred to AVED in December 2014.
- A transfer out of \$0.017M to Ministry of Finance related to the management of the Corporate Signing Authority System that transferred out with Corporate Accounting Services in December 2013.

#### **Changes that impacted the 2016/17 Estimates**

- A budget increase of \$12.017M in Real Property Division to fund ongoing operating costs for the Okanagan Correctional Centre.
- A budget increase of \$0.698M in Real Property Division for operating costs associated with the Wood Innovation and Design Centre.
- A budget increase of \$0.885M (net) was provided to support the increased salary and benefit costs resulting from the Economic Stability Mandate set by government in 2013.
- A budget reduction of \$0.462M (net) was applied to reflect the revised Employee Benefits chargeback rate.
- An additional \$0.136M (net) in funding was transferred to Ministry of Finance in relation to the December Information Management reorganization.
- A budget decrease of \$0.018M in Technology Solutions as a result of more funding transferred to the Ministry of Finance for Corporate Accounting Services than in 2015/16.

## **CAPITAL FUNDING**

- Treasury Board approved \$204.659 million for 2016/17, the major projects being undertaken and funding envelopes include:
  - Office of the Chief Information Officer **\$55.339M**
    - Transformation & Technology Funding \$47.839M
    - IM/IT Maintenance \$7.500M
  - Real Property **\$133.752**
    - Office Furniture (corporate provision) \$0.500M
    - Independent Investigative Office (furniture) \$0.110M
    - Okanagan Correctional Centre \$29.234M
    - Willingdon Lands Redevelopment \$34.426M
    - Surrey Justice Precinct Expansion \$16.200M
    - Wood Innovation and Design Centre \$0.437M
    - Routine Capital Envelopes \$49.669M
    - Vehicles \$0.176M
    - Frozen funds pending future decision \$3.000M
  - Technology Solutions **\$15.558M**
    - Strategic Transformation and Mainframe Services (STMS) \$5.858M
    - Ministry Additional Purchases and IT Maintenance \$9.700M
  - Ministry Office Equipment **\$0.010M**



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## MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

The mission of the Ministry of Technology, Innovation and Citizens' Services is to grow British Columbia's technology sector; champion innovation; and enable the delivery of cost-effective, accessible, and responsive services.

### MINISTRY SUMMARY

(\$000)

	Estimates 2015/16 <sup>1</sup>	Estimates 2016/17
<b>VOTED APPROPRIATION</b>		
Vote 42 — Ministry Operations.....	479,013	491,997
<b>OPERATING EXPENSES</b>	<u>479,013</u>	<u>491,997</u>
<b>CAPITAL EXPENDITURES <sup>2</sup></b>	192,436	204,659
<b>LOANS, INVESTMENTS AND OTHER REQUIREMENTS <sup>3</sup></b>	—	500
<b>REVENUE COLLECTED FOR, AND TRANSFERRED TO, OTHER ENTITIES <sup>4</sup></b>	—	—

#### NOTES

<sup>1</sup> For comparative purposes, figures shown for the 2015/16 operating expenses; capital expenditures; loans, investments and other requirements; and revenue collected for, and transferred to, other entities are restated to be consistent with the presentation of 2016/17 *Estimates*. Schedule A presents a detailed reconciliation of the restatement of operating expenses and capital expenditures.

<sup>2</sup> Details of capital expenditures are presented in Schedule C.

<sup>3</sup> Details of loans, investments and other requirements are presented in Schedule D.

<sup>4</sup> Details of revenue collected for, and transferred to, other entities are presented in Schedule E.

**MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES**  
**MINISTRY SUMMARY**

(\$000)

**Change from  
Restated  
Estimates  
2015/16**

**Explanation of Changes**

**VOTED APPROPRIATIONS**

Vote 42 - Ministry Operations	12,984	The Vote increased by \$12.984M due primarily to a \$12.017M budget increase for operating costs associated with the Okanagan Correctional Centre. Other changes included a \$0.698M budget increase for operating costs associated with the Wood Innovation and Design Centre, a net increase of \$0.423M in salary and benefits primarily to support the Economic Stability Mandate, and a net reduction of \$0.154M related to two prior year program transfers with Ministry of Finance.
Capital Expenditures	12,223	Increase due to adjustments and stages for mutli-year major projects such as the Willingdon lands Redevelopment, Surrey Justice Precinct Expansion, routine capital projects, IMIT funding envelopes, and other projects totalling \$80.699M. Offsetting budget decreases of \$68.476M due primarily to the Okanagan Correctional Centre nearing completion and other projects.
Loans, Investments and Other Requirements	500	Funding has been provided to the ministry to offset costs associated with the preparation of assets for disposition. The costs are being offset by revenue from sales in the current year. In fiscal 16/17 sales proceeds are forecast to be \$4.000M while costs will be \$4.500M.

## MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

## SUMMARY BY CORE BUSINESS

(\$000)

	2015/16	2016/17 ESTIMATES		
OPERATING EXPENSES	Net	Gross	External Recoveries	Net
<b>Core Business</b>				
Services to Citizens and Businesses.....	17,923	30,842	(12,798)	18,044
Office of the Chief Information Officer.....	10,461	11,839	(1,380)	10,459
Logistics and Business Services.....	2,853	44,905	(41,996)	2,909
Real Property.....	269,309	386,946	(104,896)	282,050
Technology Solutions.....	146,049	171,425	(25,353)	146,072
Innovation and Technology.....	2,401	3,254	(2)	3,252
Transfers to Crown Corporations and Agencies.....	12,350	12,350	—	12,350
Executive and Support Services.....	17,667	16,863	(2)	16,861
<b>TOTAL OPERATING EXPENSES.....</b>	<b>479,013</b>	<b>678,424</b>	<b>(186,427)</b>	<b>491,997</b>
<b>CAPITAL EXPENDITURES</b>	<b>Net</b>	<b>Disbursements</b>	<b>Receipts</b>	<b>Net</b>
<b>Core Business</b>				
Office of the Chief Information Officer.....	41,590	55,339	—	55,339
Real Property.....	132,275	133,752	—	133,752
Technology Solutions.....	18,561	15,558	—	15,558
Executive and Support Services.....	10	10	—	10
<b>TOTAL CAPITAL EXPENDITURES.....</b>	<b>192,436</b>	<b>204,659</b>	<b>—</b>	<b>204,659</b>
<b>LOANS, INVESTMENTS AND OTHER REQUIREMENTS</b>	<b>Net</b>	<b>Disbursements</b>	<b>Receipts</b>	<b>Net</b>
<b>Core Business</b>				
Real Property.....	—	4,500	(4,000)	500
<b>TOTAL LOANS, INVESTMENTS AND OTHER REQUIREMENTS.....</b>	<b>—</b>	<b>4,500</b>	<b>(4,000)</b>	<b>500</b>

**MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES**  
**CORE BUSINESS SUMMARY**  
(\$000)

	Change from Restated Estimates 2015/16	Explanation of Changes
<b>OPERATING EXPENSE</b>		
<b>Core Business</b>		
Services to Citizens and Businesses	121	This is the result of a net increase to the salaries and benefits budget to support the Economic Stability Mandate.
Office of the Chief Information Officer	(2)	This is the result of a reduction for a prior year program transfer with Ministry of Finance offset by a net increase to the salaries and benefits budget to support the Economic Stability Mandate.
Logistics and Business Services	56	This is the result of a net increase to the salaries and benefits budget to support the Economic Stability Mandate partially offset by a reduction due to a prior year program transfer with Ministry of Finance.
Real Property	12,741	This is the result increases of \$12.017M for operating costs associated with the Okanagan Correctional Centre, \$0.698M for operating costs associated with the Wood Innovation and Design Centre, and a net increase to the salaries and benefits budget to support the Economic Stability Mandate.
Technology Solutions	23	This is the result of a net increase to the salaries and benefits budget to support the Economic Stability Mandate.
Innovation and Technology	851	This is primarily the result of a \$0.850M increase to support the BCTECH Strategy funded from operational savings from Executive and Support Services.
Transfers to Crown Corporations and Agencies	0	No change
Executive and Support Services	(806)	This is primarily the result of \$0.850M of operational savings transferred to Innovation and Technology to support the BCTECH Strategy, offset by a net increase to the salaries and benefits budget to support the Economic Stability Mandate.
<b>TOTAL OPERATING EXPENSES</b>	<b><u>12,984</u></b>	
<b>CAPITAL EXPENDITURES</b>		
<b>Core Business</b>		
Office of the Chief Information Officer	13,749	Increase funding in the IM/IT corporate funding envelopes to support modernization/transformation projects and the maintenance of government information systems.
Real Property	1,477	Increase primarily due to costs for the Willingdon Lands Redevelopment, Surrey Justice Precinct Expansion, and Routine Capital projects, offset by decreases primarily related to the Okanagan Correctional Centre.
Technology Solutions	(3,003)	Decrease primarily due to costs for the Strategic Transformation & Mainframe Services (STMS) project.
Executive and Support Services	0	No change
<b>TOTAL CAPITAL EXPENSES</b>	<b><u>12,223</u></b>	
<b>LOANS, INVESTMENTS AND OTHER REQUIREMENTS</b>		
<b>Core Business</b>		
Real Property	500	Funding has been provided to the ministry to offset costs associated with the preparation of assets for disposition. Over the course of the program expenditures will be fully offset by a portion of the sales proceeds. In fiscal 16/17 sales proceeds are forecast to be \$4.000M while costs will be \$4.500M. In Fiscal 14/15, there were expenditures of \$5.500M with offsetting sales proceeds of \$5.500M. There is no fiscal plan impact over the 16/17 to 18/19 period.
<b>TOTAL LOANS, INVESTMENTS AND OTHER REQUIREMENTS</b>	<b><u>500</u></b>	

## MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

## VOTED DESCRIPTIONS

(\$000)

Estimates 2015/16	Estimates 2016/17
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## VOTE 42 — MINISTRY OPERATIONS

This vote provides for the programs and operations described in the voted appropriations under the following core businesses: Services to Citizens and Businesses, Office of the Chief Information Officer, Logistics and Business Services, Real Property, Technology Solutions, Innovation and Technology, Transfers to Crown Corporations and Agencies, and Executive and Support Services.

## SERVICES TO CITIZENS AND BUSINESSES

## Voted Appropriations

Service BC Operations.....	16,472	16,623
BC Online.....	822	810
BC Registry Services.....	1	1
BC Stats.....	628	610
	<u>17,923</u>	<u>18,044</u>

**Voted Appropriations Description:** This sub-vote provides for service delivery to the public through multiple access points, including over the counter, telephone, and online; and implementation of cross-government service delivery initiatives to improve service delivery to citizens and businesses. In addition, this sub-vote provides for corporate, personal property, manufactured home, and business registry services for citizens and the business community. This sub-vote also provides for the production of economic, social, business, and demographic statistical information along with data dissemination, survey, and analytic services for government under the *Statistics Act*. Costs may be recovered from ministries, Crown agencies, boards and commissions, the federal government, other public sector organizations, public and private organizations, and the public for products and services described within this sub-vote.

## OFFICE OF THE CHIEF INFORMATION OFFICER

## Voted Appropriation

Office of the Chief Information Officer.....	<u>10,461</u>	<u>10,459</u>
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**Voted Appropriation Description:** This sub-vote provides for strategic information management and technology governance and direction for government. This includes development of standards, policies, and programs to support government initiatives; review of ministry information management and technology initiatives; information security; and promoting and integrating information technology to improve citizen-centred service delivery. This sub-vote also includes services related to the provision of advice and support to government in relation to the transformation of information technology and business processes. Funding may be provided to other organizations to support these initiatives. Costs may be recovered from ministries, Crown agencies, boards and commissions, and other parties both internal and external to government for services described within this sub-vote.

## LOGISTICS AND BUSINESS SERVICES

## Voted Appropriation

Logistics and Business Services.....	<u>2,863</u>	<u>2,909</u>
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**Voted Appropriation Description:** This sub-vote provides for procurement and supply services, including warehousing, product distribution, asset disposition services, mail distribution, print and publications, and procurement; and intellectual property services to ministries and external customers. Costs may be recovered from ministries, Crown agencies, boards and commissions, other public sector organizations, public and private organizations, and the public for products and services described within this sub-vote.

**MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES**  
**OPERATING EXPENSE BY CORE BUSINESS**  
(\$000)  
**VOTE 42 - MINISTRY OPERATIONS**

	Change from Restated Estimates 2015/16	Explanation of Changes
<b>SERVICE TO CITIZENS AND BUSINESSES</b>		
Services BC Operations	151	This is the result of a net increase to the salaries and benefits budget to support the Economic Stability Mandate.
BC Online	(12)	This is the result of a change in benefits budget
BC Registry Services	0	No Change
BC Stats	(18)	This is the result of a change in benefits budget
	121	
<b>OFFICE OF THE CHIEF INFORMATION OFFICER</b>		
Office of the Chief Information Officer	(2)	This is the result of a reduction for a prior year program transfer with Ministry of Finance offset by a net increase to the salaries and benefits budget to support the Economic Stability Mandate.
<b>LOGISTICS AND BUSINESS SERVICES</b>		
Logistics and Business Services	56	This is the result of a net increase to the salaries and benefits budget to support the Economic Stability Mandate partially offset by a reduction due to a prior year program transfer with Ministry of Finance.

## MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

## VOTED DESCRIPTIONS

(\$000)

	Estimates 2015/16	Estimates 2016/17
<b>REAL PROPERTY</b>		
Voted Appropriation		
Real Property.....	269,309	282,050
<p><b>Voted Appropriation Description:</b> This sub-vote provides for the delivery of property and real estate services, client services, strategic infrastructure planning, supply management, and project coordination services related to facilities, including property management, environmental, and technical services, as well as the purchase and disposal of properties as outlined under the <i>Public Agency Accommodation Act</i>. Property and real estate services may include the acquisition and/or disposal of properties on behalf of government and government organizations. Costs associated with the successful disposal of property are recovered from the proceeds of disposal. Costs may also be recovered from ministries, Crown agencies, boards and commissions, and other parties both internal and external to government for services described within this sub-vote.</p>		
<b>TECHNOLOGY SOLUTIONS</b>		
Voted Appropriation		
Technology Solutions.....	146,049	146,072
<p><b>Voted Appropriation Description:</b> This sub-vote provides for strategic infrastructure planning, supply management, operational support, and project coordination services related to information technology; corporate business application management; and information technology infrastructure, including network services, desktop services, identity management, security operations, voice and data communications, application hosting, and data services. Costs may be recovered from ministries, Crown agencies, boards and commissions, and other parties both internal and external to government for products and services described within this sub-vote.</p>		
<b>INNOVATION AND TECHNOLOGY</b>		
Voted Appropriation		
Innovation and Technology.....	2,401	3,252
<p><b>Voted Appropriation Description:</b> This sub-vote provides for the policy, administration, operation, delivery, and support of research, innovation, technology, and commercialization programs and services; developing and implementing strategies; providing strategic direction to remove barriers to innovation and commercialization; and providing financial support for projects, programs, initiatives, and trusts that support academic excellence and economic growth and diversification throughout the province. Costs may be recovered from ministries, Crown agencies, boards and commissions, other levels of government, and other organizations for services described within this sub-vote.</p>		
<b>TRANSFERS TO CROWN CORPORATIONS AND AGENCIES</b>		
Voted Appropriations		
British Columbia Innovation Council.....	6,090	6,090
Knowledge Network Corporation.....	6,260	6,260
	12,350	12,350
<p><b>Voted Appropriations Description:</b> This sub-vote provides for transfers to Crown corporations and agencies including the British Columbia Innovation Council and the Knowledge Network Corporation.</p>		



**MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES**  
**OPERATING EXPENSE BY CORE BUSINESS**  
*(\$000)*

**VOTE 42 - MINISTRY OPERATIONS**

Change from  
Restated  
Estimates  
2015/16

**Explanation of Changes**

**REAL PROPERTY**

Real Property

12,741

This is the result increases of \$12.017M for operating costs associated with the Okanagan Correctional Centre, \$0.698M for operating costs associated with the Wood Innovation and Design Centre, and a net increase to the salaries and benefits budget to support the Economic Stability Mandate.

**TECHNOLOGY SOLUTIONS**

Technology Solutions

23

This is the result of a net increase to the salaries and benefits budget to support the Economic Stability Mandate.

**INNOVATION AND TECHNOLOGY**

Innovation and Technology

851

This is primarily the result of a \$0.850M increase to support the BCTECH Strategy funded from operational savings from Executive and Support Services.

**TRANSFERS TO CROWN CORPORATIONS AND AGENCIES**

British Columbia Innovation Council

0

No Change

Knowledge Network Corporation

0

No Change

**MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES**

**VOTED DESCRIPTIONS**

(\$000)

	Estimates 2015/16	Estimates 2016/17
<b>EXECUTIVE AND SUPPORT SERVICES</b>		
<b>Voted Appropriations</b>		
Minister's Office.....	565	564
Corporate Services.....	17,102	16,297
	<u>17,667</u>	<u>16,861</u>
<p><b>Voted Appropriations Description:</b> This sub-vote provides for the office of the Minister of Technology, Innovation and Citizens' Services and includes salaries, benefits, allowances, and operating expenses for the minister and the minister's staff. This sub-vote provides for executive direction of the ministry and administrative support services, including legislative and policy support, corporate planning, performance management, corporate human resource strategies, including employee engagement and employee communications; and other administrative services, including financial, information technology, and information management. Costs may be recovered from ministries, Crown agencies, boards and commissions, and other parties both internal and external to government for services described within this sub-vote.</p>		
<b>VOTE 42 — MINISTRY OPERATIONS</b>	<b>479,013</b>	<b>491,997</b>

**MINISTRY GROUP ACCOUNT CLASSIFICATION SUMMARY**

<b>GROUP ACCOUNT CLASSIFICATION</b>		
Salaries and Benefits .....	119,412	118,854
Operating Costs .....	604,526	611,571
Government Transfers .....	14,065	13,965
Other Expenses .....	100,413	107,086
Internal Recoveries .....	(173,272)	(173,052)
External Recoveries .....	(186,131)	(186,427)
<b>TOTAL OPERATING EXPENSES</b> .....	<b>479,013</b>	<b>491,997</b>

**MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES**  
**OPERATING EXPENSE BY CORE BUSINESS**  
(\$000)

**VOTE 42 - MINISTRY OPERATIONS**

Change from  
Restated  
Estimates  
2015/16

**Explanation of Changes**

**EXECUTIVE AND SUPPORT SERVICES**

Minister's Office	(1)	This is the result of a change in benefits budget
Corporate Services	(805)	This is primarily the result of \$0.850M of operational savings transferred to Innovation and Technology to support the BCTECH Strategy, offset by a net increase to the salaries and benefits budget to support the Economic Stability Mandate.

**VOTE 42 MINISTRY OPERATIONS**

**12,984**

## MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

LOANS, INVESTMENTS AND OTHER REQUIREMENTS BY CORE BUSINESS  
(\$000)

	Estimates 2015/16	Estimates 2016/17
<b>REAL PROPERTY</b>		
RELEASE OF ASSETS FOR ECONOMIC GENERATION — Disbursements represent expenditures associated with the development and sale of surplus properties and/or buildings on behalf of the province. Receipts represent the proceeds of the sale of the properties and/or buildings applied to costs. Administration costs are funded through the ministry's voted appropriations.		
Disbursements.....	5,500	4,500
Receipts.....	<u>(5,500)</u>	<u>(4,000)</u>
Net Cash Requirement (Source).....	<u>—</u>	<u>500</u>

**MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES**  
**LOANS, INVESTMENTS AND OTHER REQUIREMENTS**  
*(\$000)*

	Change from Restated Estimates 2015/16	Explanation of Changes
<b>REAL PROPERTY</b>		
Real Property	500	Funding has been provided to the ministry to offset costs associated with the preparation of assets for disposition. Over the course of the program expenditures will be fully offset by a portion of the sales proceeds. In fiscal 16/17 sales proceeds are forecast to be \$4.000M while costs will be \$4.500M. In Fiscal 14/15, there were expenditures of \$5.500M with offsetting sales proceeds of \$5.500M. There is no fiscal plan impact over the 16/17 to 18/19 period.
	<u>500</u>	



## MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

The mission of the Ministry of Technology, Innovation and Citizens' Services is to grow British Columbia's technology sector; champion innovation; and enable the delivery of cost-effective, accessible, and responsive services.

### MINISTRY SUMMARY

(\$000)

	Estimates 2015/16 <sup>1</sup>	Estimates 2016/17
<b>VOTED APPROPRIATION</b>		
Vote 42 — Ministry Operations.....	479,013	491,997
<b>OPERATING EXPENSES</b>	<u>479,013</u>	<u>491,997</u>
<b>CAPITAL EXPENDITURES <sup>2</sup></b>	192,436	204,659
<b>LOANS, INVESTMENTS AND OTHER REQUIREMENTS <sup>3</sup></b>	—	500
<b>REVENUE COLLECTED FOR, AND TRANSFERRED TO, OTHER ENTITIES <sup>4</sup></b>	—	—

#### NOTES

<sup>1</sup> For comparative purposes, figures shown for the 2015/16 operating expenses; capital expenditures; loans, investments and other requirements; and revenue collected for, and transferred to, other entities are restated to be consistent with the presentation of 2016/17 *Estimates*. Schedule A presents a detailed reconciliation of the restatement of operating expenses and capital expenditures.

<sup>2</sup> Details of capital expenditures are presented in Schedule C.

<sup>3</sup> Details of loans, investments and other requirements are presented in Schedule D.

<sup>4</sup> Details of revenue collected for, and transferred to, other entities are presented in Schedule E.

## MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

## SUMMARY BY CORE BUSINESS

(\$000)

	2015/16	2016/17 ESTIMATES		
	Net	Gross	External Recoveries	Net
<b>OPERATING EXPENSES</b>				
<b>Core Business</b>				
Services to Citizens and Businesses.....	17,923	30,842	(12,798)	18,044
Office of the Chief Information Officer.....	10,461	11,839	(1,380)	10,459
Logistics and Business Services.....	2,853	44,905	(41,996)	2,909
Real Property.....	269,309	386,946	(104,896)	282,050
Technology Solutions.....	146,049	171,425	(25,353)	146,072
Innovation and Technology.....	2,401	3,254	(2)	3,252
Transfers to Crown Corporations and Agencies.....	12,350	12,350	—	12,350
Executive and Support Services.....	17,667	16,863	(2)	16,861
<b>TOTAL OPERATING EXPENSES.....</b>	<b>479,013</b>	<b>678,424</b>	<b>(186,427)</b>	<b>491,997</b>
<b>CAPITAL EXPENDITURES</b>				
	Net	Disbursements	Receipts	Net
<b>Core Business</b>				
Office of the Chief Information Officer.....	41,590	55,339	—	55,339
Real Property.....	132,275	133,752	—	133,752
Technology Solutions.....	18,561	15,558	—	15,558
Executive and Support Services.....	10	10	—	10
<b>TOTAL CAPITAL EXPENDITURES.....</b>	<b>192,436</b>	<b>204,659</b>	<b>—</b>	<b>204,659</b>
<b>LOANS, INVESTMENTS AND OTHER REQUIREMENTS</b>				
	Net	Disbursements	Receipts	Net
<b>Core Business</b>				
Real Property.....	—	4,500	(4,000)	500
<b>TOTAL LOANS, INVESTMENTS AND OTHER REQUIREMENTS.....</b>	<b>—</b>	<b>4,500</b>	<b>(4,000)</b>	<b>500</b>



# MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

## VOTED DESCRIPTIONS

(\$000)

Estimates  
2015/16

Estimates  
2016/17

### VOTE 42 — MINISTRY OPERATIONS

This vote provides for the programs and operations described in the voted appropriations under the following core businesses: Services to Citizens and Businesses, Office of the Chief Information Officer, Logistics and Business Services, Real Property, Technology Solutions, Innovation and Technology, Transfers to Crown Corporations and Agencies, and Executive and Support Services.

#### SERVICES TO CITIZENS AND BUSINESSES

##### Voted Appropriations

Service BC Operations.....	16,472	16,623
BC Online.....	822	810
BC Registry Services.....	1	1
BC Stats.....	628	610
	<u>17,923</u>	<u>18,044</u>

**Voted Appropriations Description:** This sub-vote provides for service delivery to the public through multiple access points, including over the counter, telephone, and online; and implementation of cross-government service delivery initiatives to improve service delivery to citizens and businesses. In addition, this sub-vote provides for corporate, personal property, manufactured home, and business registry services for citizens and the business community. This sub-vote also provides for the production of economic, social, business, and demographic statistical information along with data dissemination, survey, and analytic services for government under the *Statistics Act*. Costs may be recovered from ministries, Crown agencies, boards and commissions, the federal government, other public sector organizations, public and private organizations, and the public for products and services described within this sub-vote.

#### OFFICE OF THE CHIEF INFORMATION OFFICER

##### Voted Appropriation

Office of the Chief Information Officer.....	<u>10,461</u>	<u>10,459</u>
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**Voted Appropriation Description:** This sub-vote provides for strategic information management and technology governance and direction for government. This includes development of standards, policies, and programs to support government initiatives; review of ministry information management and technology initiatives; information security; and promoting and integrating information technology to improve citizen-centred service delivery. This sub-vote also includes services related to the provision of advice and support to government in relation to the transformation of information technology and business processes. Funding may be provided to other organizations to support these initiatives. Costs may be recovered from ministries, Crown agencies, boards and commissions, and other parties both internal and external to government for services described within this sub-vote.

#### LOGISTICS AND BUSINESS SERVICES

##### Voted Appropriation

Logistics and Business Services.....	<u>2,853</u>	<u>2,909</u>
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**Voted Appropriation Description:** This sub-vote provides for procurement and supply services, including warehousing, product distribution, asset disposition services, mail distribution, print and publications, and procurement; and intellectual property services to ministries and external customers. Costs may be recovered from ministries, Crown agencies, boards and commissions, other public sector organizations, public and private organizations, and the public for products and services described within this sub-vote.

## MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

## VOTED DESCRIPTIONS

(\$000)

	Estimates 2015/16	Estimates 2016/17
<b>REAL PROPERTY</b>		
<b>Voted Appropriation</b>		
Real Property.....	269,309	282,050

**Voted Appropriation Description:** This sub-vote provides for the delivery of property and real estate services, client services, strategic infrastructure planning, supply management, and project coordination services related to facilities, including property management, environmental, and technical services, as well as the purchase and disposal of properties as outlined under the *Public Agency Accommodation Act*. Property and real estate services may include the acquisition and/or disposal of properties on behalf of government and government organizations. Costs associated with the successful disposal of property are recovered from the proceeds of disposal. Costs may also be recovered from ministries, Crown agencies, boards and commissions, and other parties both internal and external to government for services described within this sub-vote.

## TECHNOLOGY SOLUTIONS

<b>Voted Appropriation</b>		
Technology Solutions.....	146,049	146,072

**Voted Appropriation Description:** This sub-vote provides for strategic infrastructure planning, supply management, operational support, and project coordination services related to information technology; corporate business application management; and information technology infrastructure, including network services, desktop services, identity management, security operations, voice and data communications, application hosting, and data services. Costs may be recovered from ministries, Crown agencies, boards and commissions, and other parties both internal and external to government for products and services described within this sub-vote.

## INNOVATION AND TECHNOLOGY

<b>Voted Appropriation</b>		
Innovation and Technology.....	2,401	3,252

**Voted Appropriation Description:** This sub-vote provides for the policy, administration, operation, delivery, and support of research, innovation, technology, and commercialization programs and services; developing and implementing strategies; providing strategic direction to remove barriers to innovation and commercialization; and providing financial support for projects, programs, initiatives, and trusts that support academic excellence and economic growth and diversification throughout the province. Costs may be recovered from ministries, Crown agencies, boards and commissions, other levels of government, and other organizations for services described within this sub-vote.

## TRANSFERS TO CROWN CORPORATIONS AND AGENCIES

<b>Voted Appropriations</b>		
British Columbia Innovation Council.....	6,090	6,090
Knowledge Network Corporation.....	6,260	6,260
	12,350	12,350

**Voted Appropriations Description:** This sub-vote provides for transfers to Crown corporations and agencies including the British Columbia Innovation Council and the Knowledge Network Corporation.

## MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

## VOTED DESCRIPTIONS

(\$000)

	Estimates 2015/16	Estimates 2016/17
<b>EXECUTIVE AND SUPPORT SERVICES</b>		
<b>Voted Appropriations</b>		
Minister's Office.....	565	<b>564</b>
Corporate Services.....	17,102	<b>16,297</b>
	<u>17,667</u>	<u><b>16,861</b></u>
<p><b>Voted Appropriations Description:</b> This sub-vote provides for the office of the Minister of Technology, Innovation and Citizens' Services and includes salaries, benefits, allowances, and operating expenses for the minister and the minister's staff. This sub-vote provides for executive direction of the ministry and administrative support services, including legislative and policy support, corporate planning, performance management, corporate human resource strategies, including employee engagement and employee communications; and other administrative services, including financial, information technology, and information management. Costs may be recovered from ministries, Crown agencies, boards and commissions, and other parties both internal and external to government for services described within this sub-vote.</p>		
<b>VOTE 42 — MINISTRY OPERATIONS</b>	479,013	<b>491,997</b>

## MINISTRY GROUP ACCOUNT CLASSIFICATION SUMMARY

## GROUP ACCOUNT CLASSIFICATION

Salaries and Benefits .....	119,412	<b>118,854</b>
Operating Costs .....	604,526	<b>611,571</b>
Government Transfers .....	14,065	<b>13,965</b>
Other Expenses .....	100,413	<b>107,086</b>
Internal Recoveries .....	(173,272)	<b>(173,052)</b>
External Recoveries .....	(186,131)	<b>(186,427)</b>
<b>TOTAL OPERATING EXPENSES.....</b>	<u>479,013</u>	<u><b>491,997</b></u>

## MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

## LOANS, INVESTMENTS AND OTHER REQUIREMENTS BY CORE BUSINESS

(\$000)

	Estimates 2015/16	Estimates 2016/17
<b>REAL PROPERTY</b>		
RELEASE OF ASSETS FOR ECONOMIC GENERATION — Disbursements represent expenditures associated with the development and sale of surplus properties and/or buildings on behalf of the province. Receipts represent the proceeds of the sale of the properties and/or buildings applied to costs. Administration costs are funded through the ministry's voted appropriations.		
Disbursements.....	5,500	<b>4,500</b>
Receipts.....	<u>(5,500)</u>	<u><b>(4,000)</b></u>
Net Cash Requirement (Source).....	<u>—</u>	<u><b>500</b></u>

MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES  
(\$000)

**VOTE 42 Ministry Operations**

Description	Total 2015/16 Operating Expenses	50	51	52	54	Total Salaries and Benefits	55	57	59	60	63	65	67	68	69
<b>Services to Citizens and Businesses</b>	<b>17,923</b>	<b>21,411</b>	<b>227</b>	<b>5,284</b>	—	<b>26,922</b>	—	<b>451</b>	<b>119</b>	<b>2,087</b>	<b>4,426</b>	<b>1,170</b>	—	<b>20</b>	<b>436</b>
Service BC Operations	16,472	13,505	173	3,363	—	17,041	—	381	2	60	548	553	—	—	26
BC Online	822	2,286	2	555	—	2,843	—	10	86	437	3,035	110	—	—	—
BC Registry Services	1	1,975	32	480	—	2,487	—	33	11	—	802	382	—	20	23
BC Stats	628	3,645	20	886	—	4,551	—	27	20	1,590	41	125	—	—	387
<b>Office of the Chief Information Officer</b>	<b>10,461</b>	<b>7,834</b>	<b>37</b>	<b>1,904</b>	—	<b>9,775</b>	—	<b>122</b>	<b>290</b>	<b>1,641</b>	<b>725</b>	<b>522</b>	—	—	—
<b>Logistics and Business Services</b>	<b>2,853</b>	<b>19,791</b>	<b>597</b>	<b>4,809</b>	—	<b>25,197</b>	—	<b>91</b>	<b>866</b>	<b>361</b>	<b>5,442</b>	<b>924</b>	—	—	<b>2,573</b>
<b>Real Property</b>	<b>269,309</b>	<b>14,001</b>	<b>34</b>	<b>3,402</b>	—	<b>17,437</b>	—	<b>250</b>	<b>300</b>	<b>350</b>	<b>200</b>	<b>300</b>	—	—	<b>23,935</b>
<b>Technology Solutions</b>	<b>146,049</b>	<b>22,113</b>	<b>188</b>	<b>5,807</b>	—	<b>28,108</b>	—	<b>78</b>	<b>1,046</b>	<b>3,188</b>	<b>181,898</b>	<b>720</b>	—	—	—
<b>Innovation and Technology</b>	<b>2,401</b>	<b>701</b>	—	<b>170</b>	—	<b>871</b>	<b>10</b>	<b>30</b>	—	<b>308</b>	<b>11</b>	<b>905</b>	—	—	—
<b>Transfers to Crown Corporations and Agencies</b>	<b>12,350</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
British Columbia Innovation Council	6,090	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Knowledge Network Corporation	6,260	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<b>Executive and Support Services</b>	<b>17,667</b>	<b>8,408</b>	<b>11</b>	<b>2,071</b>	<b>54</b>	<b>10,544</b>	—	<b>104</b>	<b>52</b>	<b>355</b>	<b>4,433</b>	<b>197</b>	—	—	—
Minister's Office	565	238	1	78	54	371	—	38	—	—	16	11	—	—	—
Corporate Services	17,102	8,170	10	1,993	—	10,173	—	66	52	355	4,417	186	—	—	—
<b>Total</b>	<b>479,013</b>	<b>94,259</b>	<b>1,094</b>	<b>23,447</b>	<b>54</b>	<b>118,854</b>	<b>10</b>	<b>1,126</b>	<b>2,673</b>	<b>8,290</b>	<b>197,135</b>	<b>4,738</b>	—	<b>20</b>	<b>26,944</b>

70	72	73	75	Total Operating Costs	77	79	80	Total Govt Transfers	81	83	85	Total Other Expenses	86	88	Total Internal Recoveries	89	90	Total External Recoveries	Total 2016/17 Operating Expenses
—	—	1,259	245	10,213	—	—	—	—	—	—	904	904	—	(7,197)	(7,197)	(400)	(12,398)	(12,798)	18,044
—	—	49	—	1,619	—	—	—	—	—	—	801	801	—	(1,638)	(1,638)	(400)	(800)	(1,200)	16,623
—	—	5	240	3,923	—	—	—	—	—	—	9	9	—	—	—	—	(5,965)	(5,965)	810
—	—	1,200	—	2,471	—	—	—	—	—	—	82	82	—	—	—	—	(5,039)	(5,039)	1
—	—	5	5	2,200	—	—	—	—	—	—	12	12	—	(5,559)	(5,559)	—	(594)	(594)	610
—	—	5	—	3,305	—	—	500	500	—	—	19	19	—	(1,760)	(1,760)	(1,230)	(150)	(1,380)	10,459
1,995	—	44	4,969	17,265	—	—	—	—	—	—	70,995	70,995	—	(68,552)	(68,552)	(12,397)	(29,599)	(41,996)	2,909
31	—	49,115	285,492	359,973	—	—	—	—	—	—	33,750	33,750	—	(24,214)	(24,214)	(65,966)	(38,930)	(104,896)	282,050
—	—	27,369	44	214,343	—	—	—	—	—	—	301	301	—	(71,327)	(71,327)	(13,874)	(11,479)	(25,353)	146,072
—	—	—	—	1,264	—	—	1,115	1,115	—	—	5	5	—	(1)	(1)	(1)	(1)	(2)	3,252
—	—	—	—	—	12,350	—	—	12,350	—	—	—	—	—	—	—	—	—	—	12,350
—	—	—	—	—	6,090	—	—	6,090	—	—	—	—	—	—	—	—	—	—	6,090
—	—	—	—	—	6,260	—	—	6,260	—	—	—	—	—	—	—	—	—	—	6,260
9	—	58	—	5,208	—	—	—	—	—	—	1,112	1,112	—	(1)	(1)	(1)	(1)	(2)	16,861
—	—	2	—	67	—	—	—	—	—	—	126	126	—	—	—	—	—	—	564
9	—	56	—	5,141	—	—	—	—	—	—	986	986	—	(1)	(1)	(1)	(1)	(2)	16,297
2,035	—	77,850	290,750	611,571	12,350	—	1,615	13,965	—	—	107,086	107,086	—	(173,052)	(173,052)	(93,869)	(92,558)	(186,427)	491,997

# Ministry of Technology, Innovation and Citizens' Services

## 2016/17 Budget Tracking

(\$ in Millions)

**2015/16 (all votes)** **\$492.889**

Adjustments:

- Transfer Information Management program areas to Ministry of Finance \$ (13.774)
- Transfer from JTST for the Wood Innovation and Design Centre \$ 0.698
- Transfer of building occupancy funding for lease costs \$ (0.211)
- Transfer corporate services funding to AVED for the Government Communications and Public Engagement (GCPE) Management Wage Increase \$ (0.572)
- Transfer funding to Ministry of Finance for the Corporate Signing Authority System support \$ (0.017)

Total \$ (13.876)

**2015/16 Estimates – Restated** **\$479.013**

2016/17 Estimates Adjustments

- Budget increase for the Okanagan Correctional Centre \$ 12.017
- Budget increase for the Wood Innovation and Design Centre \$ 0.698
- Budget increase to support the Economic Stability Mandate \$ 0.885
- Benefits Rate Change \$ (0.462)
- Transfer Information Management program areas to Ministry of Finance \$ (0.136)
- Transfer to Ministry of Finance for Corporate Accounting Services than in 2015/16 \$ (0.018)

Total \$ 12.984

**2016/17 Estimates (all votes)** **\$491.997**

## Resource Summary

Core Business Area	2015/16 Restated Estimates <sup>1</sup>	2016/17 Estimates	2017/18 Plan	2018/19 Plan
Operating Expenses (\$000)				
Services to Citizens and Businesses	17,923	18,044	18,389	18,746
Office of the Chief Information Officer	10,461	10,459	10,546	10,625
Logistics and Business Services	2,853	2,909	3,257	3,567
Real Property	269,309	282,050	290,165	290,452
Technology Solutions	146,049	146,072	146,381	146,653
Innovation and Technology	2,401	3,252	3,261	3,270
Transfers to Crown Corporations and Agencies <sup>2</sup>	12,350	12,350	12,350	12,350
Executive and Support Services	17,667	16,861	17,009	17,147
<b>Total</b>	<b>479,013</b>	<b>491,997</b>	<b>501,358</b>	<b>502,810</b>



Ministry Capital Expenditures (Consolidated Revenue Fund) (\$000)				
Office of the Chief Information Officer	41,590	55,339	78,130	74,820
Real Property	132,275	133,752	196,968	128,446
Technology Solutions	18,561	15,558	11,644	10,821
Executive and Support Services	10	10	10	10
<b>Total</b>	<b>192,436</b>	<b>204,659</b>	<b>286,752</b>	<b>214,097</b>
Other Financing Transactions (\$000)				
Release of Assets for Economic Generation				
Receipts	(5,500)	(4,000)	(5,000)	(0,500)
Disbursements	5,500	4,500	3,000	2,000
Net Cash (Requirements)	0,000	0,500	(2,000)	1,500
<b>Total Receipts</b>	<b>(5,500)</b>	<b>(4,000)</b>	<b>(5,000)</b>	<b>(0,500)</b>
<b>Total Disbursements</b>	<b>5,500</b>	<b>4,500</b>	<b>3,000</b>	<b>2,000</b>
<b>Total Net Cash Source (Requirements)</b>	<b>0,000</b>	<b>0,500</b>	<b>(2,000)</b>	<b>1,500</b>

<sup>1</sup>For comparative purposes, amounts shown for 2015/16 have been restated to be consistent with the presentation of the 2016/17 Estimates.

<sup>2</sup>For all years, includes \$6,090,000 for the BC Innovation Council, formerly presented within Innovation and Technology, and \$6,260,000 for the Knowledge Network Corporation, formerly presented within Executive and Support Services.

\*Further information on program funding and vote recoveries is available in the Estimates and Supplement to the Estimates."



**Ministry of  
Technology, Innovation and Citizens' Services**

**2016/17 – 2018/19  
SERVICE PLAN**

**February 2016**



For more information on the British Columbia Ministry of Technology, Innovation and Citizens' Services  
see Ministry Contact Information on Page 19 or contact:

**Ministry of Technology, Innovation and Citizens' Services:**

PO BOX 9440  
STN PROV GOVT  
VICTORIA, BC  
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or visit our website at

***<http://www.gov.bc.ca/citz>***

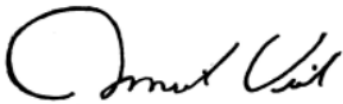
Published by the Ministry of Technology, Innovation and Citizens' Services

## **Minister**

### **Accountability Statement**



The *Ministry of Technology, Innovation and Citizens' Services 2016/17 - 2018/19 Service Plan* was prepared under my direction in accordance with the *Budget Transparency and Accountability Act*. I am accountable for the basis on which the plan has been prepared.

A handwritten signature in black ink, appearing to read 'Amrik Virk'.

Honourable Amrik Virk  
Minister of Technology, Innovation and Citizens' Services  
February 4, 2016

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## Purpose of the Ministry

The **Ministry of Technology, Innovation and Citizens' Services** (the ministry) performs a dynamic role in government to support businesses, citizens, government ministries and broader public sector organizations. The mandate of the ministry is to grow British Columbia's technology sector, champion innovation, and enable the delivery of cost-effective, accessible and responsive services. This means the ministry supports businesses by making it easier for them to work with government. It also works to make the province a destination for technology entrepreneurs, innovators and the organizations they lead, and ensures privacy and identity information is secured. The ministry meets the changing needs of its public sector clients in a cost-effective, accessible and responsive manner. It seeks out and leverages strategic vendor relationships and contracts so that the public sector – as a whole – can gain process and financial efficiencies. The Minister oversees the Knowledge Network Corporation, which delivers quality educational programming that is relevant and accessible to all citizens. The Minister also oversees the BC Innovation Council, the province's lead agency for accelerating the commercialization of technology and advancing entrepreneurship with partners located in all regions of the province.

## Strategic Direction and Context

The Minister's Mandate letter, addressed from the Premier on July 30, 2015, to the Honourable Amrik Virk, Minister of Technology, Innovation and Citizens' Services, recognizes the ministry for significant achievements in 2014/15. It also outlines an ongoing workplan for the ministry.

The mandate letter articulates the ministry's role in supporting the growth of a diverse economy, where private sector investments are welcomed and encouraged, and help secure long-lasting prosperity for the people of British Columbia. To this end, the ministry remains focused on several overarching objectives: support the *BC Jobs Plan* to build a strong economy and create high-paying jobs in the technology sector by using levers such as tax incentives to help businesses grow; deliver a #BCTECH Strategy that identifies and addresses barriers to growth in B.C.; and, help eliminate barriers to economic development by reducing the red-tape and regulatory burden for B.C. businesses and individuals.

The #BCTECH Strategy, developed in partnership with other ministries and stakeholder input, will accelerate British Columbia's economic performance by supporting innovation, commercialization and entrepreneurship. British Columbia's technology sector provides almost 87,000 jobs, across over 9,700 companies, and is a significant contributor to provincial economic output, consistently growing faster than the economy overall. The ministry is working closely with the British Columbia technology community on how government might enable the technology sector to best support economic growth and job creation.

Technology continues to transform how citizens interact with government, and the ministry is working to modernize service delivery to ensure the services citizens need and expect from their government are delivered as effectively as possible, at the same time ensuring that citizens' privacy is protected and information is secure. Seizing strategic opportunities to engage our vendors in innovative solutions to common service delivery challenges will help ensure that the ministry can make this vision a reality over the short and long term. The BC Services Card is an example of opportunities for innovation being realized. This ground-breaking Services Card will be used to provide more service enhancements and streamlining, allowing citizens to safely and securely access multiple government services, both in person and on-line.

The mandate letter also requires the ministry to ensure that its internal operations are managed in a fiscally responsible way so that financial efficiencies can be achieved. The ministry continues to contribute to government's overall fiscal discipline by looking for opportunities to streamline processes. It has embraced a Lean culture, with a focus on increased efficiency and continuous improvement, and, where public servants are engaged, empowered, supported and held accountable to continuously improve processes to deliver value to British Columbians.

On December 16, 2015, Premier Christy Clark announced that the Chief Records Officer and responsibility for information access, policy and operations would be transferred from this ministry to the Ministry of Finance, effective immediately. As such, any work and performance measures related to these functions have been removed from this service plan.

The remaining goals, objectives, strategies and performance measures of the ministry align with the Taxpayer Accountability Principles, reflecting the priorities and values of government and the citizens of British Columbia. The principles strengthen accountability, promote cost control, and ensure government operates in the best interest of taxpayers, including a requirement to establish a strong ethical code of conduct for all employees and executives. The Crown corporation reviews and core reviews, conducted to date, have identified opportunities to enhance public sector governance and increase public sector accountability to taxpayers. These principles will be built into the ongoing business of public sector entities to ensure the decisions they make reflect the priorities and values of government and their shareholders - the citizens of British Columbia.



# Goals, Objectives, Strategies and Performance Measures

## Goals, Objectives, Strategies and Performance Measures

The following three goals govern the ministry's day-to-day operations and strategic priorities:

**Goal 1:** Create conditions for B.C. businesses to be successful

**Goal 2:** Make it easier for citizens and businesses to interact with government

**Goal 3:** Deliver efficient and effective services to the Public Sector

These goals, combined with the objectives and strategies of the 2016/17 – 2018/19 Service Plan, align with the ministry's internal operations, while maintaining the external focus critical to the organization's success in serving the public. The objectives translate each goal into more specific desired outcomes. The strategies describe the key activities and initiatives that will be implemented in order to achieve the desired objectives. The performance measures linked to objectives are indicators for the progress being made.

Three-year targets have been set for each performance measure. Internal benchmarks are used to set targets because, in most cases, national standards do not exist.

### Goal 1: Create conditions for B.C. businesses to be successful

As per its mandate the ministry has delivered a Technology and Innovation Strategy (#BCTECH Strategy) to support diversification of the BC economy. The #BCTECH Strategy articulates how the ministry will support the technology industry to move ahead and attract and retain talent, employers and investors. One of the ministry's roles is to work with the BC Innovation Council to help foster collaboration between the technology industry, academia and other parts of government that will enable job growth. This kind of collaboration and co-operation will ensure that innovative ideas from industry and post-secondary institutions can become successful commercial ventures, and is one example of how the #BCTECH Strategy will help deliver on creating conditions for B.C. businesses to be successful. As the strategy unfolds over the course of the next year, the ministry may review the objectives and performance indicators it tracks through its Service Plan in relation to the #BCTECH Strategy.

In further support of small and medium businesses' success and economic development in the province, the ministry consults with the business community to find ways to streamline government services and processes. As a result of these consultations, a key focus will be to make it easier for businesses to access government procurement opportunities.

**Objective 1.1: Position B.C. as a destination for the technology sector and innovation****Strategies**

- Encourage the development, commercialization and adoption of technologies and processes that align with government priorities
- Work with private sector, post-secondary partners and other ministries in support of the #BCTECH Strategy
- Encourage talent development between universities and businesses

**Performance Measure 1: The number of co-op placements in private businesses in B.C.**

Performance Measure	2013/14 Baseline	2015/16 Forecast	2016/17 Target	2017/18 Target	2018/19 Target
The number of co-op placements in private businesses in B.C.	7,130	7,480	7,660	7,850	7,950

Data Source: BC Co-op Education Statistical database

**Discussion**

Achieving the goal of creating conditions for B.C. businesses to be successful involves facilitating their access to talent and to entrepreneurial expertise. The BC Innovation Council is responsible for developing programs to jump-start new companies. Currently, the BC Training Tax Credit program supports apprentices in industrial trades. A new BC Tech Co-op Grants program, launched in May 2015, will greatly support B.C. technology firms.

This measure contributes to business success by improving businesses' access to talent through increased co-op placements. Increasing co-op placements will also ensure that students have the necessary real-world experience in technology firms, which will improve the quality of their training and job prospects. Tracking the increase of co-op placements will validate the expansion of the BC Training Tax Credit Program with the BC Tech Co-op Grants program. For 2013/14, there were 11,898 total co-op placements, of which 7,130 were private business placements inside B.C.. These numbers are tracked by the BC Co-op Association and Accountability Council. 2013/14 was chosen as a baseline because it was the first full year of data available prior to the implementation of this new co-op grants program.

**Objective 1.2: Streamline processes and access to information and services so it's easier for businesses to access government resources****Strategies**

- Make it easier for small businesses to access and compete for government work by continuing to streamline the procurement process
- Partner with businesses to simplify and improve interactions with government

- Improve government's procurement system to enable a fully managed digital procurement process

## **Goal 2: Make it easier for citizens and businesses to interact with government**

Technology is rapidly affecting all aspects of our daily lives. Ministry research tells us that citizens and businesses want more choice and options to access government services and information, especially digitally. They also want modernized services with better integration across all government services provided by the ministry, whether it is in person, digitally or on the telephone. In expanding choice, and greater access to services, the ministry needs to ensure that their privacy and information is secure and protected; and that it is processing requests in an efficient and cost-effective manner.

### **Objective 2.1: Citizens and businesses can easily access government services and information**

#### **Strategies**

- Make it easier to access services and information with on-demand and self-service options
- Improve integration of in-person government services in communities
- Enable a consistent service experience for in-person, telephone and digital services

### **Performance Measure 2: Citizen Satisfaction with Service BC Centres and Contact Centre**

Performance Measure	2012/13 Baseline	2015/16 Forecast	2016/17 Target	2017/18 Target	2018/19 Target
Citizen Satisfaction	90%	Biennial Survey; next survey in 2016/17	At least 90%	Biennial Survey; next survey in 2018/19	At least 90%

Data Source: BC Stats

#### **Discussion**

This measure is based on a biennial survey that focuses on the satisfaction of citizens when they access government programs and information in person through Service BC Centres, and by telephone through the Service BC Contact Centre. The measure shows how satisfied citizens are with the overall quality of service delivery when they access government programs and services.

Although citizen satisfaction has been measured since 2002, the methodology for the collection of this data changed substantially in 2012/13 and that is why 2012/13 was selected as the baseline.

In order to increase the number of respondents, Service BC developed a web-based survey to replace the telephone survey. The weighted calculation is based on the volume of services, and includes satisfaction scores from Service BC Centres and the Contact Centre.

The 2014/15 Citizen Satisfaction with Service BC Centres and Contact Centre survey was conducted by BC Stats. The survey was administered in person (intercept survey) to 1,992 citizens at eight Service BC Centres across the province, and 99 citizens responded to an email survey.

The methodology for the Citizen Satisfaction survey is cost effective and logistically efficient, and provides an accurate measure of the organization's performance. Improvements will be sought to address response bias (e.g., not all citizens have an email address or were willing to provide a valid email address to the Contact Centre) and the relatively small sample drawn from the Contact Centre.

### **Performance Measure 3: Business Satisfaction with BC Registry Services**

<b>Performance Measure</b>	<b>2011/12 Baseline</b>	<b>2015/16 Forecast</b>	<b>2016/17 Target</b>	<b>2017/18 Target</b>	<b>2018/19 Target</b>
Business Satisfaction	89%	Biennial survey; next survey in 2016/17	At least 90%	Biennial survey; next survey in 2018/19	At least 90%

Data Source: BC Stats

### **Discussion**

The first Business Satisfaction Survey was conducted by BC Registry Services in 2011/12 to assist in assessing the quality of existing services and to provide a basis for strategic planning for the effective delivery of services in the future.

The survey establishes common measurement across a variety of services to business that will be used as the baseline for comparison with future assessments of satisfaction and service quality.

The 2014/15 Business Satisfaction Survey was conducted by BC Stats. A total of 15,500 businesses that had used Corporate Online, Name Requests Online and/or OneStop Business Registries were randomly selected to participate in the online survey. A total of 1,477 businesses responded and 87% of them were "*satisfied with the overall quality of the service delivery.*" These results are representative of the BC Registry Services clients. (For example, if the 2014/15 survey was repeatedly administered, then 95% of the time, the survey would find overall satisfaction on this key question to be between 85% and 89%. The margin of error is  $\pm 2\%$  at the 95% confidence level.)

The key satisfaction question was changed in 2014/15 to adhere to industry best practice (use of the enhanced Common Measurements Tool).

Overall satisfaction decreased slightly (from the 89% baseline in 2011/12 to 87% in 2014/15). Although business satisfaction remains high, strategies are underway to make it easier for businesses to interact with government.

## Objective 2.2: Expand and improve access to digital service delivery

### Strategies

- Support the expansion of high-speed Internet services and cellular coverage in rural and remote areas
- Improve digital service delivery for businesses and citizens

### Performance Measure 4: Percentage of First Nations with access to broadband facilities

Performance Measure	2007/08 Baseline	2015/16 Forecast	2016/17 Target	2017/18 Target	2018/19 Target
Percentage of First Nations with access to broadband facilities	42% (85 of 203 First Nations)	96% (195 of 203 First Nations)	100% (203 of 203 First Nations)	100% (Complete)	100% (Complete)

Data Sources: Network BC and All Nations Trust Company

### Discussion

This performance measure demonstrates the level of success in enabling First Nations communities' access to broadband Internet services. The province provides assistance in the development of upgrade strategies to telecommunication transport and infrastructure that allows service providers to connect First Nations homes, businesses and schools to the Internet.

The provincial government continues to support First Nations-led connectivity initiatives that provide access to broadband Internet services. The targets presented are based on information received from different sources, and are subject to change during the upgrade process depending on weather conditions, terrain and remoteness of each community.

This measure does not take into account the number of communities with last mile infrastructure in place, the number of communities with local high-speed services available, or the take-up (i.e., end-user) usage rate of how many users there are. The province does not have direct control over the targets, as this initiative is being delivered externally by First Nations organizations.

The performance measure is anticipated to be completed by March 31, 2017.

## Objective 2.3: Streamlining Service Delivery for B.C. Citizens

### Strategies

- Provide effective and secure identity information management solutions that help citizens to access a wider range of services using the BC Services Card

- Ensure optimal training for the public service and raise awareness on the security of government information and protection of citizens' personal information

### **Performance Measure 5: Number of citizens issued a BC Services Card**

<b>Performance Measure</b>	<b>2015/16 Forecast</b>	<b>2016/17 Target</b>	<b>2017/18 Target</b>	<b>2018/19 Target</b>
Number of citizens issued a BC Services Card	2,800,000	3,500,000	3,700,000	4,000,000

Data Source: Provincial Identity Information Management Program

### **Discussion**

This performance measure demonstrates the progress in issuing BC Services Cards to citizens around the province. The BC Services Card, directly supported by the ministry through 62 Service BC offices across the province, is a key enabler for government to implement service enhancements and address citizens' needs and demands for self-serve and streamlined services.

The BC Services Card is designed to make it easier for British Columbia residents to access multiple services with just one card, eliminating the need for multiple user-IDs and passwords. Health Insurance British Columbia (HIBC) and the Insurance Corporation of British Columbia offer *One Stop Seamless* services through 29 of our BC Services Card offices, including identity proofing, ID document submission, HIBC account updating and issuance of the BC Services Card. The BC Services Card will also allow citizens to manage their BC Service Card preferences, like their email address and passcode changes, and view their card use history. The card is designed to keep citizens' personal information secure, using technology with advanced security features. MTICS is actively working with ministries to identify onboarding opportunities. As government services onboard to the BC Services Card, multiple services will become available both online and in person.

A small number of users will onboard in 2016, allowing citizens the opportunity to use the card and providing government the opportunity to engage with citizens and assess their user experience.

## **Goal 3: Deliver efficient and effective services to the Public Sector**

In today's fiscal environment, government requires the ministry to be innovative about assets like real estate and technology so that they are well managed, cost-effective and secure. The ministry must also ensure that public service employees have the workplace tools they need to do their work effectively, such as up-to-date systems and equipment, policies and flexible office space options.

**Objective 3.1: Information technology and real estate services meet the changing needs of core government and broader public sector organizations**

**Strategies**

- Continue to set the strategic direction for information technology and, working in partnership with the Ministry of Finance, information management
- Foster strategic vendor relationships for cost savings and innovative service development
- Optimize government's real estate portfolio for space utilization, safety and security, and support government's service delivery model
- Leverage real estate activities to advance broader government objectives such as greenhouse gas reduction, accessibility and innovation

**Performance Measure 6: Broader Public Sector Organizations Using Data Centres**

Performance Measure	2015/16 Forecast	2016/17 Target	2017/18 Target	2018/19 Target
Number of broader public sector organizations using Data Centres	11	13	15	15

Data Source: Hosting Administrator's Office

**Discussion**

This measure demonstrates that the ministry is providing information technology services that meet the changing needs of the broader public sector. These services include data centres, servers and data storage for the provision of applications and related information processing.

Use of services in the Province Data Centres allows clients to maintain uptime, mitigate risks (providing enhanced security and protection against outages due to natural disasters) and take advantage of economies of scale through aggregated demand.

**Performance Measure 7: Percentage of vacant office space**

Performance Measure	2011/12 Baseline	2015/16 Forecast	2016/17 Target	2017/18 Target	2018/19 Target
Percentage of vacant office space	1.5%	<1.5%	<1.65%	<1.65%	<1.65%

Data Source: @REALBC, Real Property Division's real property management system

## Discussion

This measure demonstrates the ministry's efficiency in managing office space infrastructure. This includes the prudent procurement and allocation of facilities for government program use.

Diligent office space management reduces costs and demonstrates stewardship of resources on behalf of citizens. Care must be taken in establishing targets, as prudent holdings improve effectiveness, reduce costs by providing space for shorter-term programs and temporary space during renovations, and improve responsiveness to emerging needs. The base year for this measure was based on the first full year of operation for an integrated workplace management system containing portfolio inventory data.

## Objective 3.2: Public service employees have the workplace tools they need to do their jobs effectively

### Strategies

- Implement innovative office space designs to enhance effective employee collaboration and mobility
- Enable flexibility and choice in technology tools by developing creative and secure approaches for staff to conduct their work

## Objective 3.3: Provide core government and the broader public sector with cost-effective, accessible and responsive services

### Strategies

- Leverage the benefits of shared services and strategic partnerships across government and the broader public sector
- Improve corporate supply arrangements to further reduce costs and increase value for money
- Continuously improve the effectiveness of business processes

## Performance Measure 8: Administrative Cost of Delivering Shared Services

Performance Measure	2012/13 Baseline	2015/16 Forecast	2016/17 Target	2017/18 Target	2018/19 Target
Administrative cost, as a percentage of gross expenditures, to deliver shared services	1.8%	< 1.7%	< 2.0%	< 2.0%	< 2.0%

Data Source: Corporate Accounting System



### **Discussion**

This measure demonstrates the ministry's effective and efficient use of financial resources in delivering shared services, such as Information Technology or Real Property. Containing administrative costs at an effective level ensures that maximum funding is available to deliver services to core government and broader public sector organizations.

The ministry reduced administrative overheads over the four years leading up to fiscal 2012/13, resulting in only 1.8% spent (or \$13.9M) on administration to support shared services. As a result, future year targets are based on this baseline. It is expected that, through the implementation of continuous improvement initiatives that focus on administrative unit efficiencies, the ministry will be able to maintain these targets. If necessary, targets will be adjusted on a year-to-year basis, once those initiatives have been considered.

# Resource Summary

Core Business Area	2015/16 Restated Estimates <sup>1</sup>	2016/17 Estimates	2017/18 Plan	2018/19 Plan
Operating Expenses (\$000)				
Services to Citizens and Businesses	17,923	18,044	18,389	18,746
Office of the Chief Information Officer	10,461	10,459	10,546	10,625
Logistics and Business Services	2,853	2,909	3,257	3,567
Real Property	269,309	282,050	290,165	290,452
Technology Solutions	146,049	146,072	146,381	146,653
Innovation and Technology	2,401	3,252	3,261	3,270
Transfers to Crown Corporations and Agencies <sup>2</sup>	12,350	12,350	12,350	12,350
Executive and Support Services	17,667	16,861	17,009	17,147
<b>Total</b>	<b>479,013</b>	<b>491,997</b>	<b>501,358</b>	<b>502,810</b>

Ministry Capital Expenditures (Consolidated Revenue Fund) (\$000)				
<b>Office of the Chief Information Officer</b>	<b>41,590</b>	<b>55,339</b>	<b>78,130</b>	<b>74,820</b>
<b>Real Property</b>	<b>132,275</b>	<b>133,752</b>	<b>196,968</b>	<b>128,446</b>
<b>Technology Solutions</b>	<b>18,561</b>	<b>15,558</b>	<b>11,644</b>	<b>10,821</b>
<b>Executive and Support Services</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>
<b>Total</b>	<b>192,436</b>	<b>204,659</b>	<b>286,752</b>	<b>214,097</b>
Other Financing Transactions (\$000)				
<b>Release of Assets for Economic Generation</b>				
<b>Receipts</b>	<b>(5,500)</b>	<b>(4,000)</b>	<b>(5,000)</b>	<b>(0,500)</b>
<b>Disbursements</b>	<b>5,500</b>	<b>4,500</b>	<b>3,000</b>	<b>2,000</b>
<b>Net Cash (Requirements)</b>	<b>0,000</b>	<b>0,500</b>	<b>(2,000)</b>	<b>1,500</b>
<b>Total Receipts</b>	<b>(5,500)</b>	<b>(4,000)</b>	<b>(5,000)</b>	<b>(0,500)</b>
<b>Total Disbursements</b>	<b>5,500</b>	<b>4,500</b>	<b>3,000</b>	<b>2,000</b>
<b>Total Net Cash Source (Requirements)</b>	<b>0,000</b>	<b>0,500</b>	<b>(2,000)</b>	<b>1,500</b>

<sup>1</sup>For comparative purposes, amounts shown for 2015/16 have been restated to be consistent with the presentation of the 2016/17 Estimates.

<sup>2</sup>For all years, includes \$6,090,000 for the BC Innovation Council, formerly presented within Innovation and Technology, and \$6,260,000 for the Knowledge Network Corporation, formerly presented within Executive and Support Services.

\*Further information on program funding and vote recoveries is available in the [Estimates and Supplement to the Estimates.](#)

## Major Capital Projects

Major Capital Projects	Targeted Completion Date (Year)	Approved Anticipated Total Cost of Project (\$ millions)	Project Cost to Dec 31, 2015
<p><b>Maples and PAC Replacement</b></p> <p>The Province has approved the relocation of the Maples Adolescent Treatment Centre (Maples) and the Community Living BC Provincial Assessment Centre (PAC) Programs, and construction of a new purpose built facility on the Riverview Lands located in Coquitlam.</p> <p>By relocating Maples and PAC the Province intends to meet the following objectives: a modern, improved and permanent purpose built facility to operate these programs; improved security and safety for youth and adults with developmental disabilities and staff; and flexible and adaptable space to allow for any changes to delivery of these programs in future. The new building strives to evolve mental health facilities to state-of-the-art, and maintain privacy and confidentiality for patients and families.</p> <p>Risks are inherent on projects of this size and complexity. In acknowledgment of that fact, MTICS has established a multi stakeholder Project Executive Board to manage the implementation of the project as well as providing oversight and governance on matters pertaining to scope, schedule, budget, procurement, and communications and any other issues that may arise throughout the duration of the project. The Ministry of Finance will retain \$6 million of the total budget as project reserves with MTICS managing the remainder of the overall \$75 million budget.</p>	2018/19	75	0

# Appendices

## Appendix A: Ministry Contact Information

Department	Telephone	Website or Email
BC Innovation Council	<b>In Metro Vancouver:</b> 604 683-2724 <b>Elsewhere in B.C.:</b> 1 800 665-7222	<a href="http://www.bcic.ca/">http://www.bcic.ca/</a>
Government Chief Information Officer	<b>In Victoria:</b> 250 387-0401	<a href="http://www.cio.gov.bc.ca/">http://www.cio.gov.bc.ca/</a>
Knowledge Network Corporation	<b>In Metro Vancouver:</b> 604 431-3222 <b>Elsewhere in B.C.:</b> 1 877 456-6988	<a href="http://www.knowledge.ca/">http://www.knowledge.ca/</a>
Service BC	<b>In Victoria:</b> 250 387-6121 <b>In Metro Vancouver:</b> 604 660-2421 <b>Elsewhere in B.C.:</b> 1 800 663-7867 Outside B.C.:604-660-2421	<a href="http://www.servicebc.gov.bc.ca/">http://www.servicebc.gov.bc.ca/</a>
Premier's Technology Council	<b>In Victoria:</b> 250 356-1894 <b>In Metro Vancouver:</b> 604 827-4629	<a href="mailto:Premier'sTechnologyCouncil@gov.bc.ca">Premier's TechnologyCouncil@gov.bc.ca</a>

## **Appendix B: Hyperlinks to Additional Information**

### **Listing of Ministry Legislation**

Legislative Assembly of British Columbia: Act/Ministry Responsibilities

### **#BCTECH Strategy**

<https://bctechstrategy.gov.bc.ca/economy/bctechstrategy/>

### **Citizens @ the Centre**

[http://www.gov.bc.ca/citz/citizens\\_engagement/gov20.pdf](http://www.gov.bc.ca/citz/citizens_engagement/gov20.pdf)

### **BC Jobs Plan**

<http://www.bcjobsplan.ca/>

## Purchase Cards

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### KEY MESSAGES

- **The B.C. government is committed to openness and transparency, which is why we make ministry expenses publicly available.**
- **All purchase card transactions are reviewed to ensure charges are appropriate and in compliance with government policies and regulations.**
- **Approvals and controls are in place to ensure purchases are appropriate in the context of government business, and to protect against inadvertent or deliberate misuse.**

#### If asked about purchasing card expenditures:

- **Purchasing cards can only be used for business-related purchases. This includes office equipment and supplies and travel services (airlines) for government business.**
- **We recognize that in any given year, some purchase card transactions may seem unusual. For example, some gift-related purchases are to recognize staff.**
- **Recognition of employees is an important part of the government's corporate human resource plan. These purchases recognize employees for long service, as well as innovation and exemplary service.**

#### If asked about penalties:

- **If a purchase was made that was not for government business, government employees must reimburse the amount and may be subject to disciplinary action.**

### KEY POINTS AND BACKGROUND

- Since January 2015, we release government purchasing card and business transaction account information on a quarterly basis and post these records to DataBC. Prior to this, transactions were published annually with Public Accounts.
- Purchasing cards (government credit cards) can only be used for typical government business-related purchases including office equipment and supplies, and travel services (airlines).
- Purchases are carefully reviewed on a monthly basis by the ministry. When an irregular purchase is found on a ministry credit card, the Financial Operations Branch reviews the item by contacting the person who made the purchase and requesting the sales slip and authority signature. If a purchase was made that was not for government business, the staff member must reimburse the amount and may face disciplinary action.
- Other items purchased including gift shops, spas, golf courses and restaurants are generally used for staff recognition or catered business meetings.

## IM/IT Capital Investment Budget

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### KEY MESSAGES

- **Government makes a significant investment in information management and information technology each year, required to support the delivery of programs and services.**
- **The IM/IT capital budget has increased by a net \$10.77M between 2015/16 and 2016/17, primarily due to a \$13.95M increase in IM/IT capital for projects across government (\$9.65M) plus IM/IT maintenance (\$4.3M), offset by a reduction in spending on the Strategic Transformation and Mainframe Services (\$3.18M) in line with the planned spending. See table below for details.**
- **The increased project budget will provide technology to support priority business requirements and to address capital maintenance for over 1,600 information systems across ministries.**
- **The ministry has worked with a number of advisors to strengthen the governance and management of IT capital projects (Earnst and Young, KPMG, Gartner, Computer Economics, PriceWaterhouseCoopers).**

### KEY POINTS AND BACKGROUND

- MTICS manages the IM/IT capital investment budget on behalf of government through the Office of the Government Chief Information Officer (OCIO). The IM/IT capital investment budget provides funding for minor capital projects (any project less than \$20M in total capital spending). This budget is not used for large capital projects like the Natural Resources Permitting Project.
- The IM/IT capital budget is managed by a group of Deputy Ministers and is to support improvements in the delivery of services to citizens and ensure efficient government operations across ministries.
- The IM/IT capital budget has increased by \$10.77M between 2015/16 and 2016/17, primarily due to an increase in IM/IT projects across government (\$9.65M) and additional funding for IM/IT maintenance (\$4.3M) for 1,600 applications, offset by a reduction in spending on the Strategic Transformation and Mainframe Services (\$3.18M) in line with the planned spending. ( $\$9.65\text{M} + 4.3\text{M} - 3.18\text{M} = 10.77\text{M}$ )
- Under the Strategic Transformation and Mainframe Services (STMS) or Hosting deal, government is contractually committed to the planned maintenance of the servers and related equipment associated with the agreement. In line with the contractual commitments, there is a reduction of \$3.18M in the Technology Solutions Agreement.



- The increase in the project budget was based on an external review conducted by Computer Economics that assessed the current condition of information systems and the projected need for technology investments across ministries. The research was then verified and confirmed with Gartner, a technology consulting firm. Computer Economics is an IT research firm that conducts research in strategic and financial management of information systems and provides metrics for IT management.
- Investing in information systems across ministries strengthens the security and management of information used by government to deliver services to citizens and businesses and reduces the overall cost of operations.
- Over the past two years the ministry has implemented a number of changes aligned to best practices in order to improve the management of the IM/IT minor capital budget. This includes:
  - A two-step planning and approval process to ensure that projects are prioritized early and work is focused on projects most likely to be approved;
  - Breaking projects into smaller pieces with gated funding approval so projects must prove benefit realization for each deliverable before receiving additional funding;
  - Third party review of projects before, during and after project review and approval, to mitigate risks and ensure alignment to best practice standards;
  - Comprehensive quarterly reviews and reporting to ensure project challenges are identified and risks are addressed early in the project cycle;
  - Hiring new IM/IT staff into ministry capital projects to ensure effective governance and project management capacity within ministries
- Citizens now expect to be able to access government services through many different channels, including online. The increase in the budget will support projects across all ministries to improve services to citizens. Some of the investments include:
  - Improvements in student information management systems for post-secondary students and institutions to improve educational development and alignment from high school to post-secondary and the workforce;
  - Enhancing self-service for clients in the social sector to access information, submit questions and service requests, and receive updates from a time and place of their choosing;
  - Strengthening investment in Education systems to enable personalized learning for every K-12 student within B.C. and provide flexibility and choice for students, parents and teachers while maintaining high educational standards and quality of learning;
  - Investment in information management and coordination in the health sector to modernize and sustain health information systems to improve patient care, enhance drug management, and improve wait-time management;
  - Investing in new systems in the justice sector to streamline the scheduling of court cases and support electronic case management to improve the utilization of courts across the province;
  - Continuing capital maintenance of over 1,600 applications used in ministries to manage operations and deliver services to citizens.

## MTICS CAPITAL - Comparison Budget 2015 to 2016

15/16 Budget	16/17 Budget	Change
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**OFFICE OF THE CHIEF INFORMATION OFFICER**

Transformation Funding

IM/IT Maintenance

38.190	\$ 47.839	\$9.649
3.400	\$ 7.500	\$4.100
<b>\$41.590</b>	<b>\$55.339</b>	<b>\$13.749</b>

**TECHNOLOGY SOLUTIONS**

Strategic Transformation &amp; Mainframe Services

Maintenance and Rehabilitation

Corporate Provisioning

9.036	\$ 5.858	(\$3.178)
4.325	\$ 4.500	\$0.175
5.200	\$ 5.200	\$0.000
<b>\$18.561</b>	<b>\$15.558</b>	<b>(\$3.003)</b>

**Total IM/IT Capital Budget**

<b>\$60.151</b>	<b>\$70.897</b>	<b>\$10.746</b>
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# OAG - IT Compendium Report

## Information Technology Compendium

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### KEY MESSAGES

- The report highlighted government's significant investment in information technology required to support program delivery.
- The ministry accepted all the recommendations and work is underway to address them.
- The recommendations are well-aligned with the direction of government's security policy and standards and with our ongoing efforts to strengthen information security.

### KEY POINTS AND BACKGROUND

- The Office of the Auditor General released a compendium report prepared in November 2013 on information technology (IT) and information management (IM) in government. The report contains three sections:
  - overview of capital spending on IT across government including broader public sector
  - status of general IT controls
  - web application security audit
- The BC Public Sector spends approximately \$500 million in capital on IT infrastructure and systems annually. IT capital spending has decreased from \$525 million in 2008/09 to \$506 in 2012/13 and \$500 in 2013/14, representing a reduction of about 5%.
- IT capital projects with the greatest cost include: e-Health Initiative (completed in 2013 with total capital cost of \$262 million) and Integrated Case Management (ICM) (completed in 2014 with total capital cost of \$182 million).
- General IT Controls: The report focused on nine\* general IT control areas that are critical to maintaining confidentiality, integrity and availability of information and systems.
- Government's average maturity rating for all nine IT controls areas was found to be 2.9. The report states that for some entities where the risk factors are low, it may be appropriate to have a maturity level of three. Where the risks are higher, a maturity level of four or five may be more appropriate. The OAG encourages the OCIO to continue assisting government entities in achieving or improving the maturity levels for general IT controls.
  - The OCIO has a comprehensive information security program including policy and standards development, security investigations, user awareness, consulting services and

infrastructure security operations. The OCIO works closely with Ministry Chief Information Officers and their staff to continue to improve the maturity levels for general IT controls across government.

- The OCIO has created a new Service Management branch to ensure that government is following industry best practices for IT change, incident, problem, and business continuity. A new service management platform and configuration management and asset data base is under construction.
  - The OCIO continues to address risks with its mature and mandatory Security and Threat Risk Assessment process and with the annual information security risk assessment process that all ministries complete.
- Web Application Security Audit: Web applications are programs embedded in a website designed to perform specific tasks. The B.C. Government has approximately 1,500 web applications of which 437 are public-facing. The majority of these are hosted within the shared network service.
  - The report includes four recommendations pertaining to the Web application security audit, which the Office of the Chief Information Officer accepted:
    - Incorporate a compliance review of web application development policies and standards as part of its annual review of ministries' self-assessments
    - Establish a process to ensure accuracy and completeness of web applications master inventory list
    - Work with ministries to facilitate regular vulnerability scans for all public-facing web applications
    - Work with ministries to establish a formal process to promptly investigate and follow-up on the results of vulnerability scans for all public-facing web applications.
  - Each of the recommendations was completed by end of fiscal year 2014/2015.

\* The nine general IT controls areas that were examined are as follows:

1. Assessing and managing IT risks: analyzing and communicating IT risks and their potential impact on business processes and goals.
2. Managing changes: responding to business requirements in alignment with the business strategy, while reducing solution and service delivery defects and rework.
3. Installing and accrediting solutions and changes: implementing new or changed systems that work without major problems after installation.
4. Managing third-party services: providing satisfactory third-party services while being transparent about benefits, costs and risks.
5. Ensuring continuous service: ensuring minimal business impact in the event of an IT service interruption.
6. Ensuring systems security: maintaining the integrity of information and processing infrastructure and minimizing the impact of security vulnerabilities and incidents.
7. Managing the physical environment: protecting computer assets and business data and minimizing the risk of business disruption.
8. Managing operations: maintaining data integrity and ensuring that IT infrastructure can resist and recover from errors and failures.

9. Monitoring and evaluating IT performance: transparency and understanding of IT cost, benefits, strategy, policies and service levels in accordance with governance requirements.

## **OAG Report – Government's General Computing Controls: 2014**

### **"The Status of Government's General Computing Controls: 2014"**

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#### **KEY MESSAGES**

- The report (released in December 2015) highlighted the importance of IT general controls and recommended that organizations in the B.C. Government Reporting Entity, periodically:
  1. review their business and IT goals and determine the target maturity level
  2. analyze the controls necessary for meeting the target maturity level
  3. determine what needs to be done to achieve the target maturity level
  4. monitor the progress in achieving the target maturity level
- The report also recommended that the Government Chief Information Officer continue to promote strong general computing controls and assist government organizations in achieving and improving their target maturity levels.
- The ministry accepted all recommendations and work is underway to continue to improve IT general controls with ministries, and through the ministries with other organizations within the government reporting entity.
- The recommendations are well-aligned with the direction of government's security policy and standards and with our ongoing efforts to strengthen information security.

#### **KEY POINTS AND BACKGROUND**

- The Office of the Auditor General released a report prepared in December 2014 on the status of information technology (IT) general controls in 148 organizations across government. For the first time, the Auditor General then audited 13 of the 148 organizations against the maturity framework used in the assessments (COBIT 4.1)
- Government organizations were asked to rate their general computing controls maturity level on a scale of 1 to 5. Compared to the previous report in 2013, organizations assessed themselves at a higher level. Of note, there was no audit of organizations in 2013.

- Of the 13 organizations whose self-assessments were audited this year, 69% rated their maturity level higher than the levels identified by the Auditor General. In the audit, the majority of the organizations audited (9 of 13) lacked documented policies and procedures.
- The report focused on nine\* general IT control areas critical to maintaining confidentiality, integrity and availability of information and systems.
- Government's maturity rating for all nine IT controls areas was between 2.3 and 3.4. This is slightly higher than the 2013 results, which were between maturity levels 2.2 and 3.3.
- The report states that for some entities where the risk factors are low, it may be appropriate to have a maturity level of three. Where the risks are higher, a maturity level of four or five may be more appropriate.
- The OAG encourages the OCIO to continue assisting government entities in achieving or improving the maturity levels for general IT controls.
  - The OCIO has a comprehensive information security program including policy and standards development, security investigations, user awareness, consulting services and infrastructure security operations. The OCIO works closely with Ministry Chief Information Officers and their staff to continue to improve the maturity levels for general IT controls across government.
  - The OCIO has created a new Service Management branch to ensure that government is following industry best practices for IT change, incident, problem, and business continuity. A new service management platform and configuration management and asset data base is under construction.
  - The OCIO continues to address risks with its mature and mandatory Security and Threat Risk Assessment process and with the annual information security risk assessment process that all ministries complete.

\* The nine general IT controls areas that were examined are as follows:

1. Assessing and managing IT risks: analyzing and communicating IT risks and their potential impact on business processes and goals.
2. Managing changes: responding to business requirements in alignment with the business strategy, while reducing solution and service delivery defects and rework.
3. Installing and accrediting solutions and changes: implementing new or changed systems that work without major problems after installation.
4. Managing third-party services: providing satisfactory third-party services while being transparent about benefits, costs and risks.
5. Ensuring continuous service: ensuring minimal business impact in the event of an IT service interruption.
6. Ensuring systems security: maintaining the integrity of information and processing infrastructure and minimizing the impact of security vulnerabilities and incidents.
7. Managing the physical environment: protecting computer assets and business data and minimizing the risk of business disruption.
8. Managing operations: maintaining data integrity and ensuring that IT infrastructure can resist and recover from errors and failures.



9. Monitoring and evaluating IT performance: transparency and understanding of IT cost, benefits, strategy, policies and service levels in accordance with governance requirements.



## **OAG Report – Managing IT Investments (Release TBD)**

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### **KEY MESSAGES**

- **The Auditor General is finalizing a report identifying common IT project risks, lessons learned and good practices related to large IT projects.**
- **The report is expected to be released in Summer 2016 and will be compiled from a review of audit and other public reports and good practice guidance. The intent is to support positive change in IT investment management and oversight.**
- **The report is intended to inform Legislators and other decision-makers' understanding of what is at stake with large IT projects, what can go wrong, and some key practice areas to focus attention.**
- **The Office of the Government Chief Information Officer and Treasury Board Staff were consulted during the development of the report, and changes made to improve the planning and management of large IT projects have been noted.**

### **KEY POINTS AND BACKGROUND**

- The Auditor General has noted recently that many of the large IT projects undertaken by government have experienced considerable challenges, and not fully realized the expected benefits of the project.
- To provide Legislators and other key decision makers with an understanding of the key risks and areas to focus on to address those risks, the Auditor General undertook a review of large IT projects to identify common challenges and provide comments.
- The report focuses on four key areas related to IT project management including: people, planning, consultation and governance. The report is still in draft and has been reviewed with the Office of the Government Chief Information Officer and Treasury Board Staff.
- Under Chapter 12 of the Core Policy and Procedures Manual (Information Management and Information Technology Management) the Government Chief Information Officer has responsibility for policies and procedures for information technology for ministries.
- The Office of the Chief Information Officer (OCIO) does not have authority over Health Authorities, School Districts, Colleges, Universities and Crown Corporations. These organizations have their own governance structures, policies and procedures.

- Over the last two years the OCIO has made progress towards improving IM/IT capacity and capability in ministries in the four key areas noted by the Auditor General, and has adapted and implemented several industry best practices to improve IM/IT outcomes.
- These results have been achieved through collaborative efforts involving ministries, central agencies (e.g. PSA, OCG), independent subject matter experts and targeted external stakeholders (including OAG).
- The final report is expected to be released later this year. Government will consider all findings of the report and continue working to improve investment management and oversight.

## **OAG Workstations Contract and HA Onboarding (Release June)**

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### **KEY MESSAGES**

- **The Office of the Auditor General is currently auditing the process used to ensure value for money in adding new entities to government's workplace support services contract.**
- **The 2004 procurement and subsequent contract between government and IBM Canada Ltd. included the potential to expand the scope of the contract to include broader public sector entities.**
- **In 2010, the Province, working with British Columbia's health authorities through their shared services organization, negotiated an agreement and signed on to the contract.**
- **The Office of the Auditor General has advised they will issue the final report later this summer.**
- **Government will consider the findings as it plans for future large-scale alternative service delivery procurements.**

### **KEY POINTS AND BACKGROUND**

- In 2004, the Province entered into an alternative service delivery (out-sourcing) agreement with IBM Canada for the provision of workplace support services (the WSS contract), a large component of which is providing support to government workstations.
- The procurement and contract included provisions for the contract to bring on new customers under the existing contract.
- In 2010 the Province, working with Health Shared Services BC (HSSBC) on behalf of the health authorities extended services under the contract to the province's health authorities.
- The Province has approximately 33,000 workstations supported under the WSS contract and the combined HSSBC (health authorities) workstation count is approximately 66,000.
- The cost to the Province annually for base services is approximately \$32 million and to HSSBC approximately \$54 million.
- In March 2015 the OAG began an audit of the on-boarding of the health authorities to the WSS contract.
- It is anticipated that OAG will release their final report later this summer. The Province will prepare a response to the OAG report once the findings are made available.

## **OAG / OIPC Report - Mobile Device Management ~ August**

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### **KEY MESSAGES**

- **In May 2015 the Office of the Auditor General, in concert with the Office of the Information Privacy Commissioner, announced plans to conduct an audit on the use of Mobile Devices in government**
- **Audit results will recommend that government implement an Enterprise Mobility Management system**
- **Enterprise Mobility Management (EMM) systems allow organizations to ensure employees are following government policy and enforce information safeguards when using mobile devices**
- **The field work was completed in October and final reports by OAG and OIPC are due to be released in later this summer**

### **KEY POINTS AND BACKGROUND**

- In May 2015, the Office of the Auditor General announced plans to conduct an audit on Mobile Devices in government
- Mobile devices include smartphones and tablets
- This audit was conducted by the Office of the Auditor General in tandem with the Office of the Information Privacy Commissioner
- Government has approximately 10,000 mobile devices; the OCIO recovers approximately \$1.76M annually to provide central mobile device management services.
- The field work for the audit was completed in October; OAG and OIPC will each issue a final report, both due to be released later this summer

# **OIPC Report – MTICS Response to Education Privacy Breach**

## **Investigation Report F16-01 Ministry of Education**

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### **KEY MESSAGES**

- **On September 1, 2015 the Ministry of Education discovered they were unable to locate an unencrypted external hard drive containing the personal information of 3.4 million persons**
- **The Office of the Information and Privacy Commissioner (OIPC) launched an investigation and found that government's response to this incident was effective but made 9 recommendations for improving management of sensitive information**
- **Deloitte is conducting the first review of the Ministry of Education on behalf of government. Their report is expected to be released publicly in late April 2016.**
- **Storing sensitive data on portable storage devices without encryption is against Information Security Policy and industry best practices**
- **To safeguard sensitive information, OCIO, with support from Ministry of Finance, is issuing an updated version of the Information Security Policy in April 2016 and a new version of the Data Classification scheme by July 2016.**

**OCIO launched a new encryption service to protect files and emails in December 2016 and will launch a service to improve protection of mobile devices in May 2016.**

- **OCIO is developing an annual information security course which is expected to be available to all public servants by November 30 and launches new awareness initiatives monthly focused on the protection of sensitive data**

**KEY POINTS AND BACKGROUND**

- September 1, 2015, Ministry of Education reported that it was unable to locate an unencrypted external hard drive containing the personal information of 3.4 million persons.
- September 18, 2015, the OIPC was notified about the incident and opened its own investigation.
- September 22, 2015, the Ministry of Education and OCIO issued a public announcement about the incident, which was intended to serve as “indirect notification” to individuals whose personal information was on the drive.
- As part of the announcement, Minister Virk committed to conducting a review of the personal information management practices of all government ministries.
- Deloitte is conducting the first review on behalf of government. The review is nearly complete and their report, intended for public release, is expected to be published in April 2016
- The OCIO is issuing a new version of the Data Classification scheme in July 2016 and an updated version of the Information Security Policy for all public service employees in April 2016
- In December 2015 the OCIO launched a new encryption service to protect files and emails and will launch a service to improve protection of mobile devices in May 2016
- OCIO is developing an information security course to be taken annually by all public servants
- OCIO publishes monthly awareness campaigns to broaden knowledge within government of information security policy requirements and obligations across employee roles to protect sensitive data



## **OAG Report - Panorama Audit**

### **An Audit of the Panorama Public Health IT System (August 2015)**

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#### **KEY MESSAGES**

- **In August 2015 the Auditor General released the “Audit of the Panorama Public Health IT System”. The report provided four recommendations for the ministry including:**
  - 1. That the ministry commission an independent review of Panorama and other alternative systems to identify the most cost-effective, integrated approach to meet the current and future needs of public health in British Columbia;**
  - 2. That the ministry review its project management practices to ensure future IT projects are managed in accordance with good practice;**
  - 3. That the ministry review its contract management practices to ensure future IT projects are managed in accordance with good practice; and,**
  - 4. That the ministry review its current leadership practices and develop a collaborative leadership strategy for future IT projects.**
- **The Ministry of Health agreed with the recommendations and developed an Action Plan to address the four OAG recommendations.**
- **The Office of the Government Chief Information Officer is providing support to the Ministry of Health and has introduced changes to improve the planning and management of IT capital projects.**

#### **KEY POINTS AND BACKGROUND**

- **The Office of the Auditor General released an audit report prepared in August 2015 on the Panorama Public Health System. The audit concluded that Panorama:**
  - **Does not have the full scope of functionality, and level of stability and usability necessary to achieve all of the stated benefits of the system;**
  - **Was not built or implemented on budget; and,**
  - **Was not built or implemented on time.**
- **Panorama was designed in response to the 2003 report by Dr. Naylor commissioned by the federal Minister of Health in response to the public health effort during the SARS outbreak. Dr.**

Naylor recommended that Canada invest in a “seamless public health system that will allow public health professionals to coordinate activities in a carefully planned infrastructure.”

- Panorama is made up of six core modules that support a range of public health functions. BC commissioned a custom built seventh module called Family Health to document routine public health services and replace portions of iPHIS (integrated Public Health Information System).
- The Ministry of Health has made progress in the implementation of its action plan to address the specific recommendations of the Auditor General. The Ministry of Health can provide specific information on each of the four recommendations. (See attached Fact Sheet prepared by the Ministry of Health for Public Accounts Committee in February 2016).
- The Office of the Government Chief Information Officer is providing support to the Ministry of Health as it addresses the recommendations of the Auditor General.
- The Office of the Government Chief Information Officer has also undertaken a review of the planning and management of large IM/IT projects based on current and previous audits of IT projects undertaken by the Auditor General.
- Since 2013, the IM/IT Capital Investment Branch of the OCIO has made improvements in the governance of major and minor IM/IT projects, and continues to make improvement through investing in key collaborative initiatives with internal and external stakeholders. Key improvements include:
  - breaking planning into a two-part process to ensure that project proposals are prioritized early and that ministries then focus their efforts on planning for few projects;
  - breaking projects into smaller components with formal gating and deliverable reviews so that projects are undertaken in smaller pieces and new funding is only released once approved deliverables are realized;
  - introducing a robust business case template and formal consultation and review process with key stakeholders across government to ensure alignment with corporate standards and ensure consultation with subject matter experts;
  - improved internal reviews of project proposals to ensure that existing investments are leveraged before any new investments are approved;
  - balancing investments in existing systems with new investments to ensure that systems are optimally maintained to derive the most value;
  - introducing third party reviews by external experts of projects, based on a risk analysis, before projects are considered for approval, ensure effective governance, leadership and management elements are in place and that risks have been identified and a mitigation plan in place

## Panorama Public Accounts Committee Commitments

### ISSUE

On August 13, 2015, British Columbia's Office of the Auditor General (OAG) released a report on its audit of the Panorama Public Health System. The Ministry of Health (MoH) presented its response to the audit findings at the Select Standing Committee on Public Accounts OAG on November 2, 2015. Subsequently the MoH returned to Public Accounts Committee for further questions on November 16, 2015 and to provide a status against committed actions on February 2, 2016.

The MoH created the Action Plan which identified commitments to address the four OAG recommendations of the Panorama audit.

### KEY FACTS

#### Panorama Audit Recommendations and Commitments

##### **OAG Recommendation #1:**

**Commission an independent review of Panorama and other alternative systems to meet the current and future needs of public health in British Columbia.**

##### **MoH Committed Action:**

1. Develop a three-five year business plan to address key functionality and design issues to ensure full clinical and surveillance benefit  
*Progress: Consultant hired to lead the business plan development. Work is underway. Anticipated completion June 2016*
2. Undertake an annual survey of Panorama end users to assess satisfaction, clinical benefit and adoption.  
*Progress: Design of assessment methodology commenced. Annual process, beginning early 2016.*
3. Undertake an annual environmental scan to evaluate other compatible public health products  
*Progress: Informal Fall report completed. Developing a more robust, repeatable methodology to perform a more comprehensive assessment in 2016. Anticipated completion Spring 2016*

##### **OAG Recommendation #2:**

**Review MoH's project management practices to ensure future Information Technology projects are managed in accordance with good practice.**

##### **MoH Committed Action:**

1. Develop a plan to meet industry standards for project management  
*Progress: A MoH Project Management Office has been staffed with the mandate to provide good practice standards and methodology including provision of tools, guidance, training and coaching. Action plan created. The development of project management methodology and services is in progress. Anticipated completion – September 2016*
2. Engage independent expertise to review and validate the Project Management methodology and governance  
*Progress: External review of project management processes has commenced. Anticipated Completion date – March 2016*
3. Engage independent project assurance on large complex, multi-stakeholder, multi-year projects  
*Progress: We will implement this approach subsequent to the review of our current state.*

##### **OAG Recommendation #3:**

**Contact:** Philip Twyford  
**Ministry of Technology, Innovation and Citizens' Services**

**Phone:** (250) 516-0268  
**February 17, 2016**

**Review MoH's contract management practices to ensure future Information Technology projects are managed in accordance with good practice.**

**MoH Committed Action:**

1. Engage independent expertise to review our action plan on contract management  
*Progress: External review of contract management processes has commenced.*
2. Implement recommendations from contract management review

**OAG Recommendation #4:**

**Review MoH's current leadership practices and develop a collaborative leadership strategy for future Information Technology projects.**

*Progress: The Ministry of Health has realigned governance structures to enhance accountability and to play an integrating and coordination role*

*Progress: Finalizing 18 month plan for IM/IT Health Sector projects through the Standing Committee on Health Sector IM/IT*

**FINANCIAL IMPLICATIONS**

N/A

**Approved by:**

Brad Kocurek, IT Services Branch; January 29, 2016

Deborah Shera, ADM Health Sector IM/IT Division; February 1, 2016

## Connecting British Columbia

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### KEY MESSAGES

- Today 95 per cent of British Columbians have access to high-speed Internet. Our goal is to see every British Columbian with access to high-speed Internet by 2021.
- The Province is working with federal and local governments and First Nations organizations to identify and address continuing connectivity needs.
- The Province has committed \$10 million in new funds over two years as part of a continuing investment in high-speed Internet throughout the province. The Connecting British Columbia Grant Program is anticipated to increase the percentage of British Columbians with access to high-speed Internet from 95 per cent to 97 per cent by end of 2017.
- The goal is to increase access to high-speed Internet so every B.C. community has equal opportunities to participate in a digital world.

### KEY POINTS AND BACKGROUND

- Today 95 per cent of British Columbians have access to high-speed Internet connectivity, making B.C. one of the most connected jurisdictions in Canada.
- The Province committed to ensuring all British Columbians have the ability to access high-speed Internet services by 2021.
- The goal is to increase access to high-speed Internet so every B.C. community has equal opportunity to participate in a digital world.
- In a continued effort to reach the goal of 100 per cent connectivity throughout the province by 2021, the Province is:

- Leveraging government's telecommunications spend to expand high-speed connectivity. The 10-year Connecting British Columbia Agreement signed with TELUS in 2011 supports access to Internet services in rural and remote areas and expands access to cellular coverage along provincial highways at no additional cost to the taxpayer. To date over 1,600 kms of new cellular highway coverage have been completed.
- Creating new programs like the province-wide Connecting British Columbia Grant Program administered by Northern Development Initiative Trust to expand and improve high-speed Internet in rural communities. So far, the grant program has invested provincial funding of nearly \$7M to support 17 projects helping to improve and expand Internet in over 150 communities. These projects are expected to be complete by end of 2017. Upon completion, the 17 projects are anticipated to increase the percentage of British Columbians who can access high-speed Internet from 95 per cent to 96 per cent. An additional \$3M will be leveraged in the coming months to support projects that will further increase the percentage to 97 per cent by end of 2017.
- Working with Xplornet Communications Inc. to bring affordable satellite-based, high-speed Internet to citizens in remote or geographically challenging locations who would otherwise have no other options for the foreseeable future. The BC Broadband Satellite Initiative was launched in spring 2014 and provides assistance with a portion of installation costs. Over 3,100 satellite subscribers have benefited from the program to date.
- Working with federal and local governments and First Nations organizations to identify and address continuing connectivity needs.
- Participating as an intervenor in Phase 1 of the *CRTC's Review of Basic Telecommunication Services*. In the Province's submission, it was stated that broadband (high-speed) Internet access should form part of the basic service obligation and should be reliable and affordable.
- Significant investment from all levels of government continues to be required to incent private industry to build the infrastructure required to provide high-speed Internet connectivity that will meet public demand in rural and remote areas of the province.



## Information Security

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### KEY MESSAGES

- **Protection of government data and networks is a top priority, especially where it concerns British Columbians' personal information.**
- **Our security standards are consistent with or exceed International Standards Organization and International Security Standard levels for government organizations.**
- **We continually upgrade security to increase protection for government users from frequent threats including potentially malicious websites.**
- **Government is committed to strong privacy and security controls and to increasing awareness of best practices for information technology overall.**
- **The OCIO and every ministry have dedicated staff to monitor and respond to security issues.**

### KEY POINTS AND BACKGROUND

- Individual ministries are responsible for day-to-day security in their respective areas; the Office of the Chief Information Officer (OCIO) sets the protocols and standards for IT security across government.
- Over \$10 million is directly spent on IT security every year.
- The OCIO is constantly evaluating potential threats – with systems monitoring 24 hours per day, 7 days a week.
- The OCIO handles millions of attacks and other intrusion attempts every day as well as intercepting over 100 million spam, phishing and malware emails annually.
- 41 OCIO employees are dedicated to protecting government systems from intrusions and security risks with additional security staff residing in ministries.
- The Ministry of Technology, Innovation, and Citizens' Services has a comprehensive process for reviewing, evaluating and approving IT projects. It is essential that web applications are designed with strong controls.
- The Office of the Auditor General's IT Compendium report (released January 2014) on web security acknowledges that the Office of the Chief Information Officer has taken actions to address the security of web applications, and we are working to do more.
- The OCIO has updated agreements to enable ministries to get assistance from qualified vendors with necessary security services.
- Ministries are expected to conduct regular vulnerability scans on their public facing web applications to identify risks for remediation.

## **Integrated Case Management System (ICM) and Audit**

“Integrated Case Management System” (March 2015)

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### **KEY MESSAGES**

- **The Integrated Case Management (ICM) project, completed in November 2014, has enabled service delivery transformations in programs across the social sector.**
- **ICM is a complex system that supports many different business elements and operates within the larger government technical environment.**
- **Ministry staff continue to work with the ICM program delivery area to identify and implement future system improvements.**
- **SDSI has made substantial progress against the recommendations in the March 2015 Office of the Auditor General’s (OAG) report on the ICM system. They have provided a recent update on the recommendations directly to the Office of the Auditor General.**

### **KEY POINTS AND BACKGROUND**

- The ICM project was a five year project between the Ministries of Social Development and Social Innovation, Children and Family Development and Technology, Innovation and Citizens’ Services.
- The goal of the ICM system is to replace outdated information systems used to deliver critical social programs, including child protection services, child care subsidies, income assistance and employment programs.
- The ICM system has been implemented in 4 phases with an overall capital budget of \$182 million.
  - Phase 1 of the new system was introduced in November 2010.
  - Phase 2 was introduced on April 2, 2012.
  - Phase 3 was launched on March 4, 2013.
  - Phase 4 was completed in November 2014.
- Included in the Minister’s mandate letter issued June 10, 2014 is to “ensure the long term stability of the Integrated Case Management computer system.” In support of this mandate the



ministry invested considerable resources in the planning and support for implementation of Phase 4 of the system including:

- Enhanced systems monitoring
  - Implemented data centre changes (firewall) and provincial network changes to improve capacity and performance
  - Established a dedicated multi-disciplinary team with improved processes for responding to critical systems incidents
  - Implemented new computer hardware to support ICM Phase 4
  - Provided over 1000 hours of implementation weekend support
- Ministry staff continue to work with the ICM program delivery area to identify and implement future system improvements.
- In October 2013, Office of the Auditor General initiated an audit of ICM with a focus on user access management and data quality management. The data, upon which their findings are based, is from October 2013 (after Phase 3 and before the final phase of the project).
- In April, 2014 OAG updated the audit terms of reference to include a review of changes in scope of the implementation of ICM, and to a limited extent, spending. In its' report (released March 31, 2015) OAG concludes that weaknesses in controls existed in both user access management and data quality management.
- SDSI has addressed the majority of issues identified and has a plan in place to address outstanding issues.
- The ICM system is stable and operating at normal services levels. The Office of the Government Chief Information Officer continues to support the Ministry of Social Development and Social Innovation in the management and support of ICM.
- As a reflection of the stability of the system, the Minister's Mandate Letter of July 2015 makes no mention of ICM.

## BC Services Card

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### KEY MESSAGES

- **3 million BC Services Cards have been issued since February 2013.**
- **Enhanced security features make the BC Services Card a more secure form of ID and extremely difficult to impersonate someone else in- person or online, or to obtain unauthorized access to their data or services.**
- **The BC Services card has been designed to protect privacy and the Office of the Information and Privacy Commissioner continues to monitor and ensure compliance with B.C.'s privacy legislation.**
- **The technology pieces have been built and several prototypes developed to demonstrate potential uses for the BC Services Card. For example, an “Age Check” prototype where you would tap your Card to confirm your age using the BC Services Card as identification.**
- **Work has begun with Ministriesto enable programs to use the BC Services Card and several active engagements are underway.**
- **Ministry programs will only have access to the information they need to deliver their specific service.**

### KEY POINTS AND BACKGROUND

- MTICS, Ministry of Health and the Insurance Corporation of BC are working in partnership to fulfill the vision for the BC Services Card, i.e., *Citizens safely and securely access multiple government services, both in person and online, through the creation of a security-enhanced photo ID.*
- Key drivers for the BC Services Card Program include reducing health system misuse and enhancing patient safety; helping to ensure health and other government services are provided to the right person; establishing a method for government to regularly renew identity credentials and reconfirm Medical Services Plan eligibility; and, modernizing service delivery to address citizens' expectations for better online services from government.
- Enhanced security features make the BC Services Card a more secure form of ID than its predecessor the CareCard by making it extremely difficult to impersonate someone else -

in person or online - or to obtain unauthorized access to their data or services. These features will help protect British Columbians' privacy and identity.

- The security chip in the BC Services Card does not contain any personal information. It contains an identifier and security keys that are used to prove that the card is valid.
- MTICS has built the identity assurance service which will administer citizens' identity data.
- Each service provider only has access to the information needed to deliver their specific service. Any sharing of citizen information between service providers (e.g., ministries) is strictly regulated by the *Freedom of Information and Protection of Privacy Act* and is overseen by the Office of the Information and Privacy Commissioner for BC.
- A 5-year card issuance roll-out strategy was launched on February 15, 2013 with 2.96 million cards issued as of January 31, 2016.
- The Digital Services Consultation process held in fall 2013 made it clear that there is support for expanded use of the BC Services Card. The feedback suggests that any services added to the BC Services Card would need to be high value, with an emphasis on privacy and security. It was also recommended that these be introduced slowly to help establish trust and confidence.
- Passcodes and card readers that citizens will need to use their card to access online services will be issued at the Service BC offices throughout BC. Training of Service BC staff has been completed at 15 locations and the remaining offices will receive training this spring.
- In early 2015, MTICS successfully completed a Proof of Concept with Provincial Health Services Authority's CareConnect.
- Over the past several months, MTICS has been, and continues to be, actively engaged with the following programs to bring their services onboard, which will be implemented in a phased approach throughout 2016:
  - BC Land Title & Survey Authority (LTSA) – Business Portal  
Lawyer, Notary and Land Surveyor access to LTSA's electronic service offerings
  - Ministry of Finance – Biller Direct  
Citizen access to electronic Medical Services Plan (MSP) billing and account information, replacing MSP paper bills
  - Provincial Health Services Authority - CareConnect  
Canadian Blood Services worker 24/7 access to patient blood data.
- MTICS is also working with several ministries to help them identify how the Card can be used to enhance their program's service delivery.
- MTICS continues working with the Office of the Information and Privacy Commissioner to ensure that any expansion of the card's functionality meets the privacy standards British Columbians expect.

## BC Developers' Exchange

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### KEY MESSAGES

- Since February 2015, the B.C. government has consulted with over 400 tech entrepreneurs and software developers across the province to startup the BC Developers' Exchange.
- Aligned with the #BCTech Strategy, the BC Developers' Exchange is changing tech procurement for the 21<sup>st</sup> century.
- The effort is in early stages of development and is being created in small increments according to leading tech sector practices in “tech startup style”.

There are currently 11 Public Sector organizations participating in the BC Developers' Exchange. Organizations post software development opportunities for their projects on the website at a fixed price of \$1,000 and software developers respond with software code that could provide a solution. Once the best idea is selected, the skilled developer is paid within days via PayPal.

- The BC Developers' Exchange demonstrates our understanding of how open innovation and government's digital resources can help entrepreneurs grow their businesses and create easier, faster, streamlined ways for the public sector to work with the tech community.

### KEY POINTS AND BACKGROUND

- BC Developers' Exchange is part of the Markets pillar of the BC Tech Strategy.
- The objective is to help grow the BC Tech Sector.
- BC Developers' Exchange is about modernizing government so that tech entrepreneurs and software developers can easily do business with the BC Public Sector, and government can easily obtain their innovations and use them to improve public services.

- The tech sector can create new products if they have access to digital resources of the public sector. Resources could be data, computer code or application programming interfaces.
- The initiative is being created by directly engaging tech entrepreneurs and developers. New procurement alternatives and other features are being generated in small increments of agile development that enables government and the tech sector to dynamically learn the best way forward.
- Examples of new development opportunities based on access to digital resources would be:
  - Mobile phone apps for transit that work because they have access to real-time bus location information from Translink
  - LawTech startups that work because they have computer programming access to BC Laws information
  - Interest from real estate tech in having access to BC Assessment property information
- The work is being done on the internet at BCDevExchange.org – the site and content is intended for tech entrepreneurs and software developers.
- Progress to date:
  - 11 BC Public Sector organizations participating
    - Design for property information data service at BC Assessment
    - BC Laws by Queens Printer at Technology, Innovation and Citizen's Services
    - DriveBC Open511 road events at Transportation and Infrastructure
    - Address Geolocation Coding by DataBC at Advanced Education
    - Environment Reporting data and analytics at Environment
    - City of Surrey
    - City of Vancouver
    - City of Victoria
    - City of Kamloops
    - Resources for software developers at Translink
    - Wordpress website software by Citizen Engagement at Advanced Education
  - The first trial of "Pay for Pull" will be on the internet in March 26, 2016 through BCDevExchange.org and is an example of new approach for procurement methods
    - A government program area can stage work on the internet and software developers can decide about engaging and coding a solution
    - If they submit solutions and government accepts, then government pays them directly; currently transactions are being limited to a fixed value of \$1,000.00
- The 16/17 fiscal plan:
  - Proposed budget: \$2.1m 16/17 fiscal
    - \$1.4m represents the staff time required to continue the initiative
    - \$0.7m for modernized computing services for the government programs that adopt the BC Developers' Exchange
  - Expand the number of public sector programs at the exchange

- Increase the number of, and refine the design of "Pay for Pull" transactions in collaboration with tech entrepreneurs and software developers
- Introduce additional features to increase collaboration between BC Public Sector and the BC tech entrepreneurs and software developers
- Further access to digital resources
- Provide better supports for the public sector to rapidly adopt tech sector developed innovations
- Design additional procurement methods suited to the needs of the public sector and the tech sector.

## Stewart Internet and Cellular Service

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### KEY MESSAGES

- The Mayor and Council of the District of Stewart have selected Sienna Networks, a small local Internet service provider to provide service in Stewart.
- Sienna Networks has worked with TELUS to install a new Internet connection for the community under the Connecting British Columbia Agreement between the Province and TELUS. Customers are now being connected to the Internet.
- In addition, TELUS is in the process of installing new cellular service expected to provide coverage to the town of Stewart and approximately 9km of Highway 37A.
- The Province relies on the private sector to deliver Internet and cellular services to British Columbians.
- Our goal is to see every British Columbian with access to high-speed Internet by 2021; we are working with other levels of government and the private sector, including large and small Internet service providers, to make this happen.

### KEY POINTS AND BACKGROUND

- On September 17, 2015, Onewayout.net, the local not-for-profit Internet service provider for Stewart, informed their clients that they would be discontinuing Internet service on or before November 30, 2015. Media stories ran in December 2015, outlining the hardships faced by residents without Internet services.
- The District of Stewart has repeatedly conveyed the importance of having adequate telecommunications in Stewart, particularly for port development and future LNG opportunities. On September 17, 2015, the new Stewart World Port (the first commercial wharf built on the coast

of British Columbia in over thirty years) celebrated its grand opening in preparation for future economic opportunities.

- The Mayor and Council have indicated that many students in the local school take e-learning for some of their specialty classes. Both e-health and e-learning services are not accessible from home without a residential Internet service. High-speed Internet services to the school and health clinic have not been impacted by the change in local Internet service provider.
- There has been criticism towards the Province for not providing replacement Internet services for the town of Stewart when Onewayout.net ended operations in late 2015.
- Sienna Networks, a small local Internet service provider has been selected by the Mayor and Council to provide service in Stewart. Sienna Networks has been working with TELUS to install a new Internet connection in the community under the Connecting British Columbia Agreement between the Province and TELUS. The new Internet connection has allowed Sienna Networks to connect new customers to their service.
- As of March 30, 2016 over 150 individuals and businesses have been connected and the work is ongoing. Sienna also expects to be able to complete a series of new permanent transmission structures in late spring 2016. These structures are expected to significantly expand the range of service in the area and enable improved speeds to each customer.
- Recently TELUS provided a fibre connection to Sienna Networks and has completed an extensive and expensive upgrade to their network into Stewart. The upgrade makes much more bandwidth available for Sienna Networks to improve high-speed Internet service.
- The upgrade to the TELUS network into Stewart will also provide the additional bandwidth to allow TELUS to provide cellular service to Stewart in 2016. The new cellular coverage would also extend along a section of Highway 37A. New cellular coverage in the town of Stewart and along approximately 9km of Highway 37A is expected to be in service imminently.



## **CCA (Call Centre Anywhere) Service Impacting MCFD & Others**

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### **KEY MESSAGES**

- **MTICS is responsible for Contact Centre services supporting 29 Ministry and Broader Public Sector call centres.**
- **Over the past four years clients have been using the new Call Centre Anywhere (CCA) service delivered through our service provider.**
- **Recently there have been several stability and reliability service issues with the new Contact Centre service.**
- **MTICS has worked with our service provider to stabilize the service and address call quality issues. As of March 2016 many of the major issues impacting Ministry contact centre agents have been resolved.**
- **We continue to work with MCFD on local performance issues affecting the Centralized Screening call centre in Vancouver. All issues are targeted to be resolved over the next two months.**
- **We are also working with MCFD on a design review to look at ways to adjust or enhance the CCA systems to better deliver on MCFD business requirements. This will be completed within the next 6 months.**

### **KEY POINTS AND BACKGROUND**

- The upgrade from the legacy Nortel Contact Centre to the new Contact Centre Anywhere (CCA) service began in 2012.
- TELUS provides the CCA service to the Province. Computertalk is the 3<sup>rd</sup> Party provider for the CCA application, infrastructure and service.
- There are now 29 Ministry and Broader Public Sector clients using the Contact Centre Anywhere (CCA) service supporting approximately 925 agents.
- CCA application, infrastructure and stability problems were first experienced in June, 2015 once all Ministry and BPS clients were fully migrated to the new service.
- For nearly 9 months MTICS has worked with the Service Providers to stabilize the service and performance issues.

- During the upgrade of the Contact Centre Service in November, 2015, MCFD also migrated their Centralized Screening helpdesk, a critical call centre for children in need, to the Telus provided CCA service.
- Major outages occurred Feb. 9; Mar. 14 and Mar. 16, 2016, that negatively impacted the MCFD critical call centre as well as many of the other Ministry and BPS contact centres (noted below).
- Additional issues have been reported by the MCFD call centre and we are actively working with TELUS and MCFD on resolving all issues.
- Telus and the CCA supplier resolved the cause of the major outages in February and March on March 19, 2016.
- Other CCA Call Centres impacted:
  - Technology, Innovation & Citizens' Services – CSC (Customer Service Centre), Product Distribution Centre; Queens Printer; BC Registries
  - Environmental Assessment Office - Employers' Adviser Office
  - ELBC – Elections BC
  - Finance – Consumer Taxation Programs Branch
  - Forests, Lands and Natural Resource Operations – Wildfire Helpline; Front Counter BC; Residential Tenancy Branch; Business Service Desk
  - Health – Pharmacare Special Authority; Seniors Advocate; Vital Stats; Internal Helpdesk
  - Jobs, Tourism and Skills Training – WorkBC
  - Justice – Corrections; Civil Resolution Tribunal; Family Justice Services; Road Safety BC; Security Programs; Internal Helpdesk
  - Ministry of Social Development – Social Development
  - Ombudsman
  - Pension Corp
  - Transportation and Infrastructure – Permit Centre; Regional Transportation Management Centre

## Telecommunications Services Deal Overview

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### KEY MESSAGES

- In 2011, government signed a 10-year telecommunication services contract with TELUS.
- The contract provides the framework agreement for delivery of all core telecommunications services to government and broader public sector partners.
- Services include long distance, conferencing, cellular, and voice and data network services. To date, \$50.4M in cost reductions have resulted from the Deal.
- One major deliverable is to increase access to high-speed Internet service in rural and remote areas over the 10-year term and improve access to cellular services along segments of major highways. To date 1,500 kms of new cellular highway coverage has been completed.
- The third component is a Strategic Investment Fund for transformative projects. The most significant project approved to date is the \$52M Home Health Monitoring Services (HHM) initiative developed with the healthcare sector and the Ministry of Health, in support of the provincial mandate to implement health care priorities in BC.
- The Strategic Partnerships Office's (SPO) performance management report in May 2014, stated this contract has performed well and met the objectives of the original procurement. 95% of 21 monthly Service Level Agreements and 21 quarterly Service Level Objectives were met.
- The Province is focussed on maximizing the effectiveness and value of the contract and on-boarding new clients as appropriate.

### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Technology, Innovation and Citizens' Service

**Vendor:** TELUS | **Contract Term:** 2011 – 2021

**Original Value:** \$1B **Current Value:** \$1.1B

The Telecommunications Services contract was directly awarded to TELUS in 2011 and consists of three separate agreements:

- The Telecommunication Master Agreement (TSMA) – the framework agreement for delivery of all core telecommunications services to the Province and its broader public sector partners. Services include long distance, conferencing, cellular, and voice and data network services.
  - Telecommunications service providers, throughout the province support the growth of our Tech Sector and tech economy by enabling the delivery of new services.
- The Strategic Relationship Agreement (SRA) defines the strategic relationship and related rights/obligations between the parties. It includes the principles by which the relationship will be governed, governance mechanisms and details of a Strategic Investment Fund (SIF) for transformative projects.
- The Connecting British Columbia Agreement (CBCA) - a non-monetary agreement which defines how the vendor, working with the Province, will increase access to high-speed internet service in rural and remote areas over the 10-year term of the Agreement and improve access to cellular services along segments of major highways over the next five years.
  - Government recognizes the operational and cost efficiencies possible by moving away from running their own network that will in turn shift public services into the 21st century. Tech companies including telecommunications providers – large and small – are the experts that can help government move connectivity faster and accelerate the delivery of modern public services.

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2014, this contract has performed well and met the objectives of the original procurement.

- Very strong contract management practises are present, with appropriate tracking and monitoring of key performance metrics by the Province; a strong functioning governance framework exists; however, the relationship is not performing at a high level.
- 95% of 21 monthly Service Level Agreements and 21 quarterly Service Level Objectives were met.
- School Districts signed a separate deal with TELUS to leverage pricing achieved under this contract.

The Province is focussed on maximizing the effectiveness and value of the contract and on-boarding new clients as appropriate.

## Strategic Investment Fund

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### KEY MESSAGES

- **The Strategic Relationship Agreement is one of three agreements comprising the strategic telecommunications services deal between the Province and TELUS, signed on July 29, 2011.**
- **The purpose, governance mechanisms and management structures for the Strategic Investment Fund (SIF) are defined in the Strategic Relationship Agreement.**
- **SIF has 15 points of eligibility for developing information technology projects in partnership with TELUS.**
- **Selected projects are intended for strategic, ambitious and transformative information technology initiatives with positive impacts on services for British Columbians.**
- **The first project initiated under the Fund, in 2012, was the \$52M Home Health Monitoring Services (HHM) initiative developed with the healthcare sector and the Ministry of Health, in support of the provincial mandate to implement health care priorities in BC.**
- **To date, \$19.6 million of SIF funding has been spent on HHM.**

### KEY POINTS AND BACKGROUND

- The Strategic Investment Fund is intended for strategic, ambitious and transformative information technology projects with significant positive impacts for British Columbians.
- The Fund will enable government and the broader public sector to achieve the Province's "e-government" vision using technology to better serve citizens in a highly connected environment.
- The value of SIF is based on a percentage of the revenue TELUS earns from telecommunication services provided to the broader public sector. SIF is estimated at approximately \$100 million over the 10-year term of the agreement.
- SIF must be spent with TELUS on new services developed for the Province of BC.
- The first project initiated under the fund is the Home Health Monitoring initiative, developed with the Ministry of Health and TELUS.
- Home Health Monitoring is an emerging Telehealth technology-based service that provides individuals who are living with chronic conditions with device kits that enable them to monitor

health conditions at home, while staying connected to a care provider. This results in improved health outcomes, better health care experiences and overall lower cost of delivering care. It is part of a strategic shift towards meeting the majority of health needs through a provincial system of inter-professional primary and community care.

- The estimated project cost for the Home Health Monitoring Services initiative (\$52M) was endorsed by the Deputy Minister's Committee on Technology and Transformation in 2012. The Ministry of Health and Health Authorities are responsible for ongoing operating costs of the services.
- The Emergency Notification and Public Alerting initiative, developed with Emergency Management BC and TELUS will automate the distribution of emergency alerting across multiple channels increasing the types of alerts delivered to coverage of disasters and hazards.
- The Ministry, through SIF, is supporting Greater Public Sector Entity mandates to develop new and ambitious technology based projects in partnership with TELUS, designed to improve government services for British Columbians.
- To date, \$19.6 million of SIF funding was spent on the HHM project. So far, no funds have been spent on the Emergency Notification initiative as the provincial team is completing due diligence and risk mitigation work.
- Work is underway to identify and develop additional strategic, ambitious and transformative information technology projects that support government's priorities and strategic needs.
- Personal privacy is paramount in the Province's vision for e-government hence explicit contractual obligations ensure TELUS complies with all aspects of B.C's rigorous *Freedom of Information and Protection of Privacy Act*.
- Where the Province uses vendors to provide services to citizens, legally binding contracts protect the privacy and security of personal information. Contract language enables the Province to explicitly control collection, storage, use, disposal and security of personal and private information, as governed by the Freedom of Information and Protection of Privacy Act.

## Hosting Services Contract Overview

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### KEY MESSAGES

- The contract with HP Advanced Solutions covers hosting services and data centre services for the BC Government.
- As technology evolves, we must review and update our policies and agreements to keep pace.
- As part of this process, the ministry's technology service agreement with HP Advanced Solutions has been amended to include new cloud-based technology.
- The move to cloud computing will provide government with new options that will meet the business needs of government and the broader public sector.
- By amending the existing contract, government can adopt cloud computing while ensuring that government's data and information remains on Canadian servers and complies with our privacy legislation.
- This contract is performing well and has a strong and effective governance model in place.
- The B.C. government is committed to fair and open tendering in all service contracts to ensure the best value is received for tax dollars.

### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Technology, Innovation and Citizens' Service

**Vendor:** HP Advanced Solutions | **Contract Term:** 2009 – 2021/24

**Original Value:** \$586M **Current Value:** \$862M

Originally outsourced in 2009, the Hosting Services contract has undergone some significant changes



in the past few years, improving key contract provisions for the Province and enhancing a number of services for the benefit of core government and Broader Public Sector.

- Covers managed hosting services (12 years) and data centre services (15 years).
- Since signing, the Province has re-aligned key components to improve service delivery, BPS onboarding and achieve significant cost savings  
Growth in the contract value is attributed to the introduction of new services, such as Managed Print, as well as natural deal expansion through onboarding of new Broader Public Sector (BPS) organizations.
- New services are being developed and implemented to meet current and future needs of existing and new clients. This includes the first Canada data-sovereign and data resident public sector community cloud.

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, this contract has performed well and met the objectives of the original procurement.

- With recent realignment of governance across all current buyers within this contract the Province and vendor relationship continues to improve.
- The vendor has met the vast majority of contractual Service Level Agreements (97%) and Service Level Objective's (SLOs) (84%).
- The Province spent 5.17% of total spend on deal management, which is below the range for best practices of 3-8%.

The Province continues to aggressively on-boarding opportunities to maximize the usage and value of this contract. In the past year, a number of new services areas and Broader Public Sector agencies have been on-boarded to the existing contract.



**Strategic Partnerships Office - Procurement / Alternative Service Delivery  
(ASD)  
All Major Deals**

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**KEY MESSAGES**

- **Strategic Partnerships Office governs two types of deals; ASD and strategic high value IM/IT contracts.**
- **ASD allows government to improve service delivery, ensure the best value is received for tax dollars, and effectively leverage both public and private sector expertise.**
- **There are 13 strategic, long-term and large-scale deals, for a range of government services across government.**
- **Each deal is managed by its respective deal owner (within each Ministry), who works collaboratively with the Strategic Partnerships Office to maximize the value of their contract, ensure current industry best practices are in use, and track performance.**

**KEY POINTS AND BACKGROUND**

- In the early 2000s, the BC government outsourced a number of business functions to achieve improved services delivery and/or cost savings.
- These outsourced deals involved a range of services, including specific IT services (e.g. workstation support), back office services (e.g. public service payroll) and citizen facing business services (e.g. Medical Service Plan collection).
- There are a total of 13 strategic deals in the Strategic Partnerships Office's (SPO) deal portfolio across government. Outsourced contracts are considered strategic if they exceed \$10M in total value, involve complex business services spanning multiple Ministries and/or major transformation of services.
- Each deal is managed by its respective deal owner (within each Ministry), who works collaboratively with the Strategic Partnerships Office to maximize the value of their deal, ensure current industry best practices are in use, and track performance.

- Seven of these contracts exist within the Ministry of Technology, Innovation and Citizens' Services.
- Contract/deal owners work directly with their service provider/vendor within the scope of their specific contract.
- SPO works with strategic vendors (e.g. TELUS, IBM and HP) at the portfolio level, across all strategic deals within the BC Government, to maximize leverage with vendors that have multiple deals (e.g. HP) and improve relationships with the Province's strategic vendors for the benefit of all deals.

## Strategic Partnerships Office – Health Insurance BC Contract Overview

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### KEY MESSAGES

- **The contract is performing well and is meeting the objectives of the original procurement.**
- **Health Insurance BC is making significant progress in modernizing and improving the delivery of services.**
- **The B.C. government is committed to fair and open tendering in all service contracts to ensure the best value is received for tax dollars.**

### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Health

Vendor: Maximus | Contract Term: 2005 – 2020

Original Value: \$379M Current Value: \$737M

Originally outsourced in 2004 as part of the BC Government's strategy in the early 2000's to outsource a number of business functions to achieve improved services delivery and cost savings.

- Covers the transformation and delivery of Health Benefits Operations services - Health Insurance BC (HIBC) registration, claims processing functions, transformation of business process and technology.
- A 5-year extension was signed in 2013, prior to the contract's 2015 expiration date, to extend the original contract term to 2020.

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, the Province and vendor have a generally positive relationship, with the contract performing well and meeting the objectives of the original procurement.

- In the past year, the vendor has met all Service Level Agreements (SLAs); in fact, all service level requirements have been met, and no penalties have been levied since October 2005.
- Deal management costs 2.05% of total spend; below industry best practices of 3-8%.
- Net change orders increased the deal value by over \$4M in the past year due to modifications to existing change orders and minor changes required to respond to new policy/program requirements.
- Governance of this contract is functioning well;

s.13,s.17

## Strategic Partnerships Office – HR Management System Contract Overview

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### KEY MESSAGES

- **The HR Management System contract with TELUS is providing good value.**
- **The contract covers payroll and benefit services, contact centre and application management/application development.**
- **The 10-year service contract was extended in 2013 until 2019.**
- **The Province is focussing on maximizing the effectiveness and value of the contract in the remaining years of the contract.**

### KEY POINTS AND BACKGROUND

**Contract Owner:** Public Service Agency

Vendor: TELUS | Contract Term: 2004 – 2019

Original Value: \$133M Current Value: \$233M

Originally outsourced in 2004 as part of the BC Government's strategy in the early 2000's to outsource a number of business functions to achieve improved services delivery and cost savings.

- In 2013, a 5-year contract extension was exercised and a number of key provisions were re-negotiated for the remaining term of the contract.
- Covers payroll and benefit services, contact centre and application management/application development.

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, this contract has performed well and met the objectives of the original procurement.

- Very strong contract management practises are present, with appropriate tracking and monitoring of key performance metrics by the Province; a strong functioning governance framework and a positive relationship exist between the Province and the vendor.
- The vendor is meeting 99% of all Service Level Agreements.
- The deal office currently spends 3.56% of total spend to manage the deal, within the industry best practices of 3-8%
- Change orders were minimal FY 14/15.

The Province is focussing on maximizing the effectiveness and value of the contract in the remaining years of the contract. The Provinces will be reviewing the contract's business process SLAs and could be adjusted in the future to provide better assessment of performance.

## Strategic Partnerships Office

### Integrated Case Management Contract Overview

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#### KEY MESSAGES

- **ICM contract was initiated in 2009 and provides a case management application for the Ministry of Social Development and Social Innovation and the Ministry of Children and Family Development.**
- **With this contract, government has implemented a modern technology platform - to provide better tools for workers to manage information and to support the delivery of critical social services in MCFD and SDSI.**
- **The final phase of implementation, or development of the application, was completed on time and on budget in fall 2014. This included new infrastructure, new servers and greater capacity.**
- **There are strong contract management practices in place with this contract, with appropriate tracking and monitoring of key performance metrics by the Province.**

#### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Social Development and Social Innovation

Vendor: Deloitte | Contract Term: 2015 – 2020

Original Value: \$181M Current Value: \$52.2M

The ICM contract was initiated in 2009 and provides a case management application for use by the Ministry of Social Development and Social Innovation (SDSI) and the Ministry of Children and Family Development (MCF).

- Covers case management software, maintenance services and related consulting services for use by SDSI and MCF
- The contract has recently completed negotiation to transition the contract from development to maintenance and support for the on-going operation of the ICM system.

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, this contract has seen improved performance.

- Strong contract management practises are present, with appropriate tracking and monitoring of key performance metrics by the Province; a functioning governance framework and a generally positive relationship exist between the Province and the vendor.

- The deal office currently spends 5.52% of total spend within the industry best practices of 3-8%.
- As part of the recent negotiations, new SLAs have been developed and will be tracked and reported on going forward

The Province has been working on addressing the findings of the Auditor General's audit from February 215.

## Strategic Partnerships Office – Microsoft Agreement Contract Overview

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### KEY MESSAGES

- **This contract is for a corporate licensing agreement for Microsoft software products and applications.**
- **The agreement covers workstations software (e.g. Windows, MS Office), hosting and applications software (e.g. MS Exchange for email services) and home use agreement (employee use of MS Office).**
- **The B.C. government is committed to fair and open tendering in all service contracts to ensure the best value is received for tax dollars.**

### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Technology, Innovation and Citizens' Service

Vendor: Microsoft | Contract Term: 2014 – 2017

Original Value: \$25M Current Value: \$26M

This agreement represents a corporate licensing agreement for Microsoft software products and applications. This agreement covers workstations software (e.g. Windows, MS Office), hosting and applications software (e.g. MS Exchange for email services) and home use agreement (employee use of MS Office). The agreement is primarily transactional.

- The agreement was signed in April 2014. The agreement is a three year contract with Microsoft from 2014-2017.

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, this contract has met the objectives of the original procurement.

- As this contract is primarily software licensing, Service Level Agreements or Key Performance Indicators (KPI) have not been established.
- The Provinces contract office reports a significant lack of internal capacity (1.5 FTE, 0% vacancy) and succession planning.
  - The deal office spends 2.02% of total spend on deal management, below the range provided by best practices of 3-8%.
- Currently the Microsoft contract does not have a formal governance process in place. Meetings with Microsoft account exec happen ad hoc and primarily to deal with issues or reacting to a specific question or situation.

The Province is not planning any changes to the current Microsoft agreement, but is looking at its needs for the future delivery of workstation software, hosting and applications software and the home use program, prior to the current contract's expiry in 2017.

## Strategic Partnerships Office – MyEducationBC Contract Overview

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### KEY MESSAGES

- In 2014, a competitive procurement process was run to contract for the next generation of student information system services.
- This new system, MyEducationBC, provides application hosting and support services for the Province's student information system, and services the Ministry of Education and the majority of school districts throughout the province.
- Our goal is to achieve improved service delivery and to ensure the best value is received for tax dollars.

### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Education

Vendor: Fujitsu | Contract Term: 2014 – 2025

Original Value: \$106M      Current Value: \$106M

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, this contract has met the objectives of the original procurement.

- In 2014, a competitive procurement process was run to contract for the next generation of student information system services.
- This new system, MyEducationBC, provides application hosting and support services for the Province's student information system, and services the Ministry of Education and the majority of school districts throughout the province.
- The old BCeSIS application is targeted to be decommissioned in early 2016.
- Very strong contract management practises are present, with appropriate tracking and monitoring of key performance metrics by the Province; a strong functioning governance framework and a positive relationship exist between the Province and the vendor.
- The deal office currently spends 3.74% of total spend to manage the deal, within the industry best practices of 3-8%.
- Technical challenges with the migration to the new system encountered in Fall 2015 have been resolved and the migration is proceeding.

The Province is finalizing the wind-down of the previous BCeSIS contract and student information systems application, and migrating school districts to the MyEducationBC.



## Strategic Partnerships Office – Oracle Agreement Contract Overview

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### KEY MESSAGES

- The contract with Oracle is primarily a corporate licensing agreement for Oracle software products and applications.
- Government uses Oracle database software as a common, standard platform and is integral to numerous corporate applications, such as the corporate accounting system which is used for all financial transactions.
- The Province is not planning any changes to the five-year contract. Performance targets are being met.

### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Technology, Innovation and Citizens' Service

Vendor: Oracle | Contract Term: 2013 – 2018

Original Value: \$45M Current Value: \$45M

This agreement represents a corporate licensing agreement for Oracle software products and applications. Core-government utilizes Oracle database software as a common, standard platform and is integral to numerous corporate applications, such as the corporate accounting system which is used for all financial transactions.

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, this contract is meeting its objectives.

- As this contract is primarily software licensing, Service Level Agreements or Key Performance Indicators have not been established.
- The deal office currently spends 1.47% of total spend to manage the deal, below the industry best practices of 3-8%.
- Currently the Oracle contract does not have a formal governance process in place. Meetings with Oracle account exec happen ad hoc and primarily to deal with issues or reacting to a specific question or situation.

## Strategic Partnerships Office – Residential Tenancy Contract Overview

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### KEY MESSAGES

- **This contract is for residential tenancy services and covers the development and management of an electronic system to administer and support a formal dispute resolution process for landlords and tenants in B.C.**
- **The Province is currently exploring options to ensure that the best value is received for tax dollars – while continuing to improve the delivery of this important service.**

### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Natural Gas Development (responsible for Housing)

Vendor: TELUS | Contract Term: 2005 – 2017

Original Value: \$6.27M Current Value: \$7M

Originally outsourced in 2005 as part of the BC Government's strategy in the early 2000's to outsource a number of business functions to achieve improved services delivery and cost savings.

- Covers development and management of an electronic system to administer and support a formal dispute resolution process for landlords and tenants in BC.
- The Province has recently negotiated a 2- year contract renewal to ensure alignment with the Justice Tribunal Transformation Initiative
- The Residential Tenancy Branch is looking to leverage the Ministry of Justice's new tribunal system for future service delivery.

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, this contract has met the original procurement objectives; however, relationship challenges exist.

- The vendor has met 96% of the contractual Service Level Agreements (SLAs).
- The deal office spends 5.63% of total spend on deal management, within the industry best practices of 3-8%.
- There were no change orders in FY14/15.
- Governance effectiveness has improved in the last year due to the Provinces focus on governance processes and relationship health

## Strategic Partnerships Office - Revenue Services Contract Overview

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### KEY MESSAGES

- **The contract with HP Advanced Solutions covers revenue administration and collection activities, including the collection of MSP premiums and student loans.**
- **This contract, signed in 2004, has met the original procurement objectives.**
- **In the past year, the Province successfully re-aligned the deal, addressing a number of business needs and exercised its 3-year extension option.**
- **The goal is to make sure we achieve improved services delivery out of all service contracts and ensure the best value is received for tax dollars.**

### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Finance

**Vendor:** HP Advanced Solutions | **Contract Term:** 2004 – 2020

**Original Value:** \$556M **Current Value:** \$1B

Originally outsourced in 2004 as part of the BC Government's strategy in the early 2000's to outsource a number of business functions to achieve improved services delivery and cost savings.

- Covers revenue administration and collection activities, including the collection of MSP premiums and student loans.
- s.13,s.17
- In 2015, a 3-year extension option was negotiated, realigning key aspects of the contract to address the changing business needs of the Province.
- Revenues successfully on-boarded a number of government business areas

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, this contract has met the original procurement objectives; however, relationship challenges still exist.

- 94.3% of total Services Level Agreements (SLAs) were met in FY 14/15
- Currently 3.84% of total spend is on deal management; this within industry best practices of 3-8%.
- s.13,s.17
- While there is room for improvement in the relationship with the vendor, the contract relationship has improved significantly in FY 14/15



## Strategic Partnerships Office – Service BC Contract Overview

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### KEY MESSAGES

- The scope of this contract is for the management and operation of Service BC's contact centre, including telephone infrastructure.
- The Service BC Contact Centre is the provincial call centre that provides services to all British Columbia residents, on behalf of provincial government ministries, Crown corporations and public agencies.
- It provides toll-free phone and email access to information about government programs and services 24 hours a day, seven days a week.
- The contract with IBM/Robertson Telecom is performing well and is meeting the objectives of the original procurement.
- Government is committed to ensuring public services are easier to access, and that the quality of the service experience is second to none.
- The current contract is expiring in 2017; as a result Service BC has conducted a thorough end of term analysis and is currently in the process of issuing a public procurement to help deliver these services in future.

### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Technology, Innovation and Citizens' Service

**Vendor:** IBM/Robertson Telecom | **Contract Term:** 2006 – 2016

**Original Value:** \$35.5M   **Current Value:** \$42.6M

Originally outsourced in 2004 as part of the BC Government's strategy in the early 2000's to outsource a number of business functions to achieve improved services delivery and cost savings.

- Covers management and operation of Service BC's contact centre and portal environments including service delivery improvements.
- Since signing the contract June 29, 2006, the scope has been significantly reduced, now almost exclusively focused on the contact centre. The deal was recently extended by 1 year to accommodate the development of the Government-wide call centre strategy. A one-year extension is available for the purpose of procurement/transition.
- Service BC developed a government-wide Contact Centre Strategy that will dictate the future business requirements and service model.

- The Province has recently completed an end of contract term analysis and vendor engagement to help inform the future delivery of these services.
- The Province is now in the process of issuing a public, open and transparent procurement to delivery its future services.

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, this contract is meeting its performance targets and objectives of the original procurement.

- The vendor met 100% of its Service Level Agreements in FY 14/15.
- The deal office currently spends 13.1% of total spend to manage the deal, which is higher than the noted range for best practices of 3-8%.
  - This can be attributed to end of term analysis, business case development and the development of the procurement process.
- There were 5 change orders in FY 14/15 totalling \$512,900; the vast majority of this cost was attributed to the on-boarding of the ELMSD Tier 1 Helpdesk

## Strategic Partnerships Office – Workplace Support Services Contract Overview

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### KEY MESSAGES

- The 10-year service contract signed with IBM Canada in 2004 has provided good value.
- The contract covers full service and support for workstations, and devices, for all government users, including helpdesk/call centre.
- This contract bolstered government's ability to provide the infrastructure and security measures necessary to support government's 34,000 workstations.
- Health Authorities were successfully on-boarded to this contract in 2010. At this time, the two-year extension option was exercised.
- The Ministry and Health Shared Services BC (HSSBC) are currently developing requirements and a joint-procurement strategy.
- The B.C. government is committed to fair and open tendering in all service contracts to ensure the best value is received for tax dollars.

### KEY POINTS AND BACKGROUND

**Contract Owner:** Ministry of Technology, Innovation and Citizens' Service

Vendor: IBM | Contract Term: 2004– 2017

Original Value: \$300M Current Value: \$494M (core government spend)

Originally outsourced in 2004 as part of the BC Government's strategy in the early 2000's to outsource a number of business functions to achieve improved services delivery and cost savings.

- Covers complete end-to-end service for workstation and devices support for all government users, including helpdesk/call centre.
- Health Authorities were on-boarded to this contract in 2010.
- The vendor delivers the services on a 'cost-per-seat' basis that declines year-over-year.
- The Office of the Auditor General (OAG) conducted an audit of certain aspects of the WSS contract in 2015.

Based on the Strategic Partnerships Office's (SPO) performance management reporting in May 2015, this contract has performed well and met the objectives of the original procurement.

- Strong contract management practises are present, with appropriate tracking and monitoring of key performance metrics by the Province; a strong functioning governance framework and a positive relationship exist between the Province and the vendor.
- 98% of workstation Service Level Agreements (SLAs) and 94% of 1Multi-functional Device Service SLAs were met
- The contract office currently spends 2.48% of total spend to manage the deal, which below the industry best practices of 3-8%.
- s.13,s.17

Core government and HSSBC are currently working together to develop business requirements and explore joint procurement process to secure the delivery of workstation services in the future.



## **BC Transplant**

### **Raise awareness and increase registrations of organ donor decisions**

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#### **KEY MESSAGES**

- **In partnership with BC Transplant, staff at Service BC Centres in 62 communities throughout B.C. provide information on organ donation and help residents register their decision on-site.**
- **Between April 1, 2015 and March 31, 2016, the partnership between Service BC and BC Transplant generated 59,966 new registrations, a 63% increase over BC Transplant's five-year average of 36,690.**
- **2015 was a record year with 422 life-saving transplants from living and deceased donors.**
- **Over 560 British Columbians are currently waiting for a life-saving transplant.**
- **More than 95% of British Columbians support organ donation. Currently, only 20% have registered their decision.**

#### **KEY POINTS AND BACKGROUND**

- Organ donation saves lives and also saves money. One organ donor can save up to eight lives. For those with kidney disease, the average annual cost of dialysis treatment is \$50,000; by comparison, the one-time cost of a kidney transplant in B.C. is approximately \$15,000 with yearly treatment costs of \$5,500.
- BC Transplant (BCT) data indicates 95% of the population supports organ donation. Only 20% of B.C. citizens have registered their decision.
- Citizens can submit registrations by paper or online.
- Organ Donor Registration assistance is now available through all Service BC's (SBC) 62 points of service.

- In public waiting areas, offices display posters indicating the number of registrations submitted to BC Transplant from the community.
- Most citizens have welcomed the opportunity to discuss the BCT registration process.
- SBC has raised awareness of the program through announcements, news releases, scheduling recipient visits in offices and hosting celebration events and walks with BC Kidney Foundation.
- Participation from MLAs, Ministry Executive, BC Transplant, BC Kidney Foundation and SBC staff at community walks and at the 62 celebration events further increased awareness and inspired staff. Many of these events and recipient visits were covered by local media, and also captured by Government Communications and Public Engagement (GCPE) for internal distribution through the @Work site. This kept awareness of the program at a high level amongst staff and members of the public.
- On April 18, 2016, the Public Service Agency launched an employee registration drive for all 30,000 government employees.
- BC Stats works with BC Transplant to gather registration data for each community.
- Using metrics, continuous improvement strategies and staff training, Service BC remains focused on maintaining this high level of performance in 2016.

## Contact Centre Consolidation

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### KEY MESSAGES

- **Service BC provides citizens and businesses access to informational and transactional services without needing to understand government organizational structures.**
- **The new model strives to balance the most efficient, cost effective means to deliver contact centre services, while maintaining high citizen satisfaction levels and keeping personal information protected.**
- **The contact centre consolidation project will reduce the number of program specific contact centres, modernize technology and provide citizens with multi-channel and self-service options.**
- **The project will address the multiple contact centres and overlaps of services segmented by ministries/programs by consolidating to the new solution, where support by a business case.**

### KEY POINTS AND BACKGROUND

- Service BC provides consolidated access to government services allowing citizens and businesses access to informational and transactional services without needing to understand government organizational structures.
- In September 2015, a Contact Centre Consolidation Project was launched to address the following:
  - In July 2014, Service BC received cabinet direction to assess and **consolidate service counters and call centres** in locations that **improve regional coverage and citizen access**.
  - The Reducing Red Tape for British Columbians initiative focuses on the government's commitment to reduce red tape and frustration by making improvements to service delivery resulting in services that are faster, easier to access and easier to use.
  - The project will also result in an increase in government efficiency and will assist us in reducing our footprint

- The new Service BC contact centre model will take the current information and referral service and add transactional services. By transforming and consolidating contact centres, the new contact centre model will have a citizen-centred approach to increase citizen satisfaction, reduce efforts, and increase accessibility to government services for citizens.
- The following key factors have shaped the direction of contact centre consolidation:
  - **Access Integration:** Citizens want convenient one-stop access points or gateways into government services without being redirected or encountering red tape. They want government to know who they are and where they are in their transaction, while keeping their personal information protected.
  - **Self-Service Delivery:** Anytime, anywhere, and with any device, citizens want to get to their needed service simply, quickly and intuitively. The need for in-person and online support will always exist. Government's telephony system must smoothly integrate with all delivery channels.
  - **Demand for Data:** While there is rising demand for data about public resources, citizen needs, and outcomes, there is also rising concern about privacy protection; these two perspectives must be balanced.
  - **Availability of New Technologies and Services:** Government has an opportunity to take advantage of new technologies to improve service levels, minimize transaction costs, and meet the expectations of citizens and partners.
- The current contact centre services contract expires in June 2016 and has been extended for one year to June 2017 for procurement purposes, providing an opportunity to modernize the service model.
- MTICS intends to procure contact centre services in spring 2016 with a target launch date for the transformed contact centre in July 2017.
- It is anticipated that the Contact Centre Consolidation Project will be funded through the consolidation of existing contact centres and the continuation of existing spending. Efficiencies found through modernizing services and technology platform will be used to further transform service delivery and provide further consolidation opportunities.
- Service BC is collaborating with the Strategic Partnerships Office ensure that any alternative service delivery (ASD) arrangements allow government to improve service delivery, while ensuring best value for money, and effectively leveraging both public and private sector expertise.

## New Societies Act

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### KEY MESSAGES

- **As of November 2016, Societies will be able to file records such as incorporation applications, constitutions and bylaws, online.**
- **Regarding fee increases: The annual report filing fee will increase from \$25 to \$40 when the new Societies Act comes into force November 28, 2016. The new fee includes the cost of filing a change in registered offices, which was previously \$15. The fee increase will help cover the cost of the new online platform. This is the first time the fee has increased in over 15 years.**
- **Regarding public consultation: Ministry staff has been consulting with societies on how to make the new online platform meet their needs. We will continue to work with non-profit societies to ensure that they understand and are aware of the changes in the new act.**

### KEY POINTS AND BACKGROUND

- The new *Societies Act* (the Act) was passed in May 2015: it changes how societies are incorporated and how they interact with government. The regulations were signed in November 2015 and the date the Act will come into force set as November 28, 2016.
- The new Act requires online filings.
- In November 2015, 27,000 societies were surveyed to ascertain how societies currently operate. This information was used to design an online filing system that will meet the needs of societies and of government.
- There is a communication and change management team in place to work with societies, community groups and other service providers as they transition to the new Act.
- To transition under the new *Societies Act*, societies are required to upload their bylaws and constitution to the new electronic filing system and meet the transition requirements set out in the Act. There is no fee to transition if the societies undertake the transition filings without Registries' assistance.

- A transition package will be available as of August 29, 2016, to help societies complete their transition filing for a flat fee of \$40. The package will consist of certified copies of the constitution, bylaws and any amendments to those documents.
- There may be criticism over the first nominal fee increase in over 15 years, specifically the increase in annual reporting fees from \$25 to \$40. However, the move to mandatory online filings will result in significant service delivery improvements; a new “evergreen” copy will be created, societies will have access to up-to-date records, and online filings will be instant, reducing current turnaround time by up to 35 days
- All societies were sent an emailed letter on January 14, 2016, advising them the date the new Act would be in force as well as providing societies with the benefits of the new Act, and a link to the information posted on Registries’ website. A letter to those who didn’t have email was sent on February 1, 2016.

## Service Centre Integration with SDSI

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### KEY MESSAGES

- **Service BC (SBC) in partnership with the Ministry of Social Development and Social Innovation (SDSI) implemented a service integration initiative.**
- **Service Integration reduces red tape and frustration for citizens by ensuring service needs and expectations are met: aligning service delivery channels; expanding ‘one-stop-shop’ capabilities for government services and increasing hours of access for SDSI clients in the rural communities.**
- **In 2015/2016, SBC and SDSI consolidated services in the communities of Grand Forks, 100 Mile House, Dawson Creek and Fort St. John. Integration opportunities will be explored in 14 additional locations over the next 5 years as building leases expire.**

### KEY POINTS AND BACKGROUND

- In 2014, Cabinet directed the Ministry of Technology, Innovation and Citizens’ Services (MTICS) to assess government service counters across British Columbia to find efficiencies and improve access to services for citizens. Accordingly, Service BC (SBC) in partnership with the Ministry of Social Development and Social Innovation (SDSI) implemented a service integration initiative. In 2015/2016, service consolidation of SDSI into SBC locations in Grand Forks, 100 Mile House, Dawson Creek and Fort St. John was completed.
- Through this program, SBC is modernizing and improving the service experience for citizens by improving access and providing assistance across various service delivery channels (in-person, online self-service, and telephony).
- This program creates value and reduces red tape for citizens by ensuring service needs and expectations are met: aligning and integrating service delivery channels; expanding ‘one-stop-shop’ capabilities for government services and increasing hours of access for SDSI clients in the rural communities.
- In these rural communities SDSI offices were open to the public from 1:00 to 4:00 pm daily. Service BC is able to offer extended hours from 8:30 am to 4:30 pm daily.

- Service centre integration creates value for government by reducing overhead costs such as administration and facilities costs (where co-location occurs) while maintaining a strong presence in rural communities.
- SBC continues to actively explore new partnership opportunities with SDSI and other Ministry partners to achieve service modernization, integration and consolidation in communities. This includes opportunities for consolidated service counters in high growth/high demand areas across the lower mainland.



## Agreement on Internal Trade - Chapter 5 Procurement

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### KEY MESSAGES

- **The absence of interprovincial barriers to trade supports the ability for BC small business and technology companies to successfully market and sell their goods and services across Canada.**

### KEY POINTS AND BACKGROUND

- The Agreement on Internal Trade (AIT) is an intergovernmental agreement signed by Canadian First Ministers in 1994 and subsequently amended to provide full labour mobility, and an improved dispute resolution mechanism. Its objective is to reduce and eliminate barriers to the free movement of goods and services and to establish an open, efficient, and stable domestic market.
- Chapter 5 of the AIT addresses government procurement.
- On July 9, 2014 the Premiers of British Columbia, Alberta and Saskatchewan sent a joint letter to all premiers calling for a modernization of the AIT. In August, 2014 all Premiers agreed to undertake a comprehensive renewal of the AIT, with government procurement identified as a priority. The Minister of International Trade & Minister Responsible for Asia Pacific Strategy & Multiculturalism was subsequently directed by Cabinet to seek a comprehensive, renewed AIT.
- The Ministries of International Trade, Finance, and Technology, Innovation and Citizens' Services have participated in the federal / provincial / territorial negotiations regarding procurement.
- A national consensus has been largely reached with respect to renewal of Chapter 5. A modernized chapter is proposed that reflects contemporary best practices while retaining the principles of fair, open and transparent processes and non-discrimination based on the location of a supplier within Canada.

s.13

- Parties to the AIT will be submitting final comments on Chapter 5 to the Internal Trade Secretariat during February. The Secretariat will compile the comments and based on the input received potentially convene an all-parties consultation to reach final consensus on any outstanding matters.
- Parallel to this process, all provinces and the federal government are negotiating the exceptions they may seek from this new chapter. Based on preliminary discussions, BC is concerned with the number of exceptions some jurisdictions are seeking. Efforts are underway to reduce the number of exceptions, or to include a reciprocity clause to ensure a level playing field.

- The text of a final draft of Chapter 5 will be distributed to all parties by the Secretariat this spring for formal review, comment and potentially endorsement. The Minister of International Trade & Minister Responsible for Asia Pacific Strategy & Multiculturalism will be responsible for bringing the text of a renewed Chapter 5 forward for approval by government.

## BC BID Replacement

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### KEY MESSAGES

- An open and transparent procurement process is essential to providing taxpayers value for their money.
- BC Bid, our web-based procurement system is 20 years old. It's time to modernize the system so it's easier to do business with government.
- This request for qualifications is a standard step in the procurement process towards selecting a vendor that can meet our business requirements.
- Simplifying government procurement is a part of our #BCTECH Strategy, helping to expand markets by making it easier to do business with government.
- Thanks to information received through a Request for Information and an online consultation process, we've heard from the public, stakeholders and the business community.
- We want to take what we've learned to move forward with the new BC Bid with the needs of small, medium and large businesses in mind.
- Doing business with government should be about doing business, not dealing with red tape.

### If asked about the budget for the project:

- The budget will ultimately be confirmed as part of the procurement process.
- We will have a better understanding of the cost once we have received information from potential suppliers on how their product meets the province's business requirements.

### If pressed:

- As indicated in the RFQ, we estimate a three-year cost of \$6 million, for implementation of the new BC Bid platform and any associated services.
- BC Bid costs are also offset by revenue from subscription and registration fees to the service. This would continue to be the case with the new version as well.

## KEY POINTS AND BACKGROUND

- The request for qualifications (RFQ) for technology to replace and expand the functionality of the existing BC Bid, government's online procurement platform was posted on February 4, 2016. s.13,s.17
- Government has engaged publicly with the vendor community and stakeholders over the course of the last two years while planning to go to market with the RFQ.
- BC Bid has been assessed as s.13,s.17 and there is a need to proceed with updated technology.
- The "Markets pillar" in the recently released #BCTECH Strategy also has a commitment to introduce "technology and tools to automate and streamline the entire procurement process"
- Current users of BC Bid include all ministries, over 600 broader public sector (BPS) organizations, and tens of thousands of vendors. If the existing technology supporting BC Bid fails, all procurement would have to be provided through other methods. For example, announcing procurement opportunities through newspaper postings.
- The technology that the Province wishes to procure includes spend analytics, sourcing, contract management and supplier performance management. There is an established marketplace of vendors available to provide this technology.
- s.16

- Replacing BC Bid also follows the recommendations from the 2014 report "Doing Business with Government". Following the report, government committed to make doing business with government easier, including improving BC Bid.
- The RFQ closed in March, 2016, and vendors that qualify will have an opportunity to participate in a subsequent request for proposals,  
s.13,s.17
- A vendor information session to provide an overview of the scope and process was held January 21, 2016. Thirty companies participated online or in person, represented by 44 individuals.

- In June, 2015, the business requirements developed to support the new technology to replace BC Bid were posted publicly on the Ministry's OpenHub site. The site was created to engage in a proactive, public conversation around potential procurement opportunities. The pilot of this approach was launched with notifications to stakeholders already engaged in this project, (e.g. core government audiences, broader public sector, and suppliers that provide source to contract technology.) and was open to public feedback about the business requirements for a new procurement system for government to replace or update BC Bid. 100 comments were received through this process.
- In Feb. 2014, government began exploring how procurement software and practises have evolved since BC Bid was launched. The research included 15 vendor demonstrations and engagement with Ministry staff, the broader public sector and vendors, including a strategic exercise with Deloitte in the fall of 2014 to identify potential requirements for a new procurement system.
- Nitor, a consulting company specializing in procurement technology, has been assisting government to draft the business requirements, business case, and to support the competitive process for the potential technology to replace BC Bid.

## FOI/Privacy Transfer to Ministry of Finance

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### KEY MESSAGES

- **Effective December 16, 2015 responsibility for Information Access Operations, Government Records Services, Privacy and the implementation of the Information Management Act was transferred to the Ministry of Finance.**
- **The budget for these operations is now with the Ministry of Finance.**
- **All questions related to these operations should be directed to the Ministry of Finance.**

### KEY POINTS AND BACKGROUND

- On December 16, 2015 the Premier released a statement in response to David Loukidelis' recommendations to government on how to improve Freedom of Information policies and procedures as well as records management practices in response to the Privacy Commissioner's October 22 report.
- The Premier reiterated her commitment to ensure government is open and transparent. To that end, all of Mr. Loukidelis' 28 recommendations were accepted and further actions were identified to ensure records management and Freedom of Information practices meet public expectations. Mr. Loukidelis' report is available on the Office of the Chief Information Officer website.
- Mr. Loukidelis reiterated the importance of good records management practices, noting government sends and receives more than 280 million emails per year. While not all of these records need to be saved, it is important that every public service employee understand their records management responsibilities and manage their emails and other records appropriately.
- Mr. Loukidelis noted some confusion across government about which records are transitory and can be deleted and which records must be kept. Effective immediately, the "triple deletion" of emails is prohibited. Further, in the coming months, the definition of transitory records will be revised and training will be held for all public service employees with respect to records management duties and responsibilities.
- Further to the release of the David Loukidelis report and the announcement by Premier Christy Clark, the responsibility for the information management file was transferred to the Ministry of

Finance effective December 16, 2015, reporting to Associate Deputy Minister, Cheryl Wenezenki-Yolland.

- The transfer included the Freedom of Information and Protection of Privacy Act, the Personal Information Protection Act, the Document Disposal Act and the Information Management Act, and the following business units within the Ministry of Technology, innovation and Citizens' Services:
  - Information Access Operations
  - Government Records Services and Information Management Act implementation
  - Privacy and Policy
- The transfer for these operations to Ministry of Finance consisted of:
  - Budget 2016/17 \$13.91M (Budget 2015/16 restated \$13.774M)
  - 207 staff
- This change provides government with an opportunity to improve and streamline information management across government, by integrating key information management disciplines under one comprehensive corporate program.

## Procurement Transformation Initiatives

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### KEY MESSAGES

- **Simplifying government procurement is a part of our #BCTECH Strategy, helping to expand markets by making it easier to do business with government.**
- **Doing business with government should be about doing business, not dealing with red tape.**
- **Achievements to date include the introduction of a two-page request for proposals template and hosting 228 government to business meetings at the #BCTECH Summit.**
- **Future activities include the replacement of BC Bid with modern technology, and delivering plain language online resources for vendors looking to do business with the Province.**

### KEY POINTS AND BACKGROUND

- Procurement transformation has been identified as a priority in the following documents:
  - Doing Business with Government – 12 recommendations issued in April 2014;
  - #BCTECH Strategy – markets pillar issued in January 2016; and
  - MTICS 2015/16 mandate letter – “Work with the Minister of Small Business and Red Tape Reduction to develop a strategy to encourage provincial ministries, crown corporations and agencies to more fully open procurement to BC technology companies.”
- Major Procurement Transformation activities include:
  - BC Bid Replacement;
  - Process Improvements such as the two-page, short-form RFP; and
  - Outreach and Other Activities.
- BC Bid Replacement
  - Requirements were developed and shared on the OpenHub forum; business case complete;
  - Request for Qualifications launched February 4, 2016 as part of a two-stage process;



- BC Bid is used by all ministries and over 600 broader public sector organizations.
- Process Improvements such as the two-page, short-form request for proposals (SRFP)
  - Since its launch in April 2014, over 131 SRFPs have been posted to BC Bid;
  - A short-form general services agreement (GSA) is being piloted and prepared for corporate use;
  - Contract award summaries are now proactively posted on BC Bid, and tutorials are in place;
  - Up to three-years advance notice is now provided on upcoming contract opportunities;
  - A project is underway to assess innovative ideas from the marketplace; and
  - On January 18-19, 2016, 228 B2B meetings were held at the #BCTech Summit.
- Outreach and Other Activities:
  - Launch of BC Bid Resources, over 250 pages of guidance for government buyers on public sector procurement.
  - Vendor-specific resources will be launched in 2016 and 2017;
  - Vendor training has been piloted, and a full outreach program is being scored; and
  - The Procurement Community of Practice has over 1,350 members, and annually delivers 8 webinars, 4 newsletters, and an in-person event.

## Small Business – Doing Business with Government Project Status Update – February 2016

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The Doing Business with Government report was issued in April 2014 by the Ministry of Jobs, Tourism and Skills Training, under the accountability of then Minister of State for Tourism and Small Business, Naomi Yamamoto.

The report contains 12 recommendations. The Ministry of Technology, Innovation and Citizens' Services has responsibility for nine of these recommendations (in some cases, shared with other ministries). A summary of progress to date against each deliverable is outlined below. Five of the recommendations are complete, five are in progress, and two are to be planned. Recommendations in grey are not the primary responsibility of MTICS, but where progress is known, it has been documented.

In summary, the following accomplishments have been achieved related to the original report:

- Tutorials developed to help vendors navigate all aspects of functionality in BC Bid
- Vendor training piloted, and a full program has been scoped, including a business case
- Launch of BC Bid Resources, containing 250 pages of public guidance on the procurement process
- Internal learning delivered through BC Bid Resources and the Procurement Community of Practice
- Creation of three-years advance notice of upcoming contract opportunities, updated quarterly
- Policy changes and BC Bid improvements to allow proactive posting of contract award summaries
- Market process is underway to replace and significantly enhance the functionality of BC Bid
- Pilot of a short-form general services agreement, being prepared for corporate roll-out
- Implementation of a Lean project to assess innovative ideas from the marketplace
- Other process improvements to corporate supply arrangements, email bidding, the conventional request for proposals template, and the short-form request for proposals template

Recommendations	Results
1. Implement a cost effective small business outreach and training approach that leverages existing business networks.	<b>Status: In Progress</b> <ul style="list-style-type: none"><li>• Vendor training program scoped and piloted</li><li>• Vendors invited to outreach events on multiple topics (innovative ideas, short-form general services agreement, etc)</li></ul>
2. Implement a strategy to communicate about existing and future contract opportunities likely of interest to small businesses.	<b>Status: Complete</b> <ul style="list-style-type: none"><li>• Up to three years of advance notice of contract opportunities are now posted proactively, and updated quarterly</li><li>• The use of innovative engagement tools such as the OpenHub and Developer's Exchange complement these activities</li></ul>
3. Develop centrally accessible plain language information and resources, and promote the single point of contact for small businesses.	<b>Status: In Progress</b> <ul style="list-style-type: none"><li>• The launch of BC Bid Resources in July of 2015 was phase one of meeting this commitment</li><li>• A vendor working group is advising on the needs of vendor specific content, targeting Fall/Winter 2016 implementation</li></ul>
4. Explore ways to expand the scope of proactively released contract award summaries.	<b>Status: Complete</b> <ul style="list-style-type: none"><li>• Improvements to BC Bid and policy direction now require ministries to post contract award summaries for all opportunities originally posted on BC Bid</li></ul>
5. Improve BC Bid functions, develop a tutorial and consider reducing or eliminating fees.	<b>Status: In Progress</b> <ul style="list-style-type: none"><li>• Step by step tutorials for vendors using BC Bid are now available</li><li>• A market process has been initiated to replace and significantly expand on the functionality of BC Bid today</li></ul>

Small Business – Doing Business with Government Project  
Status Update – February 2016

Recommendations	Results
6. Explore establishing a supplier management tool that facilitates increasing small business procurement while meeting the needs of various programs and priorities of government.	<b>Status:</b> In Progress <ul style="list-style-type: none"> <li>A supplier interface and performance management tool are in scope for the replacement technology for BC Bid</li> </ul>
7. Encourage government's larger suppliers to post and promote opportunities for small businesses.	<b>Status:</b> To Be Planned
8. Enhance staff training to promote best practices when dealing with small businesses throughout the contract management lifecycle.	<b>Status:</b> Complete and Ongoing <ul style="list-style-type: none"> <li>The Procurement Community of Practice annually delivers 8 webinars, 4 newsletters and an in person event</li> <li>A Procurement Management Learning Advisory Committee provides guidance on staff training</li> <li>The launch of BC Bid Resources provides consistent corporate guidance to all government</li> </ul>
9. Streamline procurement processes and templates, including implementing a more simplified General Service Agreement (GSA).	<b>Status:</b> Complete and Ongoing <ul style="list-style-type: none"> <li>Implementation of the short-form request for proposals template (SRFP)</li> <li>Lean activities to address use of corporate supply arrangements and the means by which vendors bring forward innovative ideas to government</li> <li>The short-form GSA is being piloted in the economy sector, and is being readied for corporate roll-out</li> </ul>
10. Implement an appropriate policy and approach for inviting and managing unsolicited proposals.	<b>Status:</b> In Progress <ul style="list-style-type: none"> <li>A lean project is underway to address this recommendation</li> <li>228 B2B meetings were held at the #BCTECH Summit January 18-19 in Vancouver</li> </ul>
11. Explore ways consistent with government's procurement principles to achieve ministry mandates and broader economic, social and environmental objectives.	<b>Status:</b> To Be Planned
12. Assign accountability for reporting out on the report's recommendations to the Minister of State for Small Business. Accountability for implementation of each recommendation is detailed in this table.	<b>Status:</b> Complete

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s.12

## **AXOR Jutland Option to Purchase**

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### **KEY MESSAGES**

- **The Province filed an appeal which was heard on February 16. The outcome is expected in the coming months.**
- **In the mid-1990s the Province entered into an early public-private-partnership (P3) with the Axor Group Inc. to build and manage a building at 2975-2995 Jutland Road**
- **Under the terms of the agreement, the Province had an option to purchase the land and building; the Province has assigned that option and has indemnified the buyer against the building's mortgage.**
- **The Province's position is that the option to purchase (\$11M) is the only cost the buyer should incur, as opposed to the buyer also becoming responsible for the mortgage.**

### **KEY POINTS AND BACKGROUND**

- In June 2015 the B.C. Supreme Court ruled against the government in a case regarding the Jutland building in Victoria.
- Government sold the land to Axor Group Inc. to build the Jutland Road building with an option to purchase both the land and building for \$11M after 20 years (2017).
- The option to purchase the building was assigned (sold) to another private company, and the government has indemnified the new buyer (Healthcare of Ontario Pension Plan) against the building's mortgage.
- The dispute was whether the option (\$11M) is the only cost the buyer should incur (government's position), or whether or not the buyer is also responsible for the mortgage (Axor's position). In this case that would mean government would need to pay the mortgage (due to the indemnity).
- In the mid-1990s the Province entered into an early public-private-partnership (P3) with the Axor Group Inc. to build and manage a building at 2975-2995 Jutland Road.

- Under the terms of the agreement the Province would lease the building for 20 years, at the end of which it could exercise its option to purchase the building for \$11M.
- The deal allowed AXOR to put government payments towards a mortgage, with the understanding that at the end of 20 years, the mortgage balance was not to exceed \$11M.
- Currently the mortgage balance is higher than \$11M and AXOR's position is that the liability would pass to the buyer of the building. The Province's position is that the agreed upon purchase price is the only amount due upon purchase to the buyer.
- s.13,s.17

## Capital Park Project

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### KEY MESSAGES

- **Construction is underway with completion anticipated in 2017 and 2019, respectively.**
- **The development will result in great benefits for the City, by not only revitalizing and beautifying the neighborhood with modern LEED Platinum certified buildings, but will also generate substantial economic benefits through construction and new community amenities.**
- **This development keeps the Province as a major employer in the James Bay and downtown areas, retaining the economic activity that come with these jobs.**
- **The B.C. government will be a major tenant by leasing 180,000 sq. ft. of office space. Previously, the site supported approximately 148,000 sq. ft. of government office space.**

### KEY POINTS AND BACKGROUND

- The Province sold South Block, Victoria (six acres) in March 31, 2014, through a sale, design-build, and lease-back arrangement.
- South Block was sold to a partnership of Jawl Properties Ltd., and Concert Real Estate Corporation.
- In May 2015 the Owner / Developer secured City of Victoria Land Use Approval for Capital Park, a mixed-use development including office, retail, residential, commercial spaces.
- July 2015 Owner / Developer began excavation and construction for Capital Park.
- January 2016 MTICS announced the future ministry tenants are Ministry of Children and Family Development staff from 765 Broughton Street, and Ministry of Environment staff from 2175 Jutland Avenue. Strategies to back fill these vacant spaces are underway.
- The development will be conducted in two phases:
- **PHASE ONE:** 700 provincial staff are anticipated to occupy 110,000 sq. ft. of office space in Office Building A1 by fall 2017.

- PHASE TWO: The Province will occupy <sup>s.13,s.17</sup> in Office Building A2. Construction is anticipated to begin winter 2017, with target occupancy in 2019.
- The development will be built to LEED® Platinum specifications and feature
  - Storage for approximately 110 bicycles;
  - 220 underground parking stalls.
  - A new exercise facility, available to the community.
- The Owner / Developer will be responsible for the mix of tenants within the retail / commercial spaces.
- MTICS' is leading the space design; lease management; and project implementation, and will incorporate Leading Workplace Strategies (LWS) to support increased flexibility, mobility and choice for employees.



## Facilities Management Procurement

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### KEY MESSAGES

- A fair open and transparent process is being followed to procure these services ensuring the best value for taxpayers.
- An Executive Steering Committee has been established to oversee the procurement. This work is underway.

### *If Asked:*

- Strategic advisors from the Province's Procurement Services Branch are heavily engaged to ensure a fair, open and transparent process commensurate with a procurement of this magnitude
- Project governance, including all material decision making, is through a cross government steering committee of assistant deputy ministers
- All project participants, Mr. Fellows included, have signed non-disclosure agreements
- A fairness advisor will monitor the procurement, and a Facility Management Industry advisor will advise on best/current practice
- Transparent engagement and communication plans include all stakeholders in every step of the process

### KEY POINTS AND BACKGROUND

- In 2003 the Province outsourced property management, project management, construction, pollution prevention and technical value services to WSI. Accountability for this contractual arrangement and the delivery of services resides with the Real Property Division (RPD), Ministry of Technology, Innovation and Citizens' Services (MTICS).

- The Master Services Agreement for facility management (FM) services between Brookfield GIS - Workplace Solutions Inc. (WSI) and the Province is in its final term and will expire on March 31, 2019. At this time, a new service agreement (with potentially a new provider) must be in place to assume services without interruption. Contract value over 15 years approximately \$2.3B.
- Outsourced services include:
  - day-to-day building operations and maintenance (O&M) services (e.g. janitorial, security, grounds upkeep, mechanical/electrical, emergency response/repair, asset management, pollution prevention, equipment repair and maintenance, utilities and energy management); and
  - project management and construction services (for projects up to an individual threshold of \$2M).
- Costs of O&M and project services are funded on a cost pass through basis, with approximate annual budgets of \$90M and \$60M, respectively. The Management Fee is indexed to portfolio size.
- Services are provided to mandated Ministry and non-mandated Broader Public Sector clients in 1,850 properties across B.C.
- On March 31, 2019 a Decision Note was prepared and presented to MTICS Executive with options to:
  - s.13,s.17

- s.17

- The Project consists of three phases – Preparation (April 2014 to March 2017), Procurement (April 2017 to March 2018) and Transition (April 2018 – April 2020).
- A key milestone was the November 2015 posting of a Request for Information (RFI), inviting key vendors in the industry to provide presentations and written submissions outlining the current state of the industry. Eleven vendors responded to the RFI.

- The Project is governed by an Executive Steering Committee comprising assistant deputy ministers from across government and including Sarf Ahmed, Associate Deputy Minister, MTICS and David Morel, Assistant Deputy Minister, Technology, Innovation and Procurement Supply. The governance structure includes additional committees to support this initiative:
  - Strategic Advisory Committee
  - Project Advisory Committee
  - Portfolio Advisory Teams (client engagement)

## Jericho Lands

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### KEY MESSAGES

- The Province is pleased to have reached an agreement with three First Nations regarding the future stewardship of the provincially owned Jericho Lands.
- Confirming the sale and transfer of the Lands to the First Nations is a further step towards reconciling the First Nations' interests in respect of rights and title to the traditional Territories and confirms the settlement of all of the Nations' claims to the Jericho Lands.
- This agreement enables First Nations to begin a meaningful community consultation process as required by the City of Vancouver on what the community would like to see with respect to future development of the Lands.
- I am confident the First Nations will undertake a fulsome and meaningful consultation as required by the City of Vancouver, and the community will be able to provide meaningful input.
- Any and all rezoning and development plans will follow the mandated consultation process established by the City.
- Releasing these lands for development could help improve the housing supply in Vancouver by increasing the amount of inventory available for development.

## KEY POINTS AND BACKGROUND

- The Province has owned the 38.4 acres of land located in the 4000 to 4200 blocks of West 4th Avenue in Vancouver, which are referred to as the Provincial Jericho Lands, since circa 1900. The site is bordered on the north by West 4th Avenue, south by 8th Avenue, east by the federal government owned lands (53 acres) and west by an unopened road allowance.
- The Jericho Lands currently have tenants on the property. West Point Grey Academy (a private school) has a lease in place for most of the buildings onsite that expires in 2020; however, it states that First Nations can give a two year notice to vacate the property if they purchase it. Other subtenants (who sublease from the City of Vancouver) with month to month leases include a Montessori school/ daycare, other private schools and community associations.
- Chief Wayne Sparrow of the Musqueam First Nation stated the following to Global News with regards to tenants: "We've agreed that we would be in contact with the tenants that are there now. For the short term everything is going to stay the exact same and we'll have our opportunity to sit down with all of them to make sure that we have discussions with them."
- Local government is responsible for all land use decisions – and has a mandated community consultation process that is required prior to granting permission for any changes in land use.
- The City of Vancouver has stated their expectation that the provincial Jericho Lands and the adjacent federal site "need to be planned and developed collectively".

## Robson Square Entryway Project

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### KEY MESSAGES

- **The Province is developing an entryway proposal for the lower plaza of Robson Square and the University of British Columbia (UBC) downtown plaza.**
- **Upgrading the entryway will help buffer noise from the lower plaza (ice rink) and provide a higher profile entrance for UBC into their downtown campus.**
- **The proposed entryways will complement the architectural style of Robson Square and has the support of key heritage organizations and the City's Urban Design Panel.**

• s.16

### KEY POINTS AND BACKGROUND

- The Ministry is developing a proposal for two glass entryways, one at each entrance to the lower plaza level at Robson Square, providing access to UBC facilities and the ice rink. The structure on the south side will be smaller than the principal entrance on the north side.
- UBC is a major tenant at Robson Square with 35,000 people using the downtown campus each year. The new glass entryway will provide a higher profile entrance into their facility.

s.16

• s.16,s.17

• s.16,s.17

## Robson Square Plaza Design

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### KEY MESSAGES

- **The City of Vancouver, which leases the Robson Square plaza from the Province, has worked with the Province to develop a high-level conceptual design for the plaza's redesign.**
- **The City's initial proposal has been approved by the Province; subsequent detailed designs will require progress approvals by the Province.**
- **This is a City project and we expect that there will be some trees and natural green space for public to enjoy.**

### KEY POINTS AND BACKGROUND

- City of Vancouver has a 99 year lease for the Vancouver Art Gallery and surrounding lands commencing on March 1, 1980 and terminating on February 28, 2079 at \$1.00/per annum, prepaid.
- In October 2015 approval was provided for the conceptual design with the caveat that the Province retains the right to review and approval detailed design. The City is currently undergoing permit applications and design on the project. The approval is consistent with the original instructions provided to the City as follows: *"that a design solution that contemplates large paved areas that would be conducive to major gatherings and serve as a flash point for riots would not be in keeping with the Robson Square Legacy and would mitigate the integrity of the overall complex."*

## SURPLUS PROPERTY SALES

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### KEY MESSAGES

- **The Minister of Finance has overall responsibility for the program. Questions about the program and specific surplus property sales should be directed to the Minister of Finance.**

***If asked:***

- **Government has an ongoing plan to release unused and surplus government properties and assets for new development opportunities in the public and private sectors.**
- **We are turning these surplus properties and assets into economic generators – providing amenities such as housing, health care and long-term residential care.**
- **In addition, by releasing these assets in many cases we can reduce government expenditures on maintenance and debt servicing, as well as increase tax revenue for federal, provincial and municipal governments.**
- **School boards and health authorities will be able to reinvest the proceeds of their sales in priority projects, like new health care facilities and new schools. Proceeds of the sales also help reduce the provincial debt.**
- **Properties include Crown lands and surplus lands acquired by Ministry of Transportation and Infrastructure for building roads and highways which are no longer needed and have been sold each year by Crown Lands and BC Transportation Financing Authority (BCTFA).**



## KEY POINTS AND BACKGROUND

- Government owns some properties and assets that provide little financial or strategic benefit to B.C.
- Government's ongoing plan to release unused, surplus government properties for new development opportunities in the public and private sectors, is spurring economic activity, creating jobs and providing other revenue streams for the Province and communities across B.C.
- The total value of the Province's assets, excluding un-surveyed Crown land, is \$70B.
- Not all surplus properties and assets are part of this initiative. Surplus properties and assets are those that are no longer in use, not required for future use, or those properties and assets where there is no strategic benefit for government to be the owner.

### Examples of MTICS sales generating new economic activity:

- **South Block/ Capital Park**
  - Purchased by Concert and Jawl developments in 13/14 for \$34M
  - Construction underway on >400,000 sq. ft. mixed use, office, retail and residential development (will include a range of unit types, sizes and tenures to respond to diverse market needs and demands).
  - Existing heritage houses currently fronting onto Superior Street have been relocated and have been restored.
  - Development will include an extensive and integrated network of streetscapes, plazas, and landscaped courtyards.
- **Point Hope Shipyard/ Crystal Gardens**
  - Land exchange with the City of Victoria for the Point Hope Shipyard.
  - The Province sold the Shipyard to Ralmax at appraised value of \$12M creating economic development and job opportunities for the region.
  - The sale enables Ralmax to expand, doubling their current work force to 300, and make significant capital investment in the property
  - Ralmax will build a new, purpose-built metal-fabrication building, securing the existing jobs at United Engineering, and allow for strategic growth opportunities through LNG partnerships in northern B.C.
  - Point Hope works with approximately 800 local and provincial businesses, including Salish Sea Industrial Services Ltd., a company owned and operated by the Esquimalt and Songhees Nations in partnership with Ralmax.
  - City of Victoria will be exploring uses in conjunction with their Convention Centre.

### Assets not for sale include those that are:

- Properties for which ownership is essential to the delivery of a government-funded service (such as hospitals, jails or schools);
- Assets that are part of the treaty process;
- Assets approved by Cabinet or one of its committees to be held for any identified future government need.

<b>Ministry of Technology, Innovation and Citizens' properties sold FY 15/16</b>		
<b>Building/ location</b>	<b>Purchaser</b>	<b>Net Value</b>
Plaza 400 office building in Prince George	Nicola Crosby Real Estate Asset Management.	\$22.43M
<b>Examples of properties sold or with negotiated contracts in place to close FY 15/16</b>		
<b>Building/ location</b>	<b>Purchaser</b>	<b>Net Value</b>
Dogwood Lodge and the George Pearson Centre in Vancouver	Onni	Dogwood Lodge completed in April 2015 and George Pearson is scheduled to complete March 15, 2016. Combined net value: \$277M
Coronation Park Elementary School in Coquitlam was	Polygon Pacific Homes Ltd.	\$23.16M
A vacant parcel, Lot 5 in Surrey	City of Surrey	\$12.44M
Monterey Elementary School in North Vancouver	Morningstar Homes	\$6.29M
Ridgeway Annex Property in North Vancouver	Anthem	\$5.04M
A portion of the Parkland Elementary site	Delux Building Solutions	\$2.47M
1.165 acre vacant site on Croyden Drive in Surrey	Under contract with Avondale Development Corporation	\$2.08M
Former School Board Office in Surrey	Hal Co. Developments Ltd.	\$1.25M
George Derby property in Vancouver	George Derby Care Society	A portion of the net value provided to Release of Assets for Economic Generation: \$0.99M
Vacant site at 9568 Burns Drive in Delta	Under contract with THA Investment Ltd. and is scheduled to complete March 28, 2016	\$0.92M
Vacant site at 1120 Guerin Road in Kamloops	to 439143 BC Ltd	\$0.53M
Residential property located at 3114 Alder Street in Victoria	David Lloyd	\$0.3M
Vacant site at 1281 Mission Flats in Kamloops	Gritten Holdings	\$0.16M
Vacant site, Green Timbers Lot B, located in Surrey		\$0.09M
Vacant site, Testalinden Creek, in Kamloops		\$0.58M

## **Surrey Courthouse Project**

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### **KEY MESSAGES**

- **The renovation and expansion of the Surrey Courthouse is an important investment that will help meet the needs of the growing City of Surrey.**
- **This \$33.537M project will expand the court facilities by allowing the construction of three new courtrooms and two additional hearing rooms.**
- **Real Property Division has completed the tender phase, awarding a contract to the lowest compliant bidder. Construction is scheduled to commence in May 2016 and be substantially complete in late 2017.**

### **KEY POINTS AND BACKGROUND**

- Substantial work was undertaken to ensure that the project includes essential scope only.
- The Ministry of Technology, Innovation and Citizens' Services (MTICS) completed lease negotiations with the City of Surrey for Crown Counsel and Community Corrections office space in the former Surrey City Hall building. Crown Counsel and Community Corrections offices have been relocated to the former Surrey City Hall, and the Surrey Family Justice offices have been relocated to the Surrey Courthouse. The initial phase was occupied in early 2015 and the next phase was occupied in spring 2016.
- A Project Executive Board has been established as well as a governance model with external expertise provided by Partnerships BC and the Ministry of Transportation and Infrastructure.
- NORR Architects in collaboration with Ratio Architects are the prime consultants for the project. The selected contractor is Yellowridge Construction.

## Valleyview - Willingdon to Riverview Programs Relocation

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### KEY MESSAGES

- **The Real Property Division is constructing a new, purpose-built facility at Riverview (Valleyview Pavilion) to accommodate Ministry of Children and Family Development's (MCFD) MAPLES program and Community Living BC's Provincial Assessment Centre (PAC) which are currently located on the Willingdon Lands in Burnaby.**
- s.17
- **The facilities on the Willingdon site are past their economic life; selling the property created an opportunity to build modern purpose-built facilities for these programs. The facilities are expected to be ready in 2019.**
- **A Request for Qualifications closed May 4, 2016 to shortlist and qualify respondents for the Request for Proposals for a design build team for the project.**

### KEY POINTS AND BACKGROUND

#### TIMELINE

- s.12,s.17
- December 2015 Ministers Coleman, Lake and Cadieux announced two new building projects at Riverview. The first is a replacement for the Burnaby Centre for Mental Health and Addictions being delivered by the Ministry of Health and the second is the Maples Adolescent Treatment Centre and CLBC's Provincial Assessment Centre programs, for a combined total of \$175M.
- MTICS will deliver the new Maples/PAC building using a Design - Build procurement, with anticipated target occupancy of spring 2019.

- There has been a Project Board established for the governance of the Valleyview project. The Board consists of members from MTICS, Ministry of Health, MCFD, CLBC, Partnerships BC, Ministry of Social Development and Social Innovation, and BC Housing.
- MTICS has engaged Partnerships BC to be their Procurement Advisor for the Design-Build project.
- MTICS has signed a Temporary Occupancy Agreement with BC Housing to allow access to the site for the deconstruction of the existing Valleyview Pavilion and the construction of the new building.
- MTICS has and will continue to work with all tenants, specifically the MCFD and CLBC, to ensure all programs are moved to a facility that meets their specialized needs.
- The provincial programs that will be relocated to Valleyview are:
  - Ministry of Children and Family Development – Maples Adolescent Treatment Centre for Youth and the Complex Care Unit
  - Ministry of Social Development and Social Innovation – CLBC - PAC
- Citizens, interest groups, and the City of Coquitlam have been in favour of health-related uses on the Riverview Lands.
- The tender for the deconstruction of the Valleyview Pavilion closed at the end of April 2016. Contract award is anticipated to be mid May 2016 with the deconstruction expected to be complete in the late fall / early winter of 2016.

## Victoria Courthouse Encampment

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### KEY MESSAGES

- Ensuring public health and safety is a priority.
- That's why Ministry staff is working closely with government colleagues from other ministries, as well as staff at BC Housing, the City of Victoria, and organizations such as Our Place and the Victoria Cool Aid Society, to promote public safety and to support work to establish transitional housing and shelter solutions.
- The Province has implemented enhanced site safety and security measures, including site management by the Portland Housing Society.
- Public safety officials have advised that the current encampments on the Victoria Courthouse grounds pose an increasing number of safety risks to the remaining campers and the general public.
- The B.C. Supreme Court ruled on April 5, 2016 that there were insufficient grounds to grant an interlocutory injunction to remove the campers; however, it will allow another application if the conditions change significantly. A trial date is set for September 7, 2016 to consider the matter in greater detail.
- Further questions around housing options should be referred to the Ministry of Natural Gas Development, and Minister Responsible for Housing.

## KEY POINTS AND BACKGROUND

- Since November 2015 a camp of people who identify as homeless has grown on the lawn of the Victoria courthouse, which has garnered significant media attention, particularly when it became known that high-risk youth have either been living or visiting the camp. The camp, which has about 120 people, has also become a flashpoint for advocates and protestors who have gravitated to the camp as a place to bring attention to issues around poverty and homelessness.
- The Ministry of Technology, Innovation and Citizens' Services (MTICS) is responsible for the property and has been working closely with the City of Victoria, Victoria Police Department, Victoria Fire Department, BC Housing, Island Health and the Ministry of Children and Family Development (MCFD) to keep the site safe and secure while finding shelter and housing options for the people in the camp.
- Since April 22 Portland Hotel Society, a non-profit organization has been conducting site management to work with campers towards compliance with fire safety orders and connect campers with social and health services available to them.
- Currently there are front-line social workers with specialized experience integrated with Victoria Police Department community resource officers on-site on a daily basis. Their focus is on the safety of high-risk youth who are visiting or living at the camp.
- There have recently been unconfirmed/unreported reports of assaults that have occurred on the campsite. Not all incidents have been formally reported to the police. As a result, no specific victims have been identified and there is a concern that the campers may be attempting to establish their own form of community justice.
- To assist these individuals with this transition, BC Housing is providing an additional 88 units of transitional housing and shelter, as well as 40 rent supplements.
- BC Housing has offered a total of 38 transitional housing units at the Mt. Edwards Court Care Home and an additional 50 shelter units are available at the Victoria Youth Custody Centre building in View Royal.
- In addition, this winter, BC Housing provided \$425,000 for a 40-bed temporary winter shelter at the Boys and Girls Club on Yates Street, as well as \$184,000 for a 40-bed temporary winter shelter at the First Metropolitan United Church. These shelters are in addition to 147 year-round homeless shelters spaces and 125 extreme weather shelter spaces available in Victoria.
- Following a court ruling in 2009, homeless campers have been allowed to stay in Victoria parks as long as they pack up their tents and move every morning. In this case however, the courthouse lawn belongs to the Province and that rule does not apply. Future regulations and legal action will be affected by the case law precedent on the matter.
- The Province was denied an application for an interlocutory injunction April 5, 2016 for an enforcement order to remove the campers. A trial to consider a full injunction is currently

scheduled for September 7, 2016; however, another application for an interlocutory injunction will be made should conditions change significantly.

- In the interim period, site management plans are ongoing to ensure public safety is maintained for the campers, as well as for the general public.
- MTICS has spent \$93,000 in additional site and security costs to the end of March and projected to an additional \$55,000 per month. Depending on the extent of contamination on site, early estimates to restore the site range from \$300K-\$350K requiring 10-12 weeks to conduct repairs.



## Victoria Youth Custody Centre Repurposing

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### KEY MESSAGES

- **BC Housing is now the steward of this facility. Any questions should be addressed to the Ministry of Natural Gas Development.**

### KEY POINTS AND BACKGROUND

- The facility was built in 2002 to replace the previous Victoria Youth Custody Centre. The facility was leased to the Ministry of Children and Family Development (MCFD) from the Ministry of Technology, Innovation and Citizens' Services (MTICS).
- A transfer agreement is currently being negotiated between the MTICS and BC Housing which is expected to be completed this spring. This has been publicly announced by Minister Coleman.
- The Victoria Youth Custody Centre (MCFD) is currently operating a small unit at the site. Since September 1, 2014, the average count at the Centre has been roughly one person there every two days. Since its official closure, the Centre has remained open with limited operational capacity using minimal staff.
- In addition to its use as a detention centre, an agreement is currently in place for BC Housing to fund a community service provider (Our Place Society) to operate a homeless shelter at this location. This action is related to addressing the current tented camp situation at the Victoria Courthouse.

## 28 Bastion Square

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### KEY MESSAGES

- **Due to building safety concerns, the Province has vacated all tenants from the building (formerly occupied by the Maritime Museum of BC).**
- **The Ministry of Technology, Innovation and Citizens' Services (MTICS) is conducting a full review of the building condition to help determine next steps.**
- **The future of the building and how it meets future needs of Government will be determined once staff analysis is complete near the end of June.**

### KEY POINTS AND BACKGROUND

- The 28 Bastion Square building is now 126 years old and requires repairs to maintain long-term safety and integrity.
- A building condition study from engineering consultants is currently underway. The work is to be completed by May 31, 2016 with a conclusion of subsequent staff analysis by end June. The City of Victoria has expressed an interest in understanding the recommendations from this engineering report.
- Government staff, Royal BC Museum (RBCM) officials and the Maritime Museum of BC (MMBC) worked together to relocate and store MMBC's artefacts to other locations including government space at 4000 Seymour at no charge.
- The future of MMBC will be determined by its Board of Directors who may choose to seek funding or technical assistance from the Ministry of Community, Sport, and Cultural Development
- In early September 2015 the City of Victoria (City) found a copy of the 1977 agreement signed by the Province.
- s.14,s.16

## Recruitment for ADM Real Property Division

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### KEY MESSAGES

- Competitive process was followed to fill the vacancy <sup>s.22</sup> of previous ADM Real Property Division.
- An executive recruitment was held over the time period from May 2015 to August 2015 to fill the imminent vacancy of ADM Real Property Division.
- The position was filled successfully with a qualified candidate who commenced in the role in September 2015.
- The individual hired has over 20 years' experience in this field with reputable private sector companies. We encourage a mix of individuals with private and public sector experiences in our Executive ranks and are pleased that this individual accepted our offer and returned to his home province of British Columbia with his vast experience.

### KEY POINTS AND BACKGROUND

- In May 2015, a recruitment competition was initiated for the ADM, Real Property Division position. The vacancy was posted on the government's Executive Opportunities posting site and the BC Public Service Job Opportunities site from May 19, 2015 to June 8, 2015.
- A media plan to attract interested and suitable qualified candidates was implemented. The posting was included on additional sites to maximize attraction. Those sites were (but not limited to): Real Estate Institute of BC, International Facilities Management Association (BC Branch), and Appraisal Institute of Canada.
- 65 applications were received.
- By the end of June shortlisting had concluded and 4 candidates were invited for interviews. Interviews were conducted by John Jacobson (Deputy Minister), Sarf Ahmed (Associate Deputy Minister) and Bette-Jo Hughes (Associate Deputy Minister and Government CIO).
- A candidate (Brian Fellows) was identified as the most qualified for the ADM, Real Property Division. This individual has 20+ years' extensive experience delivering real estate services. He also has experience providing services to government and as such understands real property in a government organization.
- At the time this individual was the Chief Operating Officer for Brookfield Global Integrated Solutions. Brookfield delivers a suite of real estate solutions to more than 10,000 property sites Canada-wide. His responsibilities include overall operations and fiscal accountability for more than 2,500 team members across Canada, \$600M in annual revenues, and profitability/cash flow objectives. Previously he was Executive Vice President Sales & Marketing with Brookfield.

- 3 reference checks were conducted and were positive.
- A criminal records review was conducted and security clearance was provided.
- The successful individual commenced employment on September 14, 2015, and is being remunerated within the approved range of salary for Assistant Deputy Ministers.

## BC Technology Strategy

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### KEY MESSAGES

- The technology sector supports the B.C. economy at its very foundation and is a key driver of growth for our economy.
- To support this growth, starting in December with the announcement of the \$100 million BC Tech Fund, the Ministry has released the **#BCTECH Strategy**.
- The **#BCTECH Strategy** is the culmination of extensive engagement with B.C.'s technology sector and is a key component of the *BC Jobs Plan*.
- The strategy focusses the government's efforts around three economy building strategic pillars to: improve access to venture capital and a competitive tax system; deepen the B.C. technology talent pool; and, make it easier to access new markets, including selling to government.

### KEY POINTS AND BACKGROUND

- The technology sector supports the B.C. economy at its very foundation and is a key driver of growth for our economy, with more than 86,000 jobs that pay wages 60% higher than the B.C. average.
- The strategy was built in partnership with seven ministries and includes fifty actions the government is taking to support growth of B.C.'s technology sector.
- The **#BCTECH Strategy** is one of the eight key sector strategies under the *BC Jobs Plan*. It builds on and replaces the *B.C. Technology Strategy* published in 2012.
- Actions included in the strategy are accounted for within government's fiscal plan. Costs associated with these actions are provided for through ministries existing budget appropriations and out-year targets.
- Questions regarding the costs of specific actions in the strategy should be deferred to the ministers responsible. Some of the key costs associated with this investment include (see appendix for additional information):
  - \$100-million for the BC Tech Fund (venture capital)
  - \$33-million in tax credits annually
  - An anticipated \$450-million to ensure post-secondary education grants are used for in demand occupations, including technology

- \$55-million in recent weeks to ensure leading edge research through the Michael Smith Foundation and BC Cancer Agency
- Key highlights of the strategy include:
  - A \$100 million BC Tech Fund to expand the availability of local venture capital in B.C. because we want promising companies to have sufficient access to capital in order to realize their growth potential in the province.
  - Talent development needs to start in our schools – so, to that end, children will have an opportunity to learn the basics of coding.
  - At the post-secondary level, \$450 million is being targeted for training leading to in-demand jobs in the sector – and we are introducing \$4.5 million over the next five years to open a technology stream within the Canada Job Grant Program so tech companies can train and re-train current employees.
  - We want to ensure British Columbians are first in line for jobs but when our talent is tapped, companies need to be able to attract skilled workers from across Canada and around the world. We are working with all levels of government to remove those barriers.
  - We are making it easier to access markets by continuing to simplify government procurement, create opportunities to share ideas, encourage business growth through exports and facilitate 100% Internet connectivity.
  - Continue expanding the BC Developers' Exchange to understand how new approaches to open data, open source code, open Application Program Interfaces (APIs) and open innovation can bring about both new business ideas and streamlined ways for the public sector to buy software innovations.

## Appendix A: Key #BCTECH Strategy Investments

## Appendix A: Key #BCTECH Strategy Investments

New/Expanded	Ongoing/Existing
<ul style="list-style-type: none"> <li>○ \$100 million for the BC Tech Fund (venture capital)</li> <li>○ An anticipated realignment of \$450 million in post-secondary operating grants for educating in-demand occupations, including technology</li> <li>○ \$4.5 million over the next five years to open a technology stream within the Canada Job Grant Program so tech companies can train and re-train current employees.</li> <li>○ In recent weeks we announced an \$80 million upgrade to the undergraduate teaching laboratories at the University of British Columbia that will allow more growth and opportunity in life sciences that support a range of vibrant sectors that contribute to a diverse economy.</li> </ul>	<ul style="list-style-type: none"> <li>○ \$55 million in recent weeks to ensure leading edge research through the Michael Smith Foundation and BC Cancer Agency</li> <li>○ Beginning in 2016, the budget for the small business venture capital tax credit is increased by \$5 million to provide \$35 million in tax credits annually.</li> <li>○ Since June 2001, the BC Knowledge Development Fund has awarded over \$524 million for more than 1,000 research infrastructure projects. We remain committed to substantive research at our universities in keeping with provincial job creation and commercialization goals.</li> </ul>

## #BCTECH SUMMIT 2016

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### KEY MESSAGES

- The Government of British Columbia, in collaboration with the BC Innovation Council (BCIC), hosted the province's inaugural technology business conference this past January 2016.
- The two-day #BCTECH Summit in Vancouver brought together entrepreneurs, investors, industry, researchers, students, government buyers and stakeholders from many of BC's regions to establish new business connections, drive investment and encourage all industries to gain a competitive advantage by linking to the growing technology sector.
- Simultaneously, around the province, regional events hosted their own local activities at secondary schools, post-secondary institutions and regional accelerators that tied into the main event through online webcasts and simulcasts.
- This investment is helping businesses and the public understand the unifying role of technology in BC, and is driving business opportunities and exposing youth to the wide variety of exciting and financially attractive careers in the technology cross-sector.

### KEY POINTS AND BACKGROUND

- The #BCTECH Summit drew in over 3,500 participants.
- The Province invested \$2.5 million in the Summit to drive industry connections, promote the diversity and opportunities of the technology cross-sector, and to accelerate growth across our economy.
- An external *Industry Stakeholder Committee* made up of CEOs from the province's major technology stakeholders: *BCBC, BCTIA, LifeSciencesBC, DigiBC, CreativeBC, RUCBC, Accelerate Okanagan, VIATec, Vancouver Economic Commission, WaveFront*, and *Futurepreneur* provided industry context for the event.
- Eleven regional events were hosted in conjunction with the #BCTECH Summit:
 

<ol style="list-style-type: none"> <li>1. Accelerate Okanagan (<i>Kelowna</i>)</li> <li>2. Innovation Central Society (<i>Prince George</i>)</li> <li>3. Somass Regional Consortium for High Tech – SRCTec (<i>Mission</i>)</li> </ol>	<ol style="list-style-type: none"> <li>8. Prince Rupert Chamber of Commerce (<i>Prince Rupert</i>)</li> <li>9. Corrilieu Secondary (<i>Quesnel</i>)</li> <li>10. North Island Secondary (<i>Port McNeill</i>)</li> </ol>
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4. ViaTEC / Accelerate Tectoria (*Victoria*)
5. SFU Surrey Campus (*Surrey*)
6. Kootenay Rockies Innovation (*Golden*)
7. Selkirk – Columbia Basin Rural  
Development Institute (*Castlegar*)

11. Prince Rupert School SD52 (*Prince  
Rupert*)

- Follow-up with participants of the *B2B meetings* and *Venture Capital Presentations* will be occurring in April and July 2016 to track developing business deals initiated at the #BCTECH Summit.

## Premier's Technology Council

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### KEY MESSAGES

- The mandate of the council is to provide advice to the Premier on all technology-related issues facing British Columbia and its citizens.
- The PTC has four standing committees: Risk Capital, Broadband, Procurement and Capitalization, and the Skills Gap in the tech industry.
- The PTC also keeps a watching brief on issues around Big Data and Accelerators and Incubators.
- The PTC provides guidance to the Premier through briefing notes or direct guidance at Council meetings; the Council has moved away from longer form reports.
- It regularly provides insight and guidance on key areas of focus for the Province and was a key advisor to the Technology Strategy's development.

### KEY POINTS AND BACKGROUND

- The Premier's Technology Council (PTC) was formed in August 2001 and is comprised of members from the private sector and academia.
- The PTC is a key voice on technology policy development and guidance for the Premier specifically and the provincial government generally.
- The Council is supported by a four person secretariat comprised of the President, an Office Manager, a Lead Analyst, and a Director of Operations.
- President – Louise Turner; President since June 2012; re-appointed on September 2015; role is a contract position (\$198,000)
- BCIC is responsible for \$425k budget allocated for the PTC; this covers office expenses, research capability and secretariat salaries.
- President and Director of Operations salaries are administered by the Technology and Innovation Branch

Appendix A --- PTC Members

**Premier Christie Clark** – Co-Chair

**Greg Peet** – Has stepped down as Co-Chair. New Co-Chair not yet officially announced.

**Jonathan Rhone** – Axine Water Technologies

**Judi Hess** – Copperleaf Technologies

**V. Paul Lee** – Vanedge Capital Partners Ltd

**Reg Bird**

**Dr. Daniel F. Muzyka** – The Conference Board of Canada

**Eric Jordan** – Codename Entertainment

**Don Safnuk** – Corporate Recruiters Ltd

**Mossadiq S. Umedaly** – Enecsyst Limited, Wellington Partners Venture Capital, Electronics Recycling Services LLC

**Greg Kerfoot** – Whitecaps F.C.

**Ralph Turfus** – Yaletown Venture Partners

**Morgan Sturdy** – Discovery Parks Inc.

**Warren Roy** – Global Relay

**Steve Munford** – SOPHOS

**Boris Wertz** – Version One Ventures

## British Columbia Innovation Council (BCIC)

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### KEY MESSAGES

- **The BC Innovation Council (BCIC) is the Crown agency with the mandate to deliver government's technology development and commercialization programs.**
- **BCIC's programs align with *BC Jobs Plan* and *#BCTECH Strategy 2016* commitments.**
- **BCIC programs play a vital role in helping B.C. technology entrepreneurs to succeed.**

### KEY POINTS AND BACKGROUND

- The BC Innovation Council (BCIC) was formed in 2004 as a Crown agency to centralize government's technology development and commercialization programs.
- Mandate:
  - To advance commercialization in British Columbia through focused support to start-up companies and facilitation of partnerships between industry and academia;
  - To work with willing partners in industry, academia, government and associations that support entrepreneurship and the development of entrepreneurial talent.
- BCIC programs play a vital role in helping B.C. technology entrepreneurs to succeed. One flagship program is the Venture Acceleration Program (VAP), delivered across the province 13 regional partners that collectively form the BC Accelerator Network (BCAN). Through the VAP, the partners deliver an intense program similar to an apprenticeship in technology/startup entrepreneurship, including rigorous formal training and ongoing coaching and mentorship.
- Financial Information (high level):
  - BCIC is funded through an operating annual grant of \$6.09 million from the ministry's voted appropriation.
  - In addition, special funds have been approved by Treasury Board:
    - \$6 million from 2014/15 to 2016/17 for two programs: the Innovator Skills Initiative and the BC Tech Co-op grants for Small Firms.
    - Access to contingency funds for Contextual Genomics: \$2 million in 2015/16; \$2 million in 2016/17
- To improve transparency and accountability, BCIC requires that its partners funding requests align with BCIC's accountabilities and identifies program metrics and outcomes to be tracked and reported.

## Tech Sector 10 Year Skills Plan

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### KEY MESSAGES

- On January 18, 2016 the Province published the #BCTECH Strategy, including three strategic pillars designed to support the technology sector as an important part of B.C.'s diverse economy.
- The second pillar of this strategy – deepening B.C.'s talent pool – represents a 10-year skills plan for the technology sector.
- The talent pillar contains over twenty skills related actions that together address long-term skills needs for the technology sector.
- Key actions include:
  - New K-12 curriculum allowing the opportunity for over 600,000 students to learn coding by the end of Grade 9.
  - An anticipated<sup>s.13,s.17</sup> to ensure post-secondary education grants are used for in demand occupations, including technology
  - Funding for a foreign qualifications recognition project to help new immigrants fit their skills into alternative, in-demand careers in B.C.'s technology sector.
- This plan was developed in consultation with technology sector leaders and informed by the 10-year B.C. 2024 Labour Market Outlook.

### KEY POINTS AND BACKGROUND

- On January 18th the Province published the #BCTECH Strategy. The second strategic pillar of this strategy – talent – represents a 10-year skills plan for the technology sector.
- The talent pillar contains more than a dozen skills-related initiatives – informed by industry consultation and the 10-year B.C. 2024 Labour Market Outlook.
- The Outlook highlights that by 2024 technology and science occupations will account for 7.5 percent of total job openings (70,000). Some of the most in demand occupations are expected to include: Information systems analysts and consultants; computer programmers and interactive media developers; civil engineers; computer network technicians; and, computer and information systems managers.

- The talent pillar addresses both short and long-term skills needs for the technology sector by including actions related to K-12 curricula, post-secondary education, applied learning, entrepreneur development and streamlined in-migration pathways.
- Key talent pillar commitments include:
  - New K-12 curriculum allowing the opportunity for over 600,000 students to learn coding by the end of Grade 9.
  - An anticipated \$450-million to ensure post-secondary education grants are used for in demand occupations, including technology
  - Supporting technology sector entrepreneurs to train/up-skill new and existing employees with supporting funding from the Canada job Grant
  - Funding for a foreign qualifications recognition project to help new immigrants fit their skills into alternative, in-demand careers in B.C.'s technology sector.
  - Expanded eligibility for the B.C. Completion Grant for graduates to include students completing programs related to the technology sector.
  - Supporting technology sector entrepreneurs to train/up-skill new and existing employees with supporting funding from the Canada job Grant
  - Funding for Mitacs programs that enable graduate students and postdoctoral fellows to undertake applied research projects relating to their expertise within industry.
- While the mandate to complete a 10-year skills plan has been fulfilled, the province will continue to work with industry leaders to identify and address skills needs in the technology sector.
- As part of this ongoing commitment, the Ministry of Jobs, Tourism and Skills Training is working with the technology sector through the Labour market Partnerships Program. This program will support the sector to customize labour market information, strategies, and tools that address labour market priorities.

## Expand Venture Capital (VC) Funding

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### KEY MESSAGES

- **Technology and innovation are key drivers of future economic growth.**
- **For technology companies to grow and flourish, they need access to venture capital.**
- **In 2014 and 2015, the Province conducted a comprehensive review of venture capital in B.C. and found that there was a critical shortage of early-stage “A-Round” venture capital in B.C.**
- **To address this shortage of venture capital, the B.C. government is forming a new \$100 million fund, the BC Tech Fund, as one pillar of its broader Technology Strategy.**
- **The BC Tech Fund will invest in venture capital funds and BC-based technology companies in the high tech subsectors of life sciences, ICT, digital media and clean technology.**
- **The BC Tech Fund will begin investing in 2016. It will be managed by an experienced fund manager from the private sector.**

### KEY POINTS AND BACKGROUND

- As one of the pillars of the Province’s Technology Strategy, the BC Tech Fund will support growth in B.C.’s broader technology sector through reasonable investment representation in four key sub-sectors (digital media, ICT, life sciences and clean technology).
- The BC Tech fund, while one of the pillars of the #BCTECH Strategy, Venture Capital policy is the responsibility of the Ministry of International Trade.
- Government conducted a comprehensive review of venture capital in BC in 2014-15 and concluded that there is a critical shortage of early-stage “A-Round” (\$1M - \$5M, typically after friends/family and angel investment) venture capital in the province. Such capital is essential for driving growth in technology businesses so that they can succeed and compete internationally. The BC Tech Fund has been designed to address this need.
- The BC Tech Fund will build upon the Province’s BC Renaissance Capital Fund, which has leveraged \$308 million in investment into BC companies on \$69 million drawn from the Renaissance Fund. The BC Tech Fund will complement and improve on this, as the new fund manager of the BC Tech Fund will also be responsible for managing the Renaissance Fund’s current investments.

- It will be a \$100M fund-of-funds (a fund that also invests in other VC funds) that will be managed by a private sector fund manager who will be required to have an office in B.C. staffed by a managing partner.
- Government is in negotiations with Kensington Capital (Toronto based), which was selected over two BC based contenders (leading to some negative press). The details of the contract have not yet been finalized and queries should be directed to the Ministry of International Trade.
- The BC Tech Fund is expected to have a term of 15 years, with the majority of that investment occurring in the first five to seven years.
- The fund will catalyze economic growth in BC through its investments in venture capital funds and some direct investments in BC-based technology companies. The intent is that this BC Tech Fund helps BC tech companies grow and that the BC VC system becomes stronger.
- Further details about how it will be implemented are being finalized.
- Returns earned by the Province from the BC Tech Fund may be re-invested in other venture capital funds in an 'ever-green' investment approach to maintain and grow BC's venture capital system over the longer term.
- A competitive procurement process is now underway to select an experienced investment fund manager from the private sector to manage the BC Tech Fund. This process is expected to be completed in the spring, following which the fund will be launched and operational in Summer 2016.



## Grow Life Science Industry

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### KEY MESSAGES

- **The early stage Life Science businesses will benefit from the \$100 million fund created through the #BC Technology Strategy.**
- **The #BCTech Summit showcased BC's Life Science innovations and offered a platform to connect Life Science start-ups with potential customers and venture capital companies.**
- **Revised accountability frameworks for Genome BC, and the Michael Smith Foundation for Health Research (MSFHR) will contribute to research growing innovation and entrepreneurship in the Life Science sector.**
- **New criteria implemented for the BC Knowledge Development Fund encourage Life Science researchers to collaborate with industry.**

### KEY POINTS AND BACKGROUND

- According to the latest PWC report, in 2014, BC counted 1,154 life science establishments, including drug and pharmaceutical companies, research testing and medical labs, and medical devices companies.
- In 2014/15 alone, BC saw six large initial public offerings in BC's life sciences sector including Aquinox Pharmaceuticals, ProNAi Therapeutics and Xenon Pharmaceuticals.
- In 2015, the Province awarded \$50 million to MSFHR and \$34 million to Genome BC to support health and life science research projects in the Province.
- In 2015/16 the BCKDF awarded over \$23 million for health and life science research infrastructure, contributing to making BC a place of choice for life science.
- The current #BC Technology Strategy and actions of the Ministry will strengthen the BC Life Science Industry.
- The two training grants programs called the BC Innovator Skills Initiative and the BC Tech Co-op Grants Program unite students with valuable training opportunities in BC's technology sector, including the Life Science industry.

## Uber / Air BnB

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### KEY MESSAGES

- The **#BCTECH Strategy**, released January 2016, represents a renewal of the Provincial Government's commitment to the technology sector in BC.
- In the spirit of the **#BC TECH Strategy**, the Ministry of Technology, Innovation and Citizens' Services encourages technological development that supports the new economy.
- The "sharing economy", has moved from a community practice to a profitable business model, especially because of the possibilities offered by technology.<sup>1</sup>

### KEY POINTS AND BACKGROUND

- The "sharing economy" refers to peer-to-peer-based sharing of access to goods and services as needed, coordinated through online services. As such, it is driven by technological development.
- Much more peer-to-peer collaboration is expected as the field expands. Peer-to-peer transactions in five key sectors – transportation, retail, accommodations, services, and finance – are forecast to balloon from \$15 billion to \$335 billion over the next ten years<sup>2</sup>.
- Criticism of the sharing economy often involves regulatory uncertainty. Businesses offering rental services are often regulated; unlicensed individuals offering rental services may not be following these regulations or paying the associated costs, giving them an "unfair" advantage that enables them to charge lower prices.<sup>3</sup>
- While technological change is putting tremendous pressure for change on legislation, regulation, tax, and licensing frameworks, the potential benefits to consumers are huge, presenting an opportunity to help constituents gain from this sharing economy<sup>4</sup>.
- Founded in 2008, **Airbnb** is an online community that connects people renting their homes with people looking for accommodation. Airbnb now has more than a million listings in 190 countries, and is valued at more than \$13 billion. In Vancouver alone there are up to 3,000 suites to rent on the Airbnb website.
- Airbnb was picked as the number one tech company to work for in 2016 by Glassdoor's Employees' Choice Awards

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<sup>1</sup> <http://www.triplepundit.com/series/rise-of-the-sharing-economy/>

<sup>2</sup> <http://www.abbeynews.com/business/338836412.html>

<sup>3</sup> <http://www.investopedia.com/terms/s/sharing-economy.asp>

<sup>4</sup> <http://business.financialpost.com/fp-comment/taxation-and-regulation-in-the-era-of-uber-and-airbnb-present-new-hurdles-for-government>

- **Uber**, founded in 2009 in San Francisco, operates in 300 cities around the world, including Halifax, Montreal, Toronto, Edmonton, Ottawa, and Quebec City in Canada. It has raised over US\$2.8 billion in funding and has generated close to \$10 billion in revenue.
- Uber identifies itself as a technology company rather than a transportation firm – simply “a platform” to connect nearby drivers with customers.
- Uber’s business model has been criticised by governments and the taxi industry for its allegedly unsafe and illegal use of unlicensed, crowd-sourced drivers.
- Uber is looking to gain a foothold in Vancouver, but is facing opposition from the taxi industry and municipal governments. Uber claims there is a strong demand for its services in BC, citing a petition with over 27,000 signatures from Vancouver supporters who want Uber service in BC.
- It is unclear whether Uber intends to open offices in BC, potentially creating jobs and tax revenue, or if the company only wants Uber service to be available in BC cities.
- In April 2015, Uber met with representatives of taxi companies, police, and the tourism and hospitality sector in a meeting organized by the City of Vancouver.
- While taxation and regulation in the era of Uber and Airbnb present new hurdles for government<sup>5</sup>, embracing such disruptive tech companies could be a step forward in a move towards becoming the first province in Canada with sharing economy legislation.

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<sup>5</sup> <http://business.financialpost.com/fp-comment/taxation-and-regulation-in-the-era-of-uber-and-airbnb-present-new-hurdles-for-government>

## BC Training Tax Credit Program

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### KEY MESSAGES

- **The extension of the BC Training Tax Credit program to include co-op placements in small technology firms will support students' training in innovative areas, encourage small technology firms to employ new talent, and help address the skills gap faced by the technology sector in B.C.**
- **This initiative aligns with the BC Jobs Plan and works towards maximizing the momentum from the past two years.**
- **In May 2015, the ministry launched the Co-op grants for Small Tech Companies. The ministry had engaged with post-secondary co-op departments to develop the program aimed at co-op students. BCIC is delivering this program.**

### KEY POINTS AND BACKGROUND

- Small technology firms comprise over 95% of the technology sector. They tend to be innovative and efficient, creating goods and services that benefit the province.
- This Co-op grant program focusses on small technology firms because they do not have the same financial capacity for hiring and training co-op students as large firms.
- This initiative offers training and networking opportunities to students in a promising sector.
- This initiative offers small technology companies access to enthusiastic and innovative talent that bring new ideas from universities into the market.
- Co-op employers in small technology firms now have support to train students in a targeted manner, and get to know them prior to potential future hiring.
- This initiative enhances communication between the government, the small technology firms, and the post-secondary education sector.
- Each grant value is \$2,700 which represents about 25% of a co-op student salary.
- As of January, 272 grants had allowed small tech companies to hire a co-op student

## High Tech Companies (JTST/MIT collaboration)

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### KEY MESSAGES

- **Technology is one of eight key sectors targeted in the BC Jobs Plan and is increasingly a key driver for our economy.**
- **\$23.3 billion in annual revenue in 2013 – up 5.2% from 2012.**
- **Over \$3.48 billion in total exports in 2013 (over \$1B in goods and \$2.45B in services).**
- **9,738 established technology companies operating in 2013, representing 728 net new technology businesses – an increase of 8.1% over the previous year.**
- **Tech sector was the third-largest economic contributor to B.C.'s gross domestic product in 2013, at 6.5%.**
- **Tech sector reached 86,800 jobs in 2013, approximately 4.4% of B.C.'s work force.**
- **Microsoft, Amazon and Twitter have all opened up offices in B.C. and are employing local workers.**
- **Home-grown success stories include Hootsuite, Global Relay and Pulse Energy, which are competing at a global level.**

### KEY POINTS AND BACKGROUND

- **To connect our companies with foreign markets and investors, the government will work to improve exposure of B.C. technology start-ups to key markets.**

- Companies will be enabled to showcase their products and present investment opportunities to potential customers, sales channels and investors.
- As part of its strategic investment attraction program, the Ministry of International Trade is working across government (including JTST and MTICS) to develop sector/ sub sector strategies.
- The key markets for priority natural resource and healthcare technology trade promotion will be in Asia, Europe and the USA.
- These strategies will be used to support government trade and investment outcomes including the MTICS mandated direction to attract companies such as Microsoft to BC.
- Specifically, the strategies will collate information from across government, industry and stakeholders as well as tools such as pay-for-use databases in order to develop a comprehensive understanding of the sector, BC's strategic needs as they relate to a sector and the corresponding opportunities that exist for BC and companies within BC and globally.
- Four sectors/ sub-sectors strategies will be developed this fiscal:
  - Upstream Natural Gas;
  - Life Sciences;
  - Clean Technology; and,
  - Maritime Shipbuilding.
- Four more sectors/sub-sectors will be developed next fiscal and successive strategies will be developed in each coming year. Additionally, each strategy will be updated on a regular basis.

## Expansion of the Small Business Venture Tax Credit Program

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### KEY MESSAGES

- The small business venture capital tax credit encourages investors to make equity capital investments in B.C. small businesses, in order to give businesses access to early-stage venture capital to help them develop and grow.
- The ministry has been working with the Ministry of Finance to expand the value of the Small Business Venture Tax Credit program.
- As part of the tax measures introduced in Budget 2016, the Minister of Finance announced a budget increase of \$5 million for the Small Business Venture Tax Credit program in 2016/17, \$3 million of which will be for the Business Creation Budget (eligible new corporations), and \$2 million to the Equity Capital Budget.
- Once the \$5 million increase is in force – expected to be the end of May 2016 – the total tax credit budget for the 2016 tax budget year will be \$35 million.
- This leverages up to \$116.66 million in equity investment per year.

### KEY POINTS AND BACKGROUND

- The Minister of Technology, Innovation and Citizens' Services' June 2015 Mandate letter included direction to: "Work with the Ministry of Finance to make permanent the \$3 million increase in the value of the Small Business Venture Tax Program for BC companies and add an additional \$2 million to fulfil our commitment in Strong Economy, Secure Tomorrow."
- The small business venture capital tax credit is for corporations that invest in shares of a registered venture capital corporation or eligible business corporation.

- The tax credit encourages investors to make equity capital investments in B.C. small businesses, in order to give small businesses access to early-stage venture capital to help them develop and grow.
- Corporations may claim a tax credit in a tax year equal to the lesser of:
  - the amount of the tax credit certificate issued
  - provincial income tax otherwise payable
- The venture capital tax credit may be applied only to provincial income taxes payable. If an individual cannot apply their entire tax credit amount to B.C. taxes payable in the year, the excess may be carried forward up to four years.



## Knowledge Network Corporation

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### KEY MESSAGES

- **KNC became a Crown Corporation in January 12, 1981.**
- **It is operated by a Chief Executive Office (Rudy Buttignol) and overseen by a Board Chair (Nini Baird) and a Board of Directors appointed by the Province.**
- **KNC has a reach of 2 million viewers each week for their Knowledge Prime and Knowledge Kids broadcasts. KNC's websites (Knowledge.ca and KnowledgeKids.ca) receive 1.46 million visits each year.**
- **49.5% of KNC's budget comes from a grant from government.**

### KEY POINTS AND BACKGROUND

#### KNC Budget

- KNC is anticipating revenues of \$12.63M for 2015/16. This includes \$3.97M from private donors and \$6.26M through an annual contribution from the Province.
- This includes the forecasted revenue (\$1.56M) from their subsidiary Knowledge West Communications (KWC), which operates BBC Kids (a Canadian children's subscription channel)

#### KNC Goals

- KNC's strategic goals are laid out through a Government Letter of Expectations (GLE) delivered each year by the Minister. This forms the basis of their annual service plan.
- KNC priorities in the coming year include: increasing unique and relevant content available on all Knowledge platforms, attracting new audiences across all platforms, and continuing to increase revenue through entrepreneurial activities.

#### Broadcast highlights

- In 2015, KNC launched the Birth of Modern China, a 27 week examination of key events of the 20th century. China's economic revolution has had a major impact in B.C. and around the world, and this series provided British Columbians a greater understanding of Asian culture, trade and economy.
- The most recent unique programs and documentaries commissioned by KNC include: *The Backward Class*, *Emergency Room: Life and Death at VGH*, and *Just Eat It*.

## Earthquake Preparedness for Buildings

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### KEY MESSAGES

- The Ministry of Technology, Innovation and Citizens' Services', Real Property Division's (MTICS/RPD) staff provide staff planning and response expertise to broader efforts managed by Emergency Management BC.
- RPD has completed a seismic risk assessment on most of the provincially owned property portfolio in high risk zones. This information has been provided to the Ministry of Transport and Infrastructure (MOTI) for a collated government report in late January.
- Of the 79 high priority provincially owned properties (i.e., laboratories, corrections-essential, courthouse-high, office-high) that received a Seismic Assessment, only five buildings (or six per cent) were assessed as having a High Risk (Seismic Priority Index (SPI) of greater than 30),
- These five high-risk owned facilities have upgrade projects underway; are being analyzed for replacement; or have works identified in the current Facilities Condition Assessment report to be funded from the Routine Capital budget in upcoming years.
- RPD plays a central role in the event of an earthquake in allocating facilities, arranging space from the private sector and assessing damage to government buildings.
- Plans are in place for senior government officials to function in case of a major earthquake or disaster.

**KEY POINTS AND BACKGROUND**

- The BC Earthquake Preparedness Consultation Report was released March 26, 2015.
- RPD obligations from Emergency Program Management Regulation, Schedule 2, Duties of Ministers and Government Corporations in the Event of an Emergency:
  - BRITISH COLUMBIA BUILDINGS CORPORATION (legacy legislation that passed to Shared Services BC/RPD)
    - provide priority allocation of government buildings for operational accommodation, storage or other emergency requirements;
    - make emergency rental or lease arrangements for private sector buildings or other infrastructure requirements;
    - assess damage to government buildings (discussions underway to collaborate with BC Housing)
- What is our internal role to Government?
  - Support to the ministries' business continuity plans in the facilities section of their plans
  - Inventory and risk assessment on government buildings – we have initial data on a portion of owned buildings in the main seismic zones
  - Advice and coordination to Provincial Emergency Coordination Centre, Ministry Operations Centre, or Real Property Division Operation Centres
- What support do we provide to the public?
  - Provision of subject matter experts to Provincial Regional Emergency Operations Centres
  - Technical and Commercial advisory services
  - Authorizing expenditures or use of public facilities
  - Support to other levels of government or jurisdictions.
    - i.e. the support to Alberta during the flooding
- Seismic Priority Index (SPI) reports were prepared based on the Seismic Assessment carried out by Morrison Hershfield Engineering during the VFA Facility Condition Assessment visits in 2012 to 2014.
- The index is a combination of adding the Structural Index (SI) and the Non-Structural Index (NSI) where a building with 0-10 is considered Low Priority, 10-20 Medium and 30+ is considered High Priority.

- RPD allocates its Routine Capital budget to high priority government building issues including life-safety, barrier-free access, seismic upgrades (structural and non-structural), carbon reduction, energy savings, etc.
- Overall budget is \$48M in 2016/17, \$56M in 2017/18, and \$65M in 2018/19
- No seismic assessments were performed in the interior because it is outside high risk seismic zone.
- The leased portfolio has not been assessed at this time.

## Emergency Management Preparedness - Critical IT Systems

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### KEY MESSAGES

- **Emergency Management Preparedness includes protecting the availability of Critical Systems. The Office of the CIO led the development and implementation of a Critical Systems Standard and Guidelines, introduced across government April 2015.**
- **Once compliance to the standard is complete, Ministries and the OCIO can take immediate measures to reduce the impact or likelihood of an interruption to a Critical System's availability and to restore normal business operations in the event of an emergency (e.g. earthquake).**
- **Compliance includes assigned roles and contacts, ensuring availability of skilled response staff, documented system design and disaster and recovery plans, response and recovery processes, and prearranged commitments with vendors and supporting stakeholders.**
- **The standard requires compliance by April 1 2016, or a committed plan to ensure compliance is reached.**
- **The Office of the CIO holds and maintains the register of Critical Systems. To date, 114 Critical Systems have been identified and registered, with likelihood that more will be added in the coming weeks.**

## KEY POINTS AND BACKGROUND

- Most government processes that support Essential Services: health, safety and welfare of British Columbians, are heavily reliant on IT systems.
- To ensure the availability, or recovery, of these critical systems, MTICS led the development and implementation of a Critical Systems Standard and Guidelines, introduced across government in 2015.
- Many of the standard requirements align with best practices already found in IT Industry and Commerce or with our IT vendors. Others have been developed through lessons learned in response to IT service disruptions. The standard requirements also include rigour around Incident Management processes and documented Disaster Recovery Plans.
- The Critical Systems Standard is effective April 1, 2016
- The standard requires that the systems deemed necessary by each ministry to deliver their Mission Critical or Business Priority functions be in compliance with the standard by April 1, 2016, or, that a roadmap of committed actions to become compliant is provided by the ministry.
- On the anniversary of the endorsement of their roadmap, a ministry must report their progress, any proposed revisions and an updated compliance assessment.
- The Office of the Government CIO holds and maintains the register of Critical Systems.
- To date, 114 Critical Systems have been identified and registered, with a likelihood that more will be added in the coming weeks.
- Capital or operational expenditures required to protect the availability of these systems will need to be addressed within current budgets.
- These efforts are proactive in our commitment to Emergency Management Preparedness in that; by protecting these systems through IT infrastructure improvements, documenting response plans and ensuring the availability of skilled response staff, the province can take immediate measures to reduce the impact or likelihood of an interruption to a Critical System's availability and to restore normal business operations in the event of an emergency (e.g. earthquake).

## MTICS Business Continuity Plan (BCP)

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### KEY MESSAGES

- **MTICS' Business Continuity Management cycle is mature and robust - supported by a Ministry Business Continuity Advisor and business continuity personnel in each Division.**
- **Catastrophic Lens Mission Critical functions are under review to ensure:**
  - **recovery plans are in place for mission critical to government, and;**
  - **we maintain - and continuously improve - our partnership and support for Emergency Management BC (EMBC).**
- **MTICS has identified a primary location for the Ministry Operations Center (MOC) and, this year, MOC Center staff participated in a functional exercise testing immediate earthquake response.**
- **Ongoing training continues to enhance the Centre's capabilities.**
- **MTICS staff are aware that personal preparedness, emergency response, and business continuity are intertwined.**

### KEY POINTS AND BACKGROUND

- This year's Business Continuity Management cycle is underway – with deliverables scheduled throughout the year.
- MTICS has formed an Emergency Planning Committee, comprised of ADMs and the Associate Deputies, which is reviewing internal needs and capabilities to identify support and partnership opportunities for the Provincial Emergency Response & Recovery Center (EMBC).
- As of November 2015, MTICS secured a location for its Ministry Operations Center at 4000 Seymour, Victoria.
- MTICS Ministry Operations Center staff have been advised of their roles and responsibilities in an earthquake event. There is a training program underway to sustain and improve the capabilities of the Ministry Operations Center staff.
- MTICS supports business continuity culture through a network of business continuity personnel who meet regularly to participate in training, tabletop exercises, information exchange, and internal reporting.
- MTICS is taking a wholistic view to business continuity and emergency response by exploring the complimentary priorities that exist between Business Continuity Management , the emergency response, and personal preparedness of staff.

January 2014

## INFORMATION TECHNOLOGY COMPENDIUM

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OFFICE OF THE  
**Auditor General**  
of British Columbia





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The Honourable Linda Reid  
Speaker of the Legislative Assembly  
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Dear Madame Speaker:

I have the honour to transmit to the Legislative Assembly of British Columbia my *Information Technology Compendium Report*.

This report contains three separate reports regarding Information Technology (IT). The first report, *An Overview of the BC Government's Capital Spending in Information Technology*, reveals how investing in IT is an essential part of the Government of British Columbia's fiscal plan. The second body of work, *The Status of General Information Technology Controls in the Government of British Columbia*, examines the health of general IT controls across government entities. The third report, *Web Application Security Audit*, assesses the security of government's web applications and if they are protected and managed effectively to minimize security threats.

Since web technologies are constantly evolving, government must develop its websites and online services in accordance with leading security practices and, as much as possible, initiate practices that are one step ahead of potential security threats.

I would like to thank the staff of the Office of the Chief Information Officer, Crown corporations and government entities for their cooperation and assistance during our work on this report.

Russ Jones, MBA, CA  
Auditor General  
Victoria, British Columbia  
January 2014

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**GOVERNMENT RELIES** on Information Technology and the Internet to conduct its daily operations and deliver online services. Whether it's an online application form, license renewal or health record, British Columbians expect that any personal information that government collects from them is protected and secure. They also expect that online services are available 24/7 and provide reliable information.

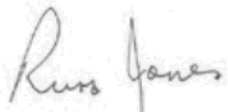
This report contains three separate reports regarding Information Technology. The first report, *An Overview of the BC Government's Capital Spending in Information Technology*, reveals how investing in IT is an essential part of the Government of British Columbia's fiscal plan. About \$500 million is spent annually on IT infrastructure and systems. Large IT projects that have affected most British Columbians in recent years include the e-Health initiative, the Integrated Case Management system, the Gaming Management System, and a new Student Information System. These projects are summarized in this report.

The second body of work, *The Status of General Information Technology Controls in the Government of British Columbia*, examines the health of general IT controls across government entities. General IT controls are a key component in protecting the confidential information that government manages; ensuring the integrity of processed transactions; and verifying that critical government services are available consistently. These controls are expressed as a maturity level that each entity in the B.C. government feels it has attained.

While technology has the potential for increased efficiency and effectiveness, it is not without risks. Fraud, theft, service interruption and privacy breaches are some of the threats to IT systems. The third report, *Web Application Security Audit*, assesses the security of government's web applications and if they are protected and managed effectively to minimize security threats. The audit indicated that government needs to be more vigilant in monitoring the design and implementation of web applications. The audit also includes recommendations for how government entities, through the direction of the Office of the Chief Information Officer, can establish a process to assess, address and continually monitor the threats against government web applications embedded in their websites.

Since web technologies are constantly evolving, government must develop its websites and online services in accordance with leading security practices and, as much as possible, initiate practices that are one step ahead of potential security threats.

I would like to thank the staff of the Office of the Chief Information Officer, Crown corporations and government entities for their cooperation and assistance during our work on this report.



Russ Jones, MBA, CA  
Auditor General  
January 2014



Russ Jones, MBA, CA  
Auditor General

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## RESPONSE TO THE INFORMATION TECHNOLOGY COMPENDIUM REPORT OF THE OFFICE OF THE AUDITOR GENERAL

The Office of the Chief Information Officer (OCIO) appreciates the Information Technology (IT) Compendium report recently conducted by your office. The audits that form the basis of the report: The B.C. Government's Capital Spending in Information Technology; The Status of General Information Technology Controls in the Government of British Columbia; and the Web Application Security Audit address important control areas as the B.C. Government offers a greater number of its services via the Internet and faces increasing demand for its financial resources. This timely report has provided valuable information to inform our ongoing efforts to strengthen information security and highlights the significant investment in information technology that is required to support government programs. The protection of information and thoughtful allocation of financial resources are responsibilities and obligations that the B.C. Government takes very seriously.

The report identifies that government spends almost ten per cent of its capital budget on IT systems and infrastructure projects that tend to be very complex in nature. In addition to improving its procurement practices to increase return on investment by seeking joint partnerships with the private sector, the B.C. Government has implemented an IT project assessment process that requires all requests for capital funding for IT projects to be submitted to my office for review. The projects are evaluated and prioritized based on their overall potential value to government programs and to ensure duplicate and low value projects are avoided. The recommended projects are then reviewed by the Deputy Minister's Committee for Technology and Transformation to ensure that government's capital spending for IT projects is focused on the B.C. Government's highest priorities and remains within the approved budget.

The information provided by the General Information Technology Controls review has provided valuable information regarding the maturity of the management of the controls and will assist in prioritizing improvements. My office will continue to urge Ministry Chief Information Officers to improve management of controls to ensure adequate, measurable protection.

The OCIO has developed Security Standards for Application and Web Development and Deployment which were published in December 2012.

In February 2013, the Chief Information Security Officer communicated with all Ministry Chief Information Officers on the need to ensure that the vulnerabilities identified in the audit be properly mitigated. Ministries have reviewed the vulnerabilities of their applications, developed their mitigation plans, and are working to complete implementation. The OCIO is also working to make vulnerability scanning available as a service.

The OCIO accepts the valuable recommendations of the Office of the Auditor General, which are well-aligned with the direction of the government security policy and standards. My office is also appreciative of time provided to mitigate the identified vulnerabilities prior to publication of the audit.

The OCIO continues to improve the protection of government information and responsible allocation of financial resources.

Bette-Jo Hughes

Associate Deputy Minister and Government Chief Information Officer

## BACKGROUND

**INFORMATION TECHNOLOGY (IT)** is a significant driver for delivering government programs and services. IT is integrated in almost every aspect of government's business, and crucial to effective, efficient delivery of its services. Technology helps government improve its performance, responsiveness, and accessibility.

Investing in IT infrastructure and systems is recognized as an essential element of capital spending in the Government of British Columbia's fiscal plan. In this overview, we present a summary of government's capital spending in IT. The intent of this information piece is to highlight the significance of the amount of public money spent on IT, and our intention to maintain a focus on this important area in future work that we plan.

The summary of IT capital spending information presented in this overview is a snapshot of the financial information reported by ministries and organizations that make up the government reporting entity. This includes ministries, Crown corporations, and other public sector organizations such as universities, colleges, school districts, health authorities, and similar organization that are controlled by, or accountable to, the provincial government. We compiled the information primarily from the Summary Financial Statements included in government's Public Accounts and other publicly available information.

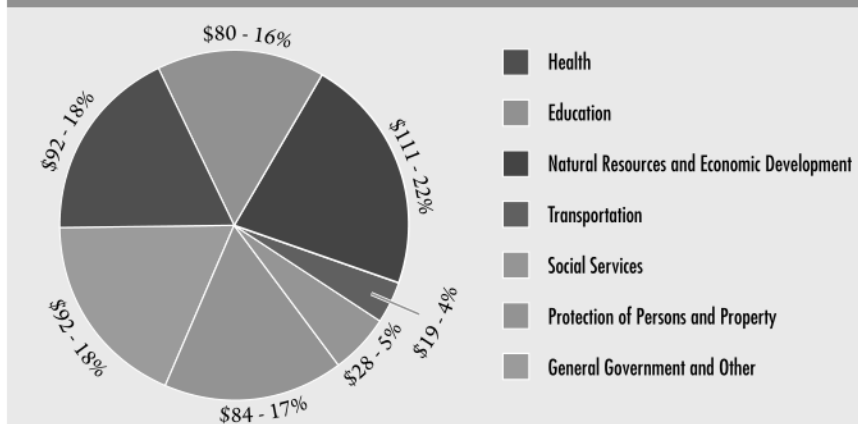
## IT CAPITAL SPENDING

The government spends approximately \$6 billion annually on capital infrastructure projects such as for school additions, hospital expansions, highway improvements, bridge replacements, power generation and transmission, and information systems upgrades across the province. Of that, approximately \$500 million is spent on IT infrastructure and systems.

In 2012/13, government spent \$506 million on IT capital infrastructure and system additions. Refer to Exhibit 1 for a breakdown of dollars spent by sector.



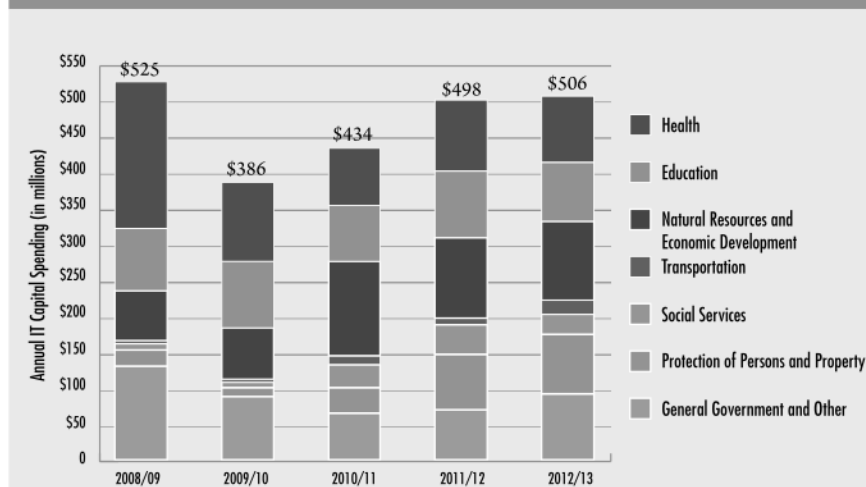
**Exhibit 1: 2012/13 IT Capital Spending by Sector (dollars in millions)**



Source: 2012/13 Public Accounts and information supplied by certain Crown corporations

Exhibit 2 shows the total amount of IT capital spending, by sector, over the last five years. IT capital spending has decreased from \$525 million in 2008/09 to \$506 million in 2012/13, representing a slight reduction of about 5%.

**Exhibit 2: IT Capital Spending by Sector per Year from 2008/09 – 2012/13**



Source: 2008/09 to 2012/13 Public Accounts and information supplied by certain Crown corporations

According to government's 2013 *British Columbia Financial and Economic Review*, the IT capital projects with the greatest cost, more than \$50 million, include the:

- ♦ e-Health Initiative;
- ♦ Integrated Case Management System; and
- ♦ Gaming Management System.

## **e-Health Initiative**

The e-Health initiative is a large, multi-year, multi-project initiative that began in 2004. It focuses on the implementation of a province-wide Electronic Health Record system. The aim is to establish an electronic health record for every citizen of British Columbia. E-Health enables healthcare service providers to access quickly patients' health records, health history and care within the health system.

The government is completing the provincial e-Health initiative in 2013 for a total expected capital cost of \$262 million.

## **Integrated Case Management System**

The Integrated Case Management (ICM) project was launched in 2008 to replace outdated legacy systems used to deliver social programs such as the Employment and Income Assistance program, the Child Care Subsidy program, and the Child Protection Services program. The project is a partnership of three ministries: Social Development and Social Innovations; Children & Family Development; and Technology, Innovation and Citizens' Services, with changes in service delivery happening at the two social sector ministries.

The ICM system is being implemented over a six-year period with a capital budget of \$182 million. The Ministry of Social Development and Social Innovation, the lead Ministry accountable for the project implementation, is looking at completing the project by the end of 2014.

## **Gaming Management System**

In 2012, the BC Lottery Corporation began replacing its existing casino Gaming Management System. This system is used for operating slot machines and monitoring table games in casinos and community gaming centres across B.C. Completion is expected in 2015 for a total capital budget of \$104 million.

## **ALTERNATE IT PROCUREMENT ARRANGEMENT**

Implementing new IT systems is complex and costly. Government traditionally invests in IT infrastructure and systems through capital spending. Since early 2000, government shifted its procurement approach for large IT projects to one that undertakes a joint solution approach with the private sector. The current procurement of a student information service for all students in Kindergarten through Grade 12 to replace the existing British Columbia Enterprise Student Information System (BCeSIS) is one example.



## **Ministry of Education: Procuring the Student Information System as a Service**

In the spring of 2011, the Ministry of Education commenced its planning for a new student information system to replace the current BCeSIS. The procurement approach is to provide schools with a student information system that is hosted by a private vendor. The vendor would provide, maintain and operate the platform that runs the new system and provide users with secure access to the information service. With this approach, government would not own the software license or require upfront capital investment for the implementation of the system. Instead, the system would be financed through the Ministry's annual operating budget for the term of the vendor contract.

The Ministry has completed its vendor selection for the contract service. It is anticipated that school districts will begin transitioning to the new service in 2014 and BCeSIS will be decommissioned in early 2016.

## LOOKING AHEAD

In recent years, the Government of British Columbia has invested a significant amount of its capital spending in large IT system projects. Our Office plans to conduct audit work that examines the effective management of these projects in achieving benefits and value.

## BACKGROUND

INFORMATION TECHNOLOGY (IT) is critical to government's day-to-day functions. From delivering services such as healthcare and education to processing billions of dollars in transactions, the Government of British Columbia's IT systems handle sensitive and significant information that impact the daily lives of everyone in our province.

Citizens expect government to have controls in place that ensure sensitive information is protected, transactions are processed correctly and systems are free from lengthy interruption. This includes, among other things, assessing and managing physical risks (such as theft or natural disasters) and digital risks (such as hacking and other unauthorized access). With the fast pace at which technology changes, IT requires constant vigilance and sustained commitment to implement, monitor and adjust controls as necessary.

General IT controls, also referred to as general computer controls, are controls relating to the environment within which systems are developed, maintained and operated. They help ensure proper development and implementation of systems, and help maintain the integrity of systems, data and operations.

This report will inform British Columbians about the health of government's general IT controls.

## PURPOSE, SCOPE AND APPROACH

The purpose of this project was to determine the health of general IT controls expressed in terms of maturity level that each entity in the B.C. government has attained with respect to the general controls used for their computing systems and IT environment, particularly regarding:

- ♦ protecting the information they manage (*confidentiality*);
- ♦ ensuring that transactions are processed correctly (*integrity*); and
- ♦ ensuring critical government services can continue (*availability*).

The entities covered in this project include ministries, Crown corporations, universities, colleges, school districts, health authorities and similar organizations that are controlled by or accountable to the provincial government. Trust funds and entities without separate IT functions were excluded.



The project was carried out under Section 12 of the *Auditor General Act*. This is not an audit and we did not provide an opinion on the fairness of the information published. We conducted the project in accordance with the Office's internal quality standards and processes.

We asked 138 B.C. government entities to complete a self-assessment form. The form was designed using the maturity model (see [Exhibit 3](#)) defined in the COBIT 4.1<sup>1</sup> framework developed by the IT Governance Institute.<sup>2</sup>

This model is a globally accepted leading practice for measuring how well developed an entity's controls are and in identifying improvements.

We focused on nine general IT controls areas in COBIT 4.1 which are critical to maintaining confidentiality, integrity and availability of information and systems:

1. *Assessing and managing IT risks*: analyzing and communicating IT risks and their potential impact on business processes and goals.
2. *Managing changes*: responding to business requirements in alignment with the business strategy, while reducing solution and service delivery defects and rework.
3. *Installing and accrediting solutions and changes*: implementing new or changed systems that work without major problems after installation.
4. *Managing third-party services*: providing satisfactory third-party services while being transparent about benefits, costs and risks.
5. *Ensuring continuous service*: ensuring minimal business impact in the event of an IT service interruption.
6. *Ensuring systems security*: maintaining the integrity of information and processing infrastructure and minimizing the impact of security vulnerabilities and incidents.
7. *Managing the physical environment*: protecting computer assets and business data and minimizing the risk of business disruption.
8. *Managing operations*: maintaining data integrity and ensuring that IT infrastructure can resist and recover from errors and failures.
9. *Monitoring and evaluating IT performance*: transparency and understanding of IT cost, benefits, strategy, policies and service levels in accordance with governance requirements.

Once we received the completed self-assessment forms (with a 100 percent response rate), we reviewed them for completion and compiled the results. As this is not an audit, we did not validate the results of the self-assessments.

A management report was sent to the head of each entity detailing their results compared to similar entities. We also sent a report to the government's Chief Information Officer (CIO), informing her about the report we sent to each entity and providing her the

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1 COBIT 4.1 and earlier versions are formally known as Control Objectives for Information and related Technology (COBIT). It is an internationally accepted framework for IT governance, management, control and assurance.

2 IT Governance Institute was formed by ISACA - an independent, non-profit, global association, which engages in the development, adoption and use of globally accepted, industry-leading knowledge and practices for information systems.

summary results by general IT controls area and type of entity. The government's CIO is mandated with governance authority for standards setting, oversight and approvals for the Province's information and communications technology.

## Exhibit 3: COBIT 4.1 Maturity Model Rating Definitions

0 - Non-existent	Complete lack of any recognizable processes. The enterprise has not even recognized that there is an issue to be addressed.
1 - Initial/ad hoc	There is evidence that the enterprise has recognized that the issues exist and need to be addressed. There are, however, no standardized processes; instead, there are ad hoc approaches that tend to be applied on an individual or case-by-case basis. The overall approach to management is disorganized.
2 - Repeatable but intuitive	Processes have developed to the stage where similar procedures are followed by different people undertaking the same task. There is no formal training or communication of standard procedures, and responsibility is left to the individual. There is a high degree of reliance on the knowledge of individuals and, therefore, errors are likely.
3 - Defined process	Procedures have been standardized and documented, and communicated through training. It is mandated that these processes should be followed; however, it is unlikely that deviations will be detected. The procedures themselves are not sophisticated, but are the formalization of existing practices.
4 - Managed and measurable	Management monitors and measures compliance with procedures and takes action where processes appear not to be working effectively. Processes are under constant improvement and provide good practice. Automation and tools are used in a limited or fragmented way.
5 - Optimized	Processes have been refined to a level of good practice, based on the results of continuous improvement and maturity modeling with other enterprises. IT is used in an integrated way to automate the workflow, providing tools to improve quality and effectiveness, making the enterprise quick to adapt.

Source: COBIT 4.1 Framework complimentary download, figure 13, page 19

## OBSERVATIONS

### Self-assessment results

Exhibit 4 shows the number of entities that assessed themselves at each level per general IT control area.

Exhibit 4: Summary Chart of Maturity Levels for each General IT Control Area							
IT Control Areas	Maturity Levels						Average Maturity Rating
	5 Optimized	4 Managed & Measurable	3 Defined	2 Repeatable but Intuitive	1 Initial/ Ad Hoc	0 Non-Existent	
Assess and Manage IT Risks	0	39	28	50	21	0	2.6
Manage Changes	2	50	32	42	12	0	2.9
Install and Accredite Solutions and Changes	7	45	38	33	14	1	3.0
Manage Third-Party Services	5	42	48	28	13	2	3.0
Ensure Continuous Service (BCP/DR)	3	31	45	51	8	0	2.8
Ensure Systems Security	4	33	47	39	15	0	2.8
Manage the Physical Environment	8	38	65	18	8	1	3.1
Manage Operations	10	55	46	25	2	0	3.4
Monitor and Evaluate IT Performance	1	18	31	50	32	6	2.2
Source: Compiled by the Office of the Auditor General of British Columbia							

We observed that the average maturity rating for all nine IT control areas is 2.9:

- ♦ average maturity levels between 2.2 and 2.9 were assessed for IT control areas such as Assessing and Managing IT Risks, Managing Changes, Ensuring Continuous Service, Ensuring Systems Security and Monitoring and Evaluating IT Performance; and
- ♦ average maturity levels between 3 and 3.4 were assessed for IT control areas such as Installing and Accrediting Solutions and Changes, Managing Third-party Services, Managing Physical Environment and Managing Operations.

The ideal maturity level that an entity should operate at for each general IT control area will depend on their business objectives, complexity of their computing systems and IT environment, and the value of the information that they manage. For some entities where the risk factors in these areas are low, it may be acceptable to operate at a maturity level of three. Conversely, where the risks are high, a maturity level of four or five may be more appropriate.

## COMPARING SELF-ASSESSMENT RESULTS WITH IT-RELATED FINDINGS FROM FINANCIAL AUDITS

### Background

Each year, our Office (along with a number of private accounting firms) audits the financial statements of every entity in the provincial government. The Canadian auditing standards require public sector auditors to obtain an understanding of the entities' business environment and their internal controls for the purpose of formulating audit strategies to ensure financial statements do not contain material errors or misstatements.

At the end of these financial statements audits, internal control weaknesses, including general IT controls, are communicated in a management letter to each government entity through senior management, boards and audit committees. The detailed findings contained in the management letter are cleared with management of each entity and then summarized at a very high level in our Office's annual *Observations on Financial Reporting* report.

Last year we analyzed the findings related to general IT controls and published them in a separate report entitled *The Status of IT Controls in British Columbia's Public Sector: An Analysis of Audit Findings*. Our intent was to raise awareness of the importance and responsibility of IT controls within the Government of British Columbia.

We mentioned in the report that we would publish an annual report on IT-related audit findings and track government's progress on addressing the risks associated with adopting various forms of IT. This year, because of this general IT controls self-assessment project, we performed a high-level analysis of these findings and relate the results with the self-assessments results for consistency purposes.

## Analysis of IT-related findings from financial audits

This analysis includes IT-related findings from audits of financial statements with fiscal periods ending June 30, 2012 (school districts), December 31, 2012 (certain Crown corporations) and March 31, 2013 (all other entities in the B.C. Government).

The analysis indicated that 57 (70%) IT-related findings relate to *Ensuring Systems Security*. This is consistent with the result of self-assessments in [Exhibit 4](#), which shows that the same general IT control area has below average maturity rating (2.8). These findings pertain to:

- ♦ weaknesses in access control and password management;
- ♦ lack of documented security policy; and
- ♦ lack of separation of duties for IT staff or users' functions.

It is understandable that the majority of the IT-related findings were related to *Ensuring Systems Security* as the focus of assessing general IT controls in financial statement audits is on the security of data and integrity of financial information.

The other 24 (30%) IT-related findings pertain to general IT control areas such as Managing Changes, Managing Third-Party Services, Ensuring Continuous Services and others.

## WHAT ENTITIES SHOULD DO

Given our knowledge of the structure and complexity of certain entities from our annual financial and IT audit work, we noted that certain government entities rated themselves too high or too low in certain areas. We plan to conduct further work in this area.

We encourage each entity to:

1. review the results of its self-assessment;
2. establish a process to determine the target maturity level for each IT control area;
3. assess the gaps between the current and target maturity level;
4. develop an action plan to address the gaps;
5. implement and monitor the action plan; and
6. perform steps one to five above on a periodic basis.

We also encourage the Office of the Chief Information Officer of the Government of British Columbia to continue assisting government entities in achieving and/or improving the maturity levels for their general IT controls.

## LOOKING AHEAD

We look forward to conducting this assessment project annually to keep British Columbians informed about the health of government's IT controls. The information in this report will serve as a foundation for our work in the succeeding years.

Starting next year, we will selectively review and validate completed self-assessment forms. This will involve examining supporting documents and processes to corroborate the self-assessed maturity levels.

## BACKGROUND

**WEBSITES HAVE BEEN EMBRACED** by millions of businesses to communicate and exchange information with their customers and clients. The government of British Columbia uses its websites to interact with its citizens, provide program information and offer online services. Online services include, but are not limited to, applying for a medical service plan, social assistance, permits and licences, legal services, completing a land title search and researching property assessments.

### What is a Web Application?

There are two important components of a modern website: 1) web applications and 2) web browsers. Web applications are programs embedded in a website designed to perform specific tasks. From a technical viewpoint, a website is an environment that allows customization through the deployment of a large, diverse range of web applications.

There are many web browsers available with the most popular being Internet Explorer, Firefox, and Google Chrome. Web browsers allow users to retrieve data and interact with content located on web pages within a website.

Features such as webmail, login pages, support, product requests, registration forms, social media, search functions and shopping carts are common web applications used to communicate between the site owner and the user. Web applications are popular due to web browsers which can be updated and maintained without distributing and installing software on web users' computers.

Citizens visiting government websites may be asked to subscribe to newsletters, submit application forms or make an online payment. In these instances, browsing habits are often tracked to enhance future browsing experiences. As well, the data must be captured, stored, processed and transmitted to be used immediately or at a later date. This is done through web applications via a web browser.

### Significance of Web Application Security

In the past, cybercriminals used spam emails (or emails sent to numerous recipients) with attached computer viruses or malicious software (called malware) to infect the recipients' computers and steal confidential information. Currently, most cybercriminals exploit a flaw or weakness in the web application's design, implementation, or operation. Exploitation tools are freely available online, can be downloaded by anyone and can be used from anywhere in the world.

Because web applications can capture confidential and sensitive user information, it is imperative that government have appropriate security measures to protect web applications from cybercriminal threats. For instance, government's main website





([www.gov.bc.ca](http://www.gov.bc.ca)) is a web application portal that provides online access to many services in a wide variety of areas. These online services are public-facing web applications.

Public-facing web applications such as these increase risk to an organization. IT departments tend to focus on building strong network perimeter protection (e.g. firewalls or Intrusion Detection Systems). However, securing the network perimeter is not the only way to stop or detect attacks. For government organizations to stay ahead of attackers, they need to ensure their web applications are securely designed, and have properly managed network security.

## Governing Authority and Responsibilities

The Office of the Chief Information Officer (OCIO) promotes and guides the implementation of corporate-wide Information Management and IT policies. The policies provide overall strategic direction for securing government's information technology infrastructure and electronic records and information. The OCIO also ensures that measures are established to assess compliance with security policies, procedures and standards.

Under this mandate, the OCIO established an Information Security Policy framework to guide ministries in the development and security of applications. In December 2012, the OCIO introduced a *Security Standard for Application and Web Development and Deployment*. This new standard is incorporated into the Information Security Policy framework, which all government ministries are required to follow.

## PURPOSE, SCOPE AND APPROACH

The purpose of this audit is to determine whether government is effectively managing and securing public-facing web applications from cyber security threats. We assessed whether the OCIO has:

- ♦ ensured that government's websites are developed in accordance with leading web application security practices;
- ♦ evaluated reported security threats and incidents in a timely manner to continuously improve website security; and
- ♦ ensured that ministries have minimized web application vulnerabilities against cyber security threats.

### Scope

This audit was carried out under Section 11(8) (b) of the *Auditor General Act*.

This audit focused on the overall governance function of the OCIO and to some extent, the operational relationships between the OCIO and ministries. It also included vulnerability scans on selected public-facing web applications.

We carried out our work between September 2012 and July 2013.

## Our Approach

We conducted this audit in accordance with the assurance standards recommended by the Canadian Institute of Chartered Accountants and included tests and procedures necessary to obtain sufficient evidence to support our conclusions. We used traditional audit techniques for assessing the overall IT governance and management areas.

The BC government has approximately 1,500 web applications of which 437 are public-facing. The majority of these are hosted within the Shared Services BC government network. From those, we selected a sample of public-facing web applications for assessment of vulnerability using industry standard scanning tools and methods. We selected public-facing web applications hosted within the government network that were identified as:

- ♦ business and mission critical;
- ♦ had a high or moderate impact risk to the health, safety, security, or economic well-being of British Columbians, and
- ♦ had a high or moderate impact risk of disruption to a department's service levels, contractual obligations with third parties, obligation to obey the law, regulatory obligations, and their obligations to other government departments, other levels of government, and/or foreign governments.

## What We Did Not Look At

We excluded the Ministry of Justice because a similar audit of the government's computerized criminal justice application was conducted and reported by our office in 2012: *Securing the Justin System: Access and Security Audit at the Ministry of Justice*.

Vulnerability scans such as those which we conducted can sometimes inadvertently and negatively affect a web application's service. Because of this, and to avoid public safety risks, we excluded applications that provide travel and recreational safety warning information.

We did not include non-core government organizations, such as Crown corporations, agencies, schools, colleges, universities and health authorities. These entities may be considered for future audits.

## OVERALL OBSERVATION AND CONCLUSION

The OCIO developed and implemented policies and standards for the development of web applications in late 2012. Although the OCIO has taken some actions in addressing the security of web applications, we concluded that they are not enough to protect web applications from cyber security threats.

We found that the OCIO has not:

- ♦ incorporated the compliance review of web application development policies and standards as part of its annual review of ministries' self-assessment;
- ♦ verified the accuracy and completeness of ministries' application inventories;
- ♦ fully implemented a process for evaluating vulnerabilities of public-facing web applications; and
- ♦ established a formal process to investigate and follow-up on results of vulnerability scans for all public-facing web applications.

## KEY FINDINGS AND RECOMMENDATIONS

### Website Development Using Leading Security Practices

In the area of security leading practices, we assessed:

1. whether policies and standards are in place for web application development and if so, whether they are in accordance with security leading practices;
2. whether roles and responsibilities for web application security are clear between the OCIO and ministries; and
3. how well the OCIO monitors ministries' compliance with web application development policies and standards.

#### *Effectiveness of the Web Application Development Standard*

As previously mentioned, in December 2012, the OCIO released the *Security Standard for Application and Web Development and Deployment*. We compared this standard with standards and practices from leading security organizations and found that it addresses key risks related to the secure development of web applications.

#### *Roles and Responsibility*

The OCIO has the overall responsibility for ensuring web applications are developed and maintained in accordance with security leading practices. The office also provides strategic advice and sets the overall direction and standards for IM/IT relating to government's entire IT environment.

Conversely, ministries are responsible for developing and maintaining ministry information and business applications, including web applications in accordance with the OCIO standards. Responsibility for compliance with standards and policies falls to the Ministry Chief Information Officer (MCIO). The MCIO deals with day-to-day information security issues within his/her ministry and helps ensure compliance with policies and standards. He/she reports directly to the respective Deputy Minister, and has a functional reporting relationship with the OCIO through various committees.

We found that roles and responsibilities between the OCIO and MCIO are clearly defined and communicated.

#### *Compliance with Policies and Standards*

Government's current policies and standards provide ministries with guidance for developing and maintaining web applications. Ministries conduct annual self-assessments of their IT security, which the OCIO reviews to ensure there is adequate support for the assertions. However, OCIO's review does not look to see if ministries are in compliance with the web application development policies and standards.

**RECOMMENDATION 1:** *We recommend that the Office of the Chief Information Officer (OCIO) incorporate a compliance review of web application development policies and standards as part of its annual review of ministries' self-assessments.*

## Evaluation of Reported Security Breaches/Incidents

We assessed the effectiveness of current policies and processes for tracking and resolving web application security incidents. We also reviewed how well cyber threats are monitored and investigated, and steps for improving web application security.

### *Tracking and Resolving Security Incidents*

Security incidents are unwanted events that threaten privacy or information security. Web application security incidents include the accidental or deliberate unauthorized use of, disclosure of, or access to data.

The OCIO's *Information Security Policy* clearly identifies roles and responsibilities for affected personnel in reporting and mitigating security events for prompt resolution. Other guides designed to assist personnel with reporting, logging and resolving information security incidents include:

- ♦ *Information Incident Management Process*
- ♦ *Easy Guide for Responding to Information Incidents*
- ♦ *Information Incident Checklist*
- ♦ *Process for Responding to Privacy Breaches*
- ♦ *Information Incident Report Form*

The existing policies and procedures are effective in providing guidance for tracking and resolving web application security incidents.

### *Monitoring and Investigating Threats and Incidents*

Staying ahead of security threats and incidents can be a daunting task. New vulnerabilities are reported daily and where a web application was once considered secure, it could be vulnerable the next day. Therefore, the OCIO should have a process for staying abreast of security threats and incidents, and informing ministries so they can mitigate the risk of web applications being exploited.

To accomplish this, the OCIO has established a special investigations unit to identify and track information cyber threats and incidents (both external and internal) to government. This unit works closely with the federal government's Canadian Cyber Incident Response Centre and other partners inside and outside of Canada to mitigate cyber threats to vital networks.

Information security incidents within government, regardless of priority, are immediately logged and forwarded to the OCIO's investigation unit. After review, they are assigned to an Incident Action Team to determine overall response strategy and work assignments.

We found that the process established by the OCIO is reasonable for monitoring and investigating web application security threats and incidents. However, due to the evolving threats, the OCIO should continuously review the sufficiency of the process for monitoring cyber security threats.

## *Improving Security*

The OCIO's investigations into web application threats and incidents have resulted in a number of corporate-wide initiatives including a comprehensive *Information Security Program and Security Assurance Process*.

The *Information Security Program* addresses the need for improving information governance and the protection of government information assets at a corporate-wide level. Initiatives include action items for addressing cyber attacks and development standards for applications and web security.

The *Security Assurance Process* aims to develop and maintain standards and tools for ministries to test for possible web application security deficiencies and is expected to include an audit program for assessing ministry compliance with the standards. Ministries will be able to draw from a list of web application vulnerability scanning services once it is fully implemented.

The OCIO is taking appropriate measures to improve overall web application security.

## **Awareness of the Extent of Website Vulnerabilities**

As part of our work, we first reviewed the OCIO's process for maintaining an accurate inventory of all government applications including public-facing web applications. We then performed our own vulnerability scans on selected public-facing web applications. Lastly, we examined the OCIO's process for investigating and following-up on the results of their vulnerability assessments.

## *Inventory of Applications*

Businesses often depend on an accurate and detailed record of their assets to operate and maintain competitiveness. Therefore, up-to-date inventory records should provide management with essential information on how many assets they have in inventory, what the assets are, and where they are stored or located. This information can then be used to properly plan, budget, and safeguard the assets.

In the case of government IT assets, it is equally important to know what IT assets are owned, their purpose, and where they are installed. Without this detailed knowledge, it would be difficult for management to assess their criticality and security status.

In 2011, the OCIO implemented a formal applications record management process requiring each ministry to collect and maintain a list of applications on a spreadsheet for which it is responsible.

The collection included a detailed description of each application's:

- ♦ hardware,
- ♦ software,
- ♦ purpose,
- ♦ cost,
- ♦ age,
- ♦ hosting environment,
- ♦ risk classification,
- ♦ criticality, and
- ♦ impact on government if it failed.

This information is uploaded to the OCIO and compiled into a master inventory list. We found that the master inventory spreadsheet of web applications was inaccurate and missing information. Over 22% were missing one or more key data fields such as information security classification, criticality, impact on British Columbians and government operations, web application internet address, and the status of the most recent *Security Threat Risk Assessment*.

As a result, the OCIO may be relying on an inaccurate and incomplete inventory, which could negatively affect decisions regarding safeguarding of government's web applications.

**RECOMMENDATION 2:** *We recommend that the Office of the Chief Information Officer (OCIO) establish a process to ensure the accuracy and completeness of its web applications master inventory list.*

### *Vulnerability Scans*

To determine the vulnerability status of public-facing web applications, we conducted vulnerability scans on 80 public-facing web applications using industry standard scanning tools and methods.

We conducted vulnerability scans between December 2012 and February 2013.

### *Vulnerability Severity Levels*

Vulnerabilities are defined according to the risk level they pose to the application. We chose to use vulnerability rankings as determined by HP WebInspect. HP assigns severity levels based on whether the vulnerability allows the attacker to execute commands, retrieve or modify private information, view source code, or access system files and other sensitive information.

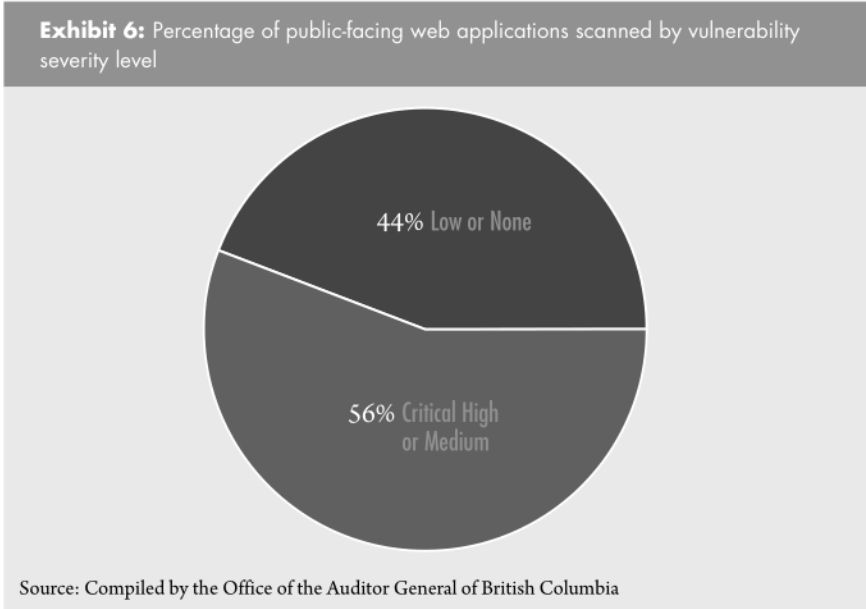
For reporting purposes, we focused on critical, high and medium vulnerability severity levels (see Exhibit 5).

**Exhibit 5:** HP WebInspect Rankings

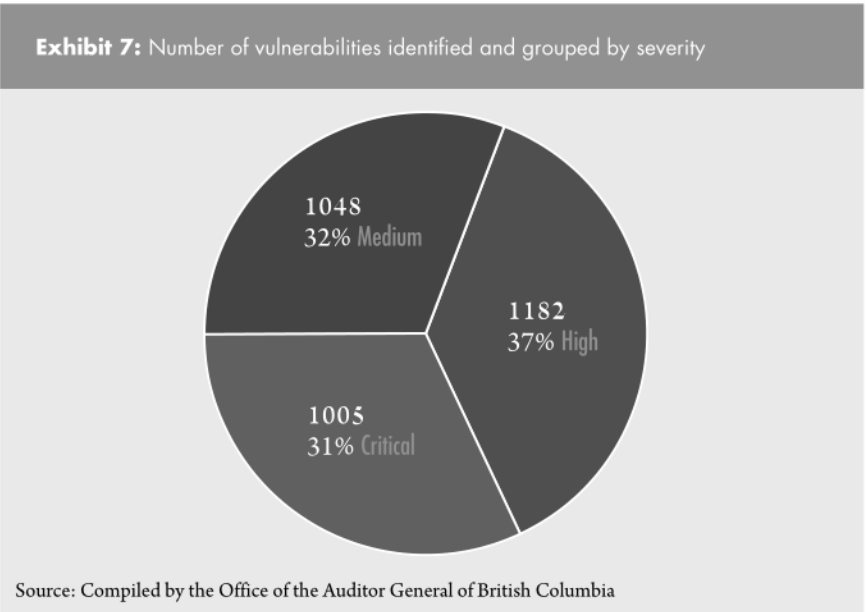
Severity	Description
Critical	A vulnerability that could let an attacker execute commands on the server, or retrieve and modify private information
High	A vulnerability that could let an attacker view source code, access system files, and view sensitive error messages
Medium	Other errors or issues that could be sensitive
Low	Interesting issues that could potentially become higher issues
Source: Compiled by the Office of the Auditor General of British Columbia	

Results

Of the 80 public-facing web applications scanned, 56% had one or more critical, high or medium vulnerabilities (see Exhibit 6). These vulnerabilities could allow cyber criminals to access confidential information or cause malicious activity.



Of the critical, high and medium vulnerabilities found, we identified over 1000 vulnerabilities for each of the severity levels (see Exhibit 7).



Based on the high number of critical, high and medium vulnerabilities found per web application, we determined that public-facing web applications are not adequately protected from cyber security threats. As a result, there is a high risk for loss of confidential information and service availability.

**RECOMMENDATION 3:** *We recommend that the Office of the Chief Information Officer (OCIO) work with ministries to facilitate regular vulnerability scans for all public-facing web applications.*

### *Following-up on Vulnerability Scans*

During our audit, we reported the results of our scans to the OCIO and commended the office for taking immediate corrective action to address the vulnerabilities.

However, the OCIO has not established a formal process to assess and follow-up on the vulnerability status for all public-facing web applications. Without knowing the status of all public-facing web applications, the OCIO would not know whether government website vulnerabilities are minimized against cyber security threats.

**RECOMMENDATION 4:** *We recommend that the Office of the Chief Information Officer (OCIO) work with the ministries to establish a formal process to promptly investigate and follow-up on the results of vulnerability scans for all public-facing web applications.*

### *Summary of Recommendations*

We recommend that the Office of the Chief Information Officer (OCIO):

1. incorporate a compliance review of web application development policies and standards as part of its annual review of ministries' self-assessments.
2. establish a process to ensure the accuracy and completeness of its web application master inventory list.
3. work with ministries to facilitate regular vulnerability scans for all public-facing web applications
4. work with ministries to establish a formal process to promptly investigate and follow-up on the results of vulnerability scans for all public-facing web applications.

## LOOKING AHEAD

As government organizations continue to increase reliance on websites to communicate and deliver services, it is imperative that the web applications used be designed and implemented with strong controls. This will inhibit fraudulent users from accessing information through cyber attacks.

Looking forward, the Office of the Auditor General will:

- ♦ continue to monitor government's effort in securing public-facing web applications; and
- ♦ extend our review of web applications security to other government entities such as Crown agencies, schools, universities, colleges and health authorities.





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August 2015



## AN AUDIT OF THE PANORAMA PUBLIC HEALTH SYSTEM

[www.bcauditor.com](http://www.bcauditor.com)



OFFICE OF THE  
**Auditor General**  
of British Columbia

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The Honourable Linda Reid  
Speaker of the Legislative Assembly  
Province of British Columbia  
Parliament Buildings  
Victoria, British Columbia  
V8V 1X4

Dear Madame Speaker:

I have the honour to transmit to the Legislative Assembly of British Columbia my report, *An Audit of the Panorama Public Health System*.

We conducted this audit under the authority of section 11 (8) of the *Auditor General Act* and in accordance with the standards for assurance engagements set out by the Chartered Professional Accountants of Canada (CPA) in the CPA Canada Handbook – Assurance, and in accordance with Value-for-Money Auditing in the Public Sector.



Carol Bellringer, FCPA, FCA  
Auditor General  
Victoria, B.C.  
August 2015

# AUDITOR GENERAL'S COMMENTS

IN EARLY 2011, Office of the Auditor General staff surveyed a number of eHealth IT systems to understand their status. One of these systems was Panorama. At that time, the team briefed senior officials at the Ministry of Health on concerns about how the ministry was managing the Panorama project. As implementation was just getting underway, the Office decided not to audit Panorama to allow the ministry more time to work through these issues. This audit found that the expected improvements did not take place.

Panorama was a difficult and complex undertaking. The system needed to meet the needs of numerous jurisdictions of varying sizes with different public health processes, and be translated into two languages. Nevertheless, B.C. alone has spent \$115 million, and will spend a further \$14 million per year on a system that is not fully functional.

A complex, national IT project like Panorama requires experienced project leaders with exceptional management skills. Our audit found that the Ministry of Health lacked project leadership. Health authority input and concerns were largely ignored, which is very disconcerting, as they are the primary users of Panorama.

This audit also identifies issues with the ministry's project and contract management. When IBM could not deliver on the original terms of the contract, we did not find any evidence that the ministry considered other options such as contract termination and tendering for an alternative system. We make three recommendations to improve these practices on future projects. Given the ongoing challenges with the system, we also recommend an independent review to assess viable alternatives to Panorama.



Carol Bellringer, FCPA, FCA  
Auditor General  
Victoria, B.C.  
August 2015



CAROL BELLRINGER, FCPA, FCA  
*Auditor General*

# EXECUTIVE SUMMARY

FOLLOWING THE SARS outbreak in early 2003, which claimed the lives of 44 people in Canada, an independent review recommended that the country invest in a “seamless public health system that will allow public health professionals to coordinate activities in a carefully planned infrastructure.”

In response to this recommendation, the Government of Canada mandated Canada Health Infoway to work with Canada’s provincial, territorial and federal governments to develop a national, integrated public health surveillance solution known today as *Panorama*. The provinces and territories expected Panorama to achieve a number of benefits including improved health outcomes related to communicable diseases and more efficient management of immunization programs.

The project to build a national Panorama system (the national build project) was co-sponsored by the Government of B.C. and Canada Health Infoway, and led by the B.C. Ministry of Health (the ministry) on behalf of all the provinces and territories. The ministry also had overall responsibility to implement Panorama in B.C. health authorities (the B.C. implementation project). Panorama was supposed to be a national system, but at present, only five other jurisdictions are still moving forward with implementation. B.C. is the furthest ahead; however, just three of B.C.’s five regional health authorities are using the system to enter the majority of patient information directly.

## PART 1: AUDIT FINDINGS

Large and complex IT projects like Panorama are often high risk. Successful projects can provide significant benefits, but these projects often face challenges around factors such as system quality, budget and timelines. We focused our audit on these factors. We expected Panorama to have the quality required to realize the stated benefits of the system, and to have been built and implemented in B.C. health authorities on time and on budget.

### System quality

A high-quality public health IT system supports users to carry out their day-to-day work effectively and efficiently. We looked at three attributes of system quality: functionality, stability and usability. We found that all seven Panorama modules were implemented in B.C., but some critical system functionality (system capabilities) was de-scoped or unusable. This included national communicable disease outbreak management, the ability to identify patients who are due for immunizations, and electronic lab results. A number of other major features have significant limitations. And important components, such as provincial outbreak management, are present but not being used for various reasons.

## EXECUTIVE SUMMARY

Panorama users have experienced a high volume of stability (reliability or availability) issues, such as problems logging on, an inability to complete and save electronic forms, and freezing. Many of these issues are the result of system defects.

The Panorama system that the ministry accepted on behalf of participating provinces and territories in 2010 contained almost 1,200 defects. Over 11,000 additional defects have been discovered since the system was deployed in 2011 – 2,500 of which continue to affect users. The ministry changed contractual terms requiring IBM to resolve defects within established timeframes during the national build project. Had the terms remained in place, the ministry could have accumulated monetary credits far exceeding IBM's maximum liability of \$7 million.

B.C.'s version of Panorama has usability (how easy it is to use the system) issues. It is difficult to navigate, complicated, and confusing. It uses clinically incorrect and counter-intuitive terms and different terms for the same function in different parts of the system. It requires excessive scrolling to view necessary information and has a busy display that makes it difficult to view content.

### Timeline

The national Panorama system was delivered almost three years after IBM's initial contractual deadline of March 2007. B.C.'s implementation of Panorama was supposed to be complete in 2009. Today, aspects of the system are in place, but major components are still outstanding. Also of concern is that Panorama is a stand-alone system. This no longer aligns with health authority IT strategies which are shifting towards integrated health systems.

### Budget

#### National build project

B.C. negotiated a fixed price contract worth \$27.8 million with IBM for the national build project. Another \$9.9 million was allocated for other expenses, bringing the total budget to \$37.7 million. The national system cost a minimum of \$66 million. Canada Health Infoway paid \$44.5 million for the build, and B.C. and other provinces funded another \$21.5 million for IBM to fix system defects and make it usable. B.C.'s portion of the \$21.5 million is approximately \$2 million.

#### B.C. implementation project

Cost overruns were an even bigger issue on the B.C. implementation project. To date, the Province has spent approximately \$113 million – or 420% of what was budgeted at the project outset – and implementation is still not complete. The Province expected to pay \$16.2 million for IBM implementation services, but it ended up costing \$73.5 million. B.C.'s ongoing support costs are estimated to be approximately \$14 million per year.

### System impacts

B.C.'s version of Panorama is prone to errors. Slow performance and unexpected system outages mean that the system cannot always provide clinicians with complete and accurate patient information when they need it.

Health authorities reported that Panorama has led to an increase in public health operating costs, a decrease in capacity, and longer appointment wait times, but it does collect additional data. Health authority

## EXECUTIVE SUMMARY

estimates indicate that lost efficiencies total \$4.5 million annually, almost 1% of the health authorities' combined annual public health budget.

## PART 2: WHY DID THINGS GO WRONG?

### Leadership

The ministry employed a “command and control” leadership style with Panorama. They dismissed health authority concerns around the safety and efficiency of the system and ignored important system issues. This caused delays and led to higher costs.

The ministry did not allow some health authorities to consider system alternatives even when it became clear to both the ministry and health authorities that the system was impacting patient care. Other health authorities were not mandated to use Panorama.

### Risk transfer

IBM planned to knit together a number of separate COTS (commercial-off-the-shelf) products into a single, national system for public health. This plan failed and IBM proposed shifting to a custom solution that was accepted by the ministry. We found no evidence that the ministry evaluated other options such as contract termination and alternative systems.

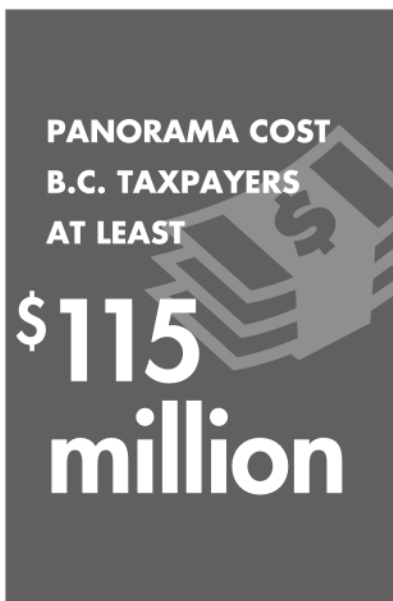
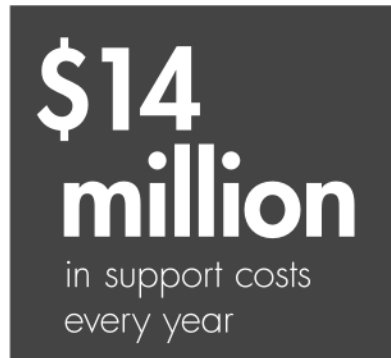
The ministry agreed to a series of change orders which de-scoped significant pieces of functionality, changed final delivery dates, and eroded system quality by allowing more serious defects to persist in the system without penalty. These change orders transferred risk from IBM to the ministry and ultimately, to taxpayers. In particular, the ministry took on the risks of increasing costs and prolonging time to fix defects.

### Acceptance testing & premature acceptance

The ministry hired IBM to develop national acceptance test scenarios and carry out a substantial amount of the national acceptance testing. This is unusual. Both activities are typically carried out by users as the vendor has a financial interest in having its product accepted by the client.

In the end, the accepted system did not meet user needs, and contained thousands of defects. Significant remediation was required along with the identification of more than 320 workarounds to make the system usable. Premature acceptance of the system led to delays in B.C.'s implementation of the system and increased the overall cost of Panorama to the Province.

# REPORT HIGHLIGHTS





# SUMMARY OF RECOMMENDATIONS

## WE RECOMMEND THAT THE MINISTRY OF HEALTH:

- 1** commission an independent review of Panorama and other alternative systems to identify the most cost-effective, integrated approach to meet the current and future needs of public health in British Columbia.
- 2** review its *project* management practices to ensure future IT projects are managed in accordance with good practice.
- 3** review its *contract* management practices to ensure future IT projects are managed in accordance with good practice.
- 4** review its current leadership practices and develop a collaborative leadership strategy for future IT projects.

# RESPONSE FROM THE MINISTRY OF HEALTH

THE SARS OUTBREAK in 2003 identified the need for a national public health information system to support an effective response to infectious disease threats. In British Columbia, the public health information systems in use at that time ranged from purely paper-based systems to multiple, separate, outdated, functionally limited information technology systems.

Panorama was envisioned as an integrated public health information system to support public health professionals in the effective management of vaccine inventories, immunization programs, communicable disease investigations and outbreaks across Canada. British Columbia initiated an additional module within the Province to support family health services.

A National Steering Committee, including BC health authority and public health representatives, was formed to oversee the development of Panorama. Due to its experience developing the Integrated Public Health Information System (iPHIS) – which had been in use in several BC health authorities – BC co-led the Panorama initiative on behalf of the country in conjunction with Canada Health Infoway (CHI), the project funding organization.

IBM was selected as the successful vendor in the fall of 2005 with a budget of \$37.7 million based on using a commercial off-the-shelf (COTS) solution. When it was determined that the COTS solution could not be adapted to meet the national jurisdictional needs, the contract was amended to provide for a custom-built solution, requiring a contract extension of approximately one year. CHI approved a revised

budget of \$47 million to reflect this required change to support the development of the national infrastructure phase of Panorama.

Initially all provinces and territories were fully engaged, as was the Public Health Agency of Canada (PHAC). Over time, however, in the face of economic challenges, smaller jurisdictions and Alberta opted out of the national process and PHAC itself declined a central support/coordinating role.

The national product was delivered to provinces to customize for their unique regional needs. In British Columbia, the national version was customized to meet the needs of both British Columbia and Yukon.

Today Panorama provides the basis of a comprehensive tool in BC and across most of the country that will help public health personnel successfully identify and respond to public health outbreaks.

Panorama also allows better management of immunization programs, reduces vaccine wastage and better serves citizens by ensuring a complete health record is available. An evaluation of the benefits of the vaccine inventory management module indicates the

## RESPONSE FROM THE MINISTRY OF HEALTH

province can expect to save approximately \$2 million annually in reduced wastage, returns and improved productivity. Further, according to an evaluation of the family health/immunization modules, the extent of data being collected by health authorities has improved and is expected to contribute to an increase in appropriate immunization rates, which is the first line of defense against infectious disease outbreaks.

“Panorama’s immunization database is critical for comprehensive, seamless care for tracking patients needing vaccinations to inform clinical decision making in community care settings.” ~ Dr Mitchell Fagan, family physician, Langley Division of Family Practice and Medical Director, Langley Memorial Hospital.

Panorama has also enabled the BC Centre for Disease Control to consolidate information from some 80 different databases developed for tracking and managing communicable diseases, data not previously directly accessible by the health authorities.

Panorama protects the health of British Columbians and Canadians through up-to-date clinical information and, where and when required, provides a single source of comprehensive and standardized communicable disease surveillance data and improved provincial outbreak coordination capabilities leading to better management of public health care spending.

Panorama was an important support tool during British Columbia’s recent response to the recent Ebola threat. Its value in directly protecting Canadians was recently demonstrated by supporting the containment of a school measles outbreak in Ontario, allowing public health personnel to quickly and efficiently access non-immunized student records.

“News of a positive measles test came at 4:45pm. Public health staff were able to use Panorama to find all students whose records were either incomplete or had a Statement of Conscience. They immediately phoned the parents and had them excluded from school. An up to date list of these excluded kids was in the principal’s hand before the opening of school the next day. The health unit was then able to have discussions with parents about the importance of immunization resulting in more children immunized. This timely and accurate information would not have been possible previously.” ~ Dr Valerie Jaeger, Medical Officer of Health for Niagara Region Health Unit

BC’s First Nations Health Authority already reports significant improvements in access to clinical information within First Nation communities, helping to address a systemic gap in public health care delivery.

“The use of Panorama by FNHSO [First Nation Health Service Organization] nurses has had a marked positive impact on direct service delivery to our clients. Having timely access to immunization information results in less frustration on the part of nurses and their clients and ensures a higher quality of service (less over or under-immunizing). In addition, the functionality of Panorama in terms of validating doses and providing decision support helps nurses practice more safely.” ~ Cathryn Aune, Community Nurse – eHealth Programs, First Nations Health Authority

## RESPONSE FROM THE MINISTRY OF HEALTH

The Ministry of Health believes that the benefits now being realized in BC and other jurisdictions are not articulated in the Auditor's report. The pan-Canadian value of the program is also not fully represented as, in partnership with Ontario, Quebec, Manitoba, Saskatchewan and Yukon, Panorama will cover 82% of the Canadian population.

“*Under the BC Ministry of Health's leadership, much progress has been made across the country, providing a foundation for continued efforts to optimize the use of digital health solutions to support public health practice, and Panorama will continue to evolve based on the continued feedback of public health professionals.*” ~ Trevor Hodge, Executive Vice President, Canada Health Infoway

The Ministry of Health believes that the timing of this audit was not optimal in accurately assessing the value of this program. The audit commenced in the midst of the BC implementation of the Family Health and Immunization module and continued during the deployment of the Communicable Disease Case Management and Outbreak Management modules. This is typically the period during which issues related to stability and items that need to be remediated are commonly identified, and user frustration with learning a new system is highest. Not unexpectedly, Panorama experienced stabilization challenges, which are being actively addressed.

“*Overall I see that although Panorama is far from perfect, it is leading us towards a more comprehensive approach to client care which has led to a decreased risk in patient safety when compared to our past documentation practices.*” ~ Christine Davidson, Clinical Information Specialist, Interior Health

As a program, Panorama is the first of its kind globally, and the partners involved were aware from the outset that a project of this size and scope would present challenges. The Ministry fully acknowledges that there have been significant challenges and lessons learned with this project. The ten-year cycle-time that this project has taken, for a variety of reasons, is obviously sub-optimal. Cycle-time in technology now occurs in cycles of three to five years or less. Over the timeframe of this project, electronic medical record functionality has advanced significantly, and over the past few years there is an increasing emphasis on the value of achieving application interoperability. Data sharing between clinical and public health settings is a critical part of this development. The developments in Northern Health reflect this direction and the evolution of thinking in light of current best practice.

The report correctly identifies the significant challenges of achieving inter-jurisdictional coordination of a project of this magnitude. The complexities of developing a single standardized system to meet the needs of multiple Canadian jurisdictions were more difficult than anticipated. Achieving this goal required jurisdictional and inter-jurisdictional trade-offs. As these challenges emerged, the project partners assessed options and the Panorama national governance committee decided on prudent courses of action. This affected project requirements, extended schedules, and increased budgets.

## RESPONSE FROM THE MINISTRY OF HEALTH

The Ministry's responses to the issues raised in this audit are as follows:

### System Quality

BC is the first province to fully implement Panorama, and as such has led the way in addressing implementation issues. As other provinces come on board, enhancements required for their business practices will be available to BC. As this report goes to publication, there are two upgrades underway to add treatment and management functionality for sexually transmitted infections and tuberculosis clinical care. More enhancements at the national level are planned for the future, such as mobile solutions and usability improvements.

Planning to extend Panorama access to doctors is also underway. This access will provide them with important clinical support data to ensure they are delivering the right immunization to the right patient at the right time, and allow them to enter information on immunizations performed in their offices so that the patient record is always current and complete. Panorama can be used with the recent development in health information technology to support this through an open, two-way secure messaging between Panorama and electronic medical records of all types.

The audit is critical of the increased data collection in Panorama, leading to longer appointment times as well as excessive scrolling required by the system. While the Ministry does not dispute these concerns, it should be noted that these are two examples of specific business requirements requested by the Canadian

public health community. The implementation of Panorama provided an opportunity to mandate consistent collection of minimum public health data requirements for family health and immunization services and to support effective outbreak management.

All large-scale custom developed systems are expected to have defects at the outset and Panorama is no exception. The Ministry's assessment is that the initial number of defects was not out of line with industry norms. At the time the final product was accepted in 2008, there was one severity level 2 defect, which was included in the remediation plan and subject to a hold back payment of \$500,000. Upon successful resolution, this holdback was released. It should be noted that the contract was adjusted to reflect the higher risk of a custom-build solution and the defect penalties cited in the OAG's report did not apply at the time of acceptance.

### Timeline

As noted earlier, the Panorama contract was amended when it was determined that a COTS solution could not be adapted to meet the jurisdictional needs. Based on the amended contract, IBM delivered the national Panorama system on time. Difficulty accessing much-needed public health expertise during critical project timelines also resulted in delays. That noted, the Ministry of Health clearly acknowledges that a ten-year cycle is not optimal and this is a key area of focus in strengthening its project and contract management practices.

## RESPONSE FROM THE MINISTRY OF HEALTH

### Budget

In 2005, the budget estimate for the Panorama national build using a COTS solution (excluding family health) was \$37.7 million. In 2007, the decision was made to shift to a custom solution and CHI approved a project budget of \$47 million. The actual cost of the national build was \$44.5 million. The OAG total cost of \$66 million includes on-going operational costs for an additional two years after the build was complete.

Early budget estimates for BC were limited to Ministry system development costs and did not include health authority expenses. In 2012, it was recognized that budgeting solely for the IT aspects of the project omitted other important costs that were critical to project success, such as change management and training. As such, in 2012, the Ministry changed its approach to budgeting and developed a “total cost of ownership” approach to incorporate a fuller recognition of costs associated with the project. The total cost of ownership now included costs incurred by health authorities, operating costs for the in-production system, and integration.

### Ministry Response to the Recommendations:

The development of custom-built IT systems is complex, particularly when it involves multiple stakeholders and interests. In the case of Panorama, decisions were made by national, provincial and regional representatives. The diverse range of current systems held by the stakeholders, combined with the need to agree on standardized data, business process and naming conventions, added to the project’s

complexity. The project was further complicated in British Columbia by the need for Panorama to be a fully interoperable system integrated with the provider registry, client registry, the provincial laboratory information system, Vancouver Coastal Health Authority’s community-based care system PARIS (Primary Access Regional Information System), and BEST (the provincial audiology system), and soon to be interoperable with the Integrated Community Care Information System (ICIS) in the Northern Health Authority.

**RECOMMENDATION 1:** *The Ministry does not support this recommendation in its entirety. Public health experts across Canada agree there is no other system currently available that can provide the comprehensive solution supported by Panorama. Panorama offers core functionality and a substantive part of a pan-Canadian immunization and communicable disease information system. While there may be systems that provide aspects of what Panorama provides - they do not have the capability to provide a fully integrated, province-wide solution or integration with other provinces’ systems – a key tool in managing infectious diseases. Looking forward, public health outcomes will be further advanced through ongoing improvements to Panorama and the onboarding of innovative health information technology applications facilitated through Panorama’s interoperability design. However, the Ministry is always cognisant of ensuring best practices are reflected in its decisions and would be open to other options should they present themselves.*

## RESPONSE FROM THE MINISTRY OF HEALTH

### **RECOMMENDATION 2 AND 3:**

*The Ministry accepts these recommendations, as it is already actively engaged in reviewing its IT project and contract management practices to ensure future projects are managed in accordance with good practice. In addition, the Ministry has already created a unit to better deal with large-scale transformational projects such as Panorama. This unit consolidates in-house expertise to better ensure that the Ministry conducts appropriate oversight of vendors and contracted resources, provides necessary financial oversight and ensures adherence to Ministry and government policy. Furthermore, in recognition of the importance of effectively managing change to ensure the success of large-scale projects, the Ministry has invested in additional change management training and certification for information technology staff.*

**RECOMMENDATION 4:** *The Ministry accepts this recommendation noting that building the necessary consensus to develop a single solution across any sector is inherently challenging when a variety of organizations are involved in a large-scale project. However, the Ministry also recognizes that there has been strong feedback on the need to better ensure and enable open feedback that is welcomed and not interpreted as user reluctance to change. To this end, the Ministry continues to pursue activities that will support more collaborative and effective governance structures. The recently released IM/IT enabling strategy recognizes the need to continue to work on governance and to collaborate on all IM/IT projects that are of a common and shared interest.*

# BACKGROUND

## Public health

The public health program plays a vital role in British Columbia's health care system. It is responsible for helping protect B.C. residents from injury and disease, and for helping us stay healthy. In 2013/14, health authorities spent approximately \$515 million of the ministry's \$17 billion operating budget on the provision of public health services, such as immunizations, early childhood assessments, campaigns to improve the health of the population, and communicable disease management.

Some aspects of public health, such as the management of infectious disease outbreaks, require inter-provincial cooperation. The global SARS (Severe Acute Respiratory Syndrome) pandemic that hit Canada in early 2003, is one example. In total, 44 people in Canada died from the disease, approximately 400 became ill, and 25,000 Toronto residents were quarantined.

## The Naylor report

In May 2003, the federal Minister of Health commissioned Dr. David Naylor to conduct an independent review of the public health effort during the SARS outbreak. The report, Learning from SARS – Renewal of Public Health in Canada, identified a number of deficiencies within Canada's fractured, multi-jurisdictional system. Dr. Naylor recommended that the country invest in a *"seamless public health system that will allow public health professionals to coordinate activities in a carefully planned infrastructure."*

In response to this recommendation, the Government of Canada mandated Canada Health Infoway (Infoway), to work with Canada's provincial, territorial and federal governments to develop an integrated public health surveillance solution known today as *Panorama*. Infoway is an independent, not-for-profit organization funded by the federal government.



## BACKGROUND

### The Panorama system

Panorama is made up of six core modules that support a range of public health functions (see below).

B.C. also commissioned a custom-built seventh module called Family Health to replace portions of iPHIS (Integrated Public Health Information System), the existing system used in the province. The Family Health module facilitates documentation of routine public health services, such as post-partum and newborn assessments, screening services, and other aspects of client care.

Panorama was meant to provide public health officials and staff across the country with the real-time ability to collect, share and analyze health information that is critical for managing infectious disease outbreaks like SARS, Avian Flu and other communicable diseases. The provinces and territories expected Panorama to achieve a number of benefits, like improved health outcomes related to communicable diseases, and more efficient management of immunization programs.

### EXPECTED BENEFITS OF THE PANORAMA SYSTEM

- ♦ improve health outcomes related to communicable diseases
- ♦ identify, investigate and manage communicable disease cases and contacts
- ♦ identify, investigate and manage communicable disease outbreaks and risks to the public's health related to communicable diseases
- ♦ manage immunization programs efficiently
- ♦ communicate important public health information related to communicable diseases through alerts and notifications
- ♦ conduct research and analysis to support improved preparedness for future communicable disease outbreaks and for health risks related to communicable disease

Module	Function
Materials/vaccine inventory management	Public health personnel can record and maintain materials and supplies inventories <sup>1</sup>
Immunization management	Tools for public health personnel to forecast and record immunization information, including consent and adverse reactions
Communicable disease case management	Tools to help public health personnel identify and monitor communicable disease cases, trace exposures and contacts, and manage interventions, signs, symptoms and outcomes
Outbreak management	Support for public health personnel who are investigating, monitoring, analyzing, communicating and reporting on communicable disease outbreaks
Work management	Public health personnel can manage tasks and time through scheduling, resource assignment and activity tracking tools
Notifications management	Tools to issue warnings and help public health personnel share information quickly about critical events and emergencies

<sup>1</sup> B.C. is only using this module for vaccine inventory management at this time.

## BACKGROUND

### The national and provincial panorama projects

Panorama was to be developed through two separate projects:

1. National build project: B.C. led the development and build of a pan-Canadian system to meet national requirements
2. Provincial implementation projects: provinces were to customize and implement modules specific to their needs

#### COTS VS. CUSTOM SOLUTION

COTS products (commercial-off-the-shelf) are ready-made and available for sale to the general public. For example, Microsoft Office is a COTS product. Generally, they are thought to be cheaper, more reliable, and higher quality than custom solutions, which need to be designed and built from scratch.

Infoway, the major funder of Panorama, required that the solution emphasize the integration of existing COTS products with a new custom development.

The project to build the national system began in 2004. Infoway, which paid for a significant portion of the national system, and B.C., sponsored the project. A national Steering Committee of executive-level public health and information technology (IT) representatives from all provincial and territorial

jurisdictions, as well as Health Canada, the Public Health Agency of Canada, and other key stakeholders, provided project governance. The B.C. Ministry of Health (the ministry) led and managed the project on behalf of all provinces and territories, because of its reputation for infectious disease management and experience developing Panorama's predecessor, iPHIS.

As the project lead, B.C. negotiated a fixed-price contract worth \$27.8 million with IBM for the national build. Under the contract, IBM committed to integrating a number of different COTS (commercial-off-the-shelf) products into a single solution that would meet the pan-Canadian system needs. B.C. was responsible for verifying that the national system met the contractual requirements, or *accepting* it on behalf of the country, upon project completion in 2010.

B.C.'s Panorama implementation project began in 2006. The ministry had overall responsibility for the implementation project, but delegated some of its decision-making power to a Provincial Executive Steering Committee made up of ministry and health authority executives. The health authorities were responsible for moving public health clinicians and staff on to the Panorama system.

#### ACCEPTANCE OF THE FINAL SYSTEM

Acceptance of the final system occurs when the ministry has completed system testing and is satisfied that IBM has met all contractual terms, including fixing defects and user requirements.

## BACKGROUND

The ministry awarded IBM two separate and additional contracts to implement Panorama in B.C. in 2008 and 2009. Under these B.C. implementation contracts, IBM was to be paid a combined maximum of \$16.2 million on a time and materials basis. However, scope changes, a revised deployment approach, and major issues with the national system drove up B.C.'s costs. IBM was actually paid \$73.5 million, or 450% more than the original contract price.

### Progress to date

Panorama was supposed to be deployed across Canada. At present, five other jurisdictions are still moving forward with implementation: Yukon, Saskatchewan, Manitoba, Ontario and Quebec. B.C. is the furthest ahead and has implemented components of all six core system modules, as well as the Family Health module.

Also, even though B.C. has implemented all seven modules, Panorama is not a pan-B.C. system. Vancouver Coastal Health (VCH) does not use Panorama. The ministry permitted VCH to continue using its public health IT system, PARIS, because of its recent investment in the system. And, clinicians and staff at Northern Health use an internally developed system to record many public health visits. This data is then manually transcribed into Panorama by administrative staff. Despite these exceptions, requests from other health authorities to pursue alternatives, and amidst major system issues, the ministry directed Island Health, Interior Health, and Fraser Health to implement all seven Panorama modules.

# AUDIT OBJECTIVES

We examined whether the Panorama system provides the information technology solution the B.C. Ministry of Health expected for public health, and whether the build and implementation were completed on time and on budget. We expected Panorama to:

- ♦ have the functionality, usability and stability required to realize the stated benefits of the system
- ♦ be built and implemented in B.C. health authorities on budget
- ♦ be built and implemented in B.C. health authorities on time

We based our audit expectations on the Panorama system business requirements, budgets and timelines, as determined at the start of the Panorama national build and B.C. implementation projects.

# AUDIT CONCLUSION

The Panorama system did not meet any of our expectations. We concluded that Panorama:

- ♦ does not have the full scope of functionality, and level of stability and usability necessary to achieve all of the stated benefits of the system
- ♦ was not built or implemented on budget
- ♦ was not built or implemented on time

# AUDIT SCOPE

We conducted this audit in accordance with the standards for assurance engagements set out by the Chartered Professional Accountants of Canada (CPA) in the CPA Handbook – Assurance and Value-for-Money Auditing in the Public Sector Section PS 5400, and under the authority of Section 11(8) of the *Auditor General Act*.

We carried out our work between June 2014 and February 2015 and it was completed on May 1, 2015.

Our work involved:

- ♦ interviewing over 100 front-line public health staff, project staff, ministry and health authority executives, and representatives from IBM and Infoway
- ♦ observing how the Panorama system works in four different health authorities
- ♦ reviewing a wide range of documents including contracts, project reports, user surveys, and other relevant documents
- ♦ analyzing IBM's defect log for the period of 2009 – 2014

The scope of our audit work is summarized below:

	In	Out
<b>Entities</b>	<ul style="list-style-type: none"> <li>♦ B.C. Ministry of Health (primary auditee)</li> <li>♦ B.C. health authorities, except for the First Nations Health Authority</li> </ul>	<ul style="list-style-type: none"> <li>♦ Canada Health Infoway</li> <li>♦ IBM and other Panorama vendors</li> <li>♦ Jurisdictions outside B.C. implementing or using Panorama</li> </ul>
<b>Projects</b>	<ul style="list-style-type: none"> <li>♦ The national build project</li> <li>♦ The B.C. implementation project</li> </ul>	<ul style="list-style-type: none"> <li>♦ Business requirements gathering</li> <li>♦ Vendor selection/procurement</li> </ul>
<b>Panorama system</b>	<ul style="list-style-type: none"> <li>♦ Functionality, stability and usability of the system</li> <li>♦ Potential achievement of stated system benefits, including clinical and resource impacts</li> </ul>	<ul style="list-style-type: none"> <li>♦ Whether or not Panorama is the right system for public health</li> <li>♦ An assessment of alternative public health systems</li> <li>♦ Privacy and security of the Panorama system</li> </ul>

# PART 1: KEY FINDINGS

## FUNCTIONALITY, STABILITY, AND USABILITY

A high-quality public health IT system supports *users* to carry out their day-to-day work effectively and efficiently. In this audit, we looked at three important attributes of system quality: functionality, stability and usability.

System attribute	Definition
Functionality	System capabilities, including the services, tasks and/or functions that a system is expected to perform
Stability (also referred to as performance)	System reliability (the ability to collect, manage and provide data without failure) and availability (the ability to be operational when it is needed)
Usability	System ease of use and learnability

### DEFINITION OF A USER

A user is a person who accesses a computer system to get information or to perform business functions.

As of March 31, 2015, there were almost 1,800 Panorama users in B.C. These users are primarily public health clinicians and administrative public health staff.

We expected to find that the Panorama system implemented in British Columbia:

- ♦ includes the major functionality set out at the start of the Panorama project

- ♦ is meeting pre-defined stability expectations
- ♦ is meeting pre-defined usability expectations

We found that the Panorama system implemented in British Columbia:

- ♦ does not have the full scope of functionality necessary to achieve all of the benefits of the system that were stated at the project outset
- ♦ has numerous defects and deficiencies, and does not meet defined stability expectations
- ♦ does not meet defined usability expectations or good usability principles such as prevention of user errors, consistency and standards, and system match to the real world.

**Key functional components of the system were de-scoped, others do not work as intended, and significant functionality has yet to be deployed and/or adopted by users**

The ministry's national build contract with IBM outlined the expected functionality of the Panorama system. This functionality was directly linked to the stated benefits of Panorama.

We found that all seven modules were implemented in B.C. As a result, users now have access to information that was previously unavailable. However, certain major functionality was de-scoped or was unusable. A number of other major features are present in the system, but have significant limitations. Others are available but are not being used for various reasons. Exhibit 1 summarizes significant functional gaps and issues in the Panorama system.

## PART 1: KEY FINDINGS

**Exhibit 1:** Functionality findings and impact

Status	Functional component	Impact
Not delivered – removed from scope	National outbreak capabilities: ability to use the system to collaboratively manage outbreaks that cross provincial borders  A number of technical and governance challenges at the national level resulted in this functionality being de-scoped from the national build contract	The system cannot be used to manage inter-provincial outbreaks, the main reason for which the system was built.
	National alerts: integration with the Public Health Agency of Canada's national alerts and notification system	The system can neither issue nor receive real-time alerts about illness outbreaks from other Canadian jurisdictions.
	Guided screen flows: pre-defined work processes that guide and assist public health clinicians and staff in their work	It is difficult for public health clinicians and staff to navigate the system efficiently.
	Parent and guardian web access to immunization profiles	Parents and guardians are unable to access their children's immunization records online.
	Web-based reservations	Patients are not able to make public health appointments online.
	Disconnected use: the ability to use Panorama offline and upload data once connected to the network	When Panorama is offline, public health staff must chart on paper and transcribe their notes into the system at a later date. This is time consuming and increases the risk of error.
	Vaccine bar-coding: ability to read two dimensional bar codes on vaccine products that contain product information	Users must manually enter and update vaccine inventory information. This is time consuming and increases the risk of error.
Delivered, but unusable	Upload of cohorts: the ability to upload cohorts (a group of patients sharing a common factor, such as age or socioeconomic status) into the system	Patient records from mass immunization clinics such as those that occur in schools, or groups of individuals that have been in contact with a person with an infectious disease (e.g., an airplane manifest), must be entered into the system one-by-one and some are not being entered at all because of the resource burden.
	Client registry interface: enables public health clinicians and staff to verify a patient's identity in the province's Client Registry	Staff must take an additional step to verify patient identity through alternative methods.
	Client merge: allows duplicate records for the same patient to be combined into a single record	Records are manually merged, which is a time consuming process. If not merged, patient information remains split across two records, which contributes to patient safety risk.



## PART 1: KEY FINDINGS

Exhibit 1: Functionality findings and impact (continued)		
Status	Functional component	Impact
Delivered, but unusable	Reminder recall: the ability to identify patients who are due for immunizations	Staff cannot follow up and remind patients who are due for immunizations.
	Sexually transmitted infections (STI) and tuberculosis (TB) case management: the ability to manage STI and TB infections in the system	Deploying this functionality in its current state would introduce an unacceptable level of clinical risk. Continued use of fragile legacy systems is putting patient data and continuity of care at risk.
	Electronic lab results: allows the system to receive electronic lab results from the Provincial Lab Information System	Deploying this functionality in its current state would introduce an unacceptable level of clinical risk due to issues with the way lab results are displayed in Panorama. Users must enter all lab results manually. This does not ensure consistent quality and completeness of lab data.
Delivered, but with functional limitations	Task management: creates tasks for staff follow up	Increases the risk that staff will miss tasks (e.g., notification of communicable disease case to follow up).
	Reports: provides information on the health status of the population (e.g., immunization rates, breastfeeding rates)	Public health managers have access to fewer operational and clinical reports than they did in iPHIS, eroding their ability to manage public health programs.
Delivered, but not widely used	Provincial outbreak functionality: the ability to manage provincial outbreaks	Health authorities are not using Panorama to manage provincial outbreaks.
	Scheduler: allows staff to schedule public health visits for patients	The Panorama scheduler was so deficient that the ministry procured and integrated a third party scheduling tool to perform this function. Only half of the health authorities are using, or are planning to use, this tool.
	Lab quick entry: a streamlined process for entering lab results in Panorama	Two of the health authorities are not using this functionality as they believe it poses a patient safety risk due to issues with the way Panorama displays lab results. To mitigate this risk, some health authorities have directed their users to record lab results as notes. But as a result, this data cannot be searched, or used for reporting and analysis.

Source: Compiled by the Office of the Auditor General of British Columbia

## PART 1: KEY FINDINGS

### **Panorama is impacted by defects, deficiencies and performance issues**

A system that is stable is reliable and available with acceptable performance levels. This is fundamental to user productivity. When an IT system is not stable, it will malfunction, slow down, crash or be unavailable. This impacts efficiency, staff ability to deliver services, and may negatively affect patients if their information is inaccessible.

Since the system has been in use, public health clinicians and staff have experienced stability issues with Panorama, including:

- ♦ inability to log in
- ♦ inability to complete and save forms for collecting data
- ♦ frequent system freezing

The Provincial Health Services Authority (PHSA), the organization responsible for Panorama operations, has identified issues with: the network, servers, system design, user verification response time, and processes within the system, such as auditing and reporting that

are slowing the system down. The causes are complex and may not always be the fault of Panorama. For example, on occasion Panorama may be down due to issues with the government network. The ministry and health authorities have made improvements, but many stability issues still persist in the system.

Many of the issues in the system are the result of coding problems, or *defects*. The national build contract with IBM specified that the system contain no severity 1 or 2 defects and 5 or less severity 3 defects. The system B.C. accepted on behalf of all Canadian jurisdictions contained almost 1,200 defects (see Exhibit 2) – or 240 times what was permitted in the contract. However, since the ministry did not discover these defects during acceptance testing, they were not subject to the contract's defect limits. Also, B.C. and the other provinces were financially responsible for their remediation.

#### **DEFECT**

A defect is an error in software coding or logic that causes the program to malfunction or produce incorrect/unexpected results.

## PART 1: KEY FINDINGS

**Exhibit 2:** Defects at final acceptance – December 2010

Severity Deficiency Level per the original terms of the national build contract with IBM (See Appendix A)	Number of allowable defects per the original terms of the national build contract with IBM	Number of allowable defects per amended terms of the national build contract with IBM	Number of defects at final acceptance	Number of defects at final acceptance that were unresolved as of December 2014
1 – a serious error or problem that makes the system unusable or the data unreliable	0	0	0	0
2 – an error or problem that affects use in a noticeable way, but there is a reasonable workaround approved by the ministry	0	2 or less	25	2
3 – a minor defect with no significant consequences and a reasonable workaround approved by the ministry	5 or less	10 or less	656	204
4 – an error or problem which does not constitute a severity 1, 2 or 3 deficiency	NA (see note)	30 or less	515	228
<b>Total</b>			<b>1,196</b>	<b>434</b>

Source: Compiled by the Office of the Auditor General of British Columbia through analysis of the IBM Defect Log

*Note: The severity deficiency level 4 category was introduced through a change order to the national build contract; it was not part of the original contract terms. Therefore, the number of allowable severity level 4 deficiencies was not specified.*

To ensure that IBM quickly resolved defects discovered after system acceptance, the national build contract also specified target defect resolution times. Under these terms, the ministry would be entitled to monetary service level credits from IBM when target times were not met.

However, starting in mid-2007, the ministry and IBM began changing the contractual terms around defect remediation. The revised terms:

- ♦ replaced monetary credits with credit hours
- ♦ removed all credits for unresolved severity level 3 defects

- ♦ allowed severity level 1 and 2 defects to be downgraded to level 3 with the identification of workarounds and removed ministry approval of workarounds
- ♦ changed severity deficiency levels, resulting in defects being assigned to lower severity levels
- ♦ limited the number of defects that IBM was required to fix to a combined national total of 1,450 annually and allowed jurisdictions to prioritize defects

These changes benefitted IBM by transferring financial risk associated with defect remediation from IBM to taxpayers.

## PART 1: KEY FINDINGS

Since deployment in B.C. in 2011, IBM, the ministry and health authorities, and other Canadian jurisdictions have discovered over 11,000 new defects in Panorama (see Exhibit 3). Of these new defects, close to 6,000 have affected public health clinicians and staff, often for prolonged periods, due to lengthy delays in defect resolution. As of December 2014, IBM had fixed 3,438 of these defects but 2,561 still remained. IBM resolved the other 5,230 defects before the ministry rolled out the affected versions of the system.

Based on the number and length of time it has taken to resolve system defects, under the original terms of the national build contract, the Ministry of Health could have accumulated monetary credits far exceeding

IBM's maximum liability of \$7 million. The ministry has never received any service level credits from IBM.

### WORKAROUNDS

To compensate for defects and deficiencies, public health staff must use workarounds which include:

- ♦ different ways of using the system
- ♦ the use of alternate systems
- ♦ documenting on paper
- ♦ changing business processes
- ♦ hiring additional staff to enter data

**Exhibit 3:** Defects discovered after final acceptance – December 2010

Severity deficiency level	Total number of defects since final acceptance	Number of defects affecting users	Defect resolution maximum target times before full credits apply	Number of unresolved defects at December 2014
1	63	13	24 hours	1
2	1,729	714	5 business days	104
3	7,339	3,843	20 business days	1,624
4	2,098	1,429	N/A	829
Total	11,229	5,999		2,561

Source: Compiled by the Office of the Auditor General of British Columbia

## PART 1: KEY FINDINGS

### **The system is difficult to navigate, complicated and confusing**

A system that is highly usable would offer benefits to public health. If public health clinicians and staff were able to use the system to complete their tasks easily and efficiently, they would be more likely to use it to its full capacity, and to record all patient information quickly and accurately. This in turn would provide valid data to inform future services, improve service efficiency, enhance patient safety and free up more time for patient care.

Despite well-developed, commonly-used, industry usability standards at the time, the ministry failed to negotiate comprehensive usability requirements into the national build contract. Of the requirements that the ministry did include, some were still not met when the ministry accepted the national Panorama system. This included common operational expectations of buttons, links and other screen controls.

There were a number of usability issues with the version of Panorama deployed in B.C., many of which were known prior to system acceptance. Public health clinicians and staff repeatedly raised concerns that Panorama was difficult to navigate, complicated, and confusing to use. More specifically, they reported that Panorama:

- ♦ was neither intuitive nor user-friendly
- ♦ had clinically incorrect or counter-intuitive terms
- ♦ had different terms for the same function, depending on which part of the system the user was in

- ♦ required a significant amount of scrolling to view necessary information
- ♦ had a busy display, which made it difficult to view content

### **EXAMPLES OF SYSTEM USABILITY ISSUES INCLUDE:**

- ♦ save button is labelled “cancel”
- ♦ submit, save or cancel can all mean “save”
- ♦ terms, such as “prescriptions” to describe medications administered or dispensed by a nurse, are incorrect
- ♦ inconsistent placement of the same button on different screens

### **The system has contributed to patient safety risks and increased operating costs**

B.C.’s version of Panorama contributes to patient safety risks. Problems with functionality prevent public health clinicians from using some fields as intended; this, along with usability issues and a high number of workarounds, make the system prone to errors. Slow performance and unexpected system outages mean that Panorama cannot always provide clinicians with complete and accurate patient information when they need it.

Also, health authorities reported that Panorama has led to an increase in public health operating costs, a decrease in capacity, and longer appointment wait

## PART 1: KEY FINDINGS

times. The system collects data that was not previously recorded in legacy systems. This, coupled with its slow and unreliable performance, and the high volume of workarounds, means that nurses cannot see the same volume of patients they used to. Time trials from a number of health authorities show that appointments that used to take 25 to 35 minutes now take 35 to 52 minutes. These extended appointment times, along with other Panorama-related costs such as hiring data entry clerks, have resulted in lost efficiencies of approximately \$4.5 million annually, or almost 1% of the health authorities' combined annual public health budget.

The bulk of Panorama's intended benefits were meant to improve the management of communicable diseases and outbreaks. The system was also supposed to enable better research and analysis to support improved preparedness for future communicable disease outbreaks, and risks to health related to communicable disease. Achievement of these benefits will require greater use of the system, as well as improvements in data quality and the system's reporting capabilities.

The issues with functionality, stability and usability have significantly impacted the health authorities' commitment to the system. Over the years, health authorities have explored other systems and identified viable alternatives for aspects of Panorama. However, the ministry has not permitted the health authorities to pursue these options. Only Vancouver Coastal Health and Northern Health have been allowed to use different systems for some public health functions. While most of the senior leaders we spoke with still believe in having a provincial, if not national, public health IT system, there may be safer and more cost-effective ways to achieve this objective using current software/technology.

## BUDGET AND TIMELINE

### More money for less system

Project estimates are often used to compare different options, and determine which one is the most cost-effective. At the start of the project, the ministry reported that contracting the Panorama projects out to the private sector, rather than in-house development, would save taxpayers between \$2.7 and \$61.9 million.

In order to achieve these savings, we expected to find that the ministry had established budgets for both the national build and B.C. implementation projects, and then met them. We found costs were escalated through change orders, and neither the build nor implementation project budgets were met. The ministry's failure to meet established budgets and deliver the full scope of both projects indicates that Panorama did not achieve value for money.

### CHANGE ORDER

A change order is work that is added to, or deleted from, the original scope of work of a contract, which alters the original contract amount and/or completion date.

### National build project

The ministry had a total budget of \$37.7 million for the national build project. This budget included the cost of detailed design, procurement, detailed specification, and a \$27.7 million fixed-price contract with IBM. The total cost of the national build project was at least \$66 million. This figure does not include in-kind resource contributions from the health authorities.

## PART 1: KEY FINDINGS

Infoway paid \$44.5 million to build the system. But, B.C. and the other participating Canadian jurisdictions paid an additional \$21.5 million to fix defects and make the system usable.

### B.C. implementation project

Cost overruns were a significantly bigger issue on the provincial implementation project. The total budget was approximately \$27 million (\$6 million for the Family Health module, and \$21 million for the six core Panorama modules).

To date, the ministry has spent approximately \$99 million on implementing the six core Panorama modules and Family Health, and the health authorities report spending at least an additional \$10 million. This total includes some costs that were not part of the original budget such as change management and interfaces to other eHealth systems.

The Panorama Executive Steering Committee recently approved another \$4 million for PHSA to complete outstanding work. This puts the estimated total cost of implementing Panorama at \$113 million, which is \$86 million over budget or 420% of what was budgeted at the project outset (see Exhibit 4).

**Exhibit 4:** Summary of B.C. implementation project costs (in millions)

Organization	Budget	Actual
Ministry	\$27	\$99
Health authorities	\$0	\$10
PHSA	\$0	\$4
Total	\$27	\$113

Source: Compiled by the Office of the Auditor General of British Columbia

This significant cost is even more of a concern given that functionality, such as the client registry interface, task management, and cohort creation (necessary to use the mass immunizations and contact tracing functionality), is still not working, thousands of defects persist, and usability remains a significant issue. Fixing these issues will require additional funding.

## PART 1: KEY FINDINGS

### B.C.'s ongoing support costs

In addition to build and implementation costs, there are ongoing costs to provide technical and user support, and maintain and upgrade the system, as well as maintenance fees that are paid to IBM.

The most recent estimates indicate that the ministry's annual support costs will be \$9.74 million. This includes an IBM maintenance fee of \$1.78 million until December 31, 2016 at which point it may be renegotiated. Health authorities are expected to

pay approximately \$0.5 million per year for system enhancements, \$1.94 million to support and maintain interfaces to other eHealth systems, and \$1.74 million in internal operating costs (e.g., staff to support the application, training), for a total annual cost of \$4.18 million (see Exhibit 5).

Altogether, the ministry and the health authorities expect to pay approximately \$14 million per year, or 30% of the initial system build cost to support Panorama.

**Exhibit 5:** Summary of annual, ongoing support costs (in millions)

Fee category	Ministry of Health	Health authorities
Panorama national fees (IBM & Project Coordination Office)	\$2.50	
Panorama operations	\$4.42	
Technical maintenance	\$2.82	
Enhancements		\$0.50
Interface sustainment		\$1.94
Internal operating costs		\$1.74
<b>Total \$13.92</b>	<b>\$9.74</b>	<b>\$4.18</b>

Source: Compiled by the Office of the Auditor General of British Columbia



## PART 1: KEY FINDINGS

### The Panorama system is five years late and still not fully implemented

Timeline adjustments can impact the quality and cost of projects. If timelines are too ambitious and heavily enforced, there is a risk of cutting corners and/or de-scoping important system capabilities. On the other hand, delays in meeting timelines can lead to increased costs, and create a risk that business needs and technology will change before the project is delivered.

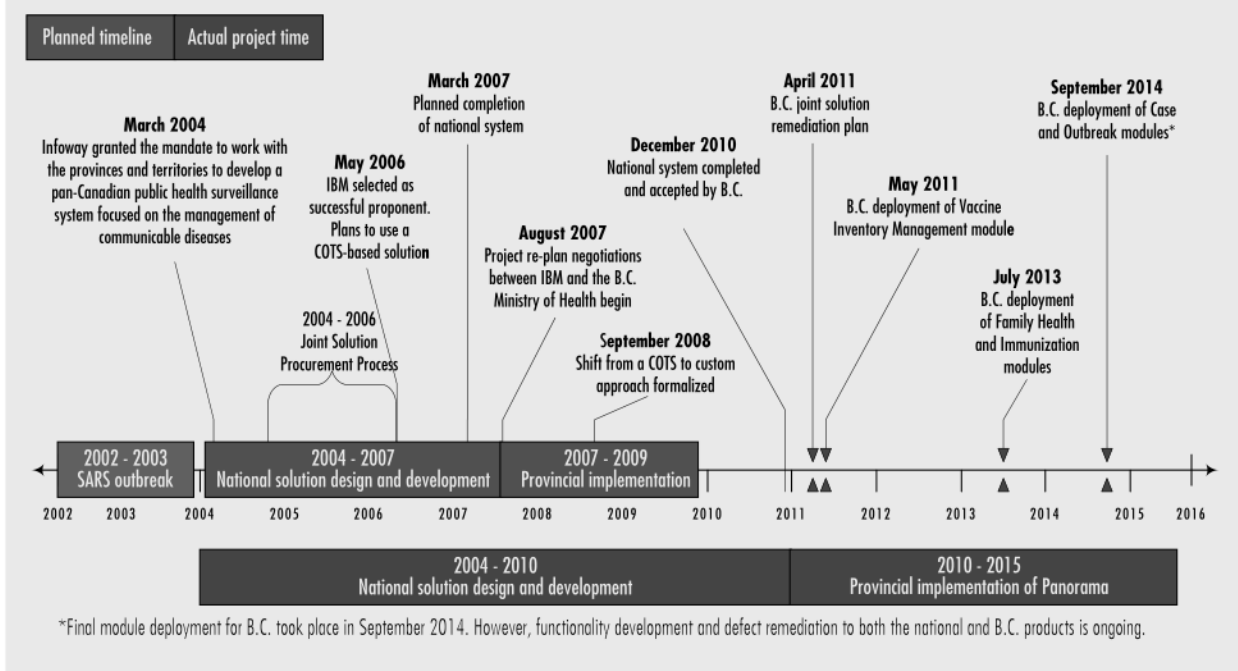
Consistent with good project management, we expected to find that the ministry had set realistic timelines for both the national build and B.C. implementation projects, and to have met them, or come reasonably close. We found that this was not the case.

### National project

The original deadline for completion of the national build of Panorama was March 31, 2007, 10 and a half months after the contract was signed. At the time, this was thought by some to be aggressive or ambitious, and project leaders quickly determined that it was unrealistic. In 2007, IBM and the ministry made a number of changes to the national build project scope, timeline and cost in a major re-plan. Final acceptance occurred on December 31, 2010, making completion of the national build project two years and nine months later than originally scheduled (see Exhibit 6).

Delays and revisions to the national build timeline had a number of significant impacts on costs and cross-country commitment to the system. As project issues increased and timelines were extended, other

**Exhibit 6:** Timeline of the Panorama national build and B.C. implementation projects



Source: Compiled by the Office of the Auditor General of British Columbia

## PART 1: KEY FINDINGS

jurisdictions dropped out. Currently, five provinces and one territory remain. In B.C., the Panorama implementation was delayed and costs increased.

### B.C. implementation project

The original deadline for B.C.'s implementation project was June 2009, but this was quickly revised to December 2009, as part of the re-plan of the national build project. IBM and the ministry made several subsequent revisions to this and other key milestone dates over the course of the B.C. implementation project. Today, all of the Panorama modules have been implemented, but there are still some major pieces of functionality outstanding (see Exhibit 1 on p. 23 for details).

Delays in implementation have affected health authority commitment to the initiative. Health authorities indicated that as a stand-alone system, Panorama is inconsistent with the current move toward integrated health systems. The Northern Health Authority recently moved to an alternate system for Family Health and Immunizations, although they have hired administrative staff to transcribe this data into Panorama. Other health authorities have explored integrated approaches to recording public health data, but the ministry has prevented them from pursuing these approaches.

Delays and revisions to the B.C. implementation timeline have also led to increased costs. The ministry contracted a project team and an IBM technical team to work on the B.C. implementation project, contributing approximately \$1 million per month to the overall implementation cost of \$113 million.

# PART 2: WHY DID THINGS GO WRONG?

THIS SECTION ANALYZES the issues and challenges with the Panorama system, budgets and timelines outlined in Part 1.

## The initial COTS approach was unrealistic

A condition of Infoway funding for Panorama was that the system have a particular emphasis on the integration of existing COTS (see page 17 for a definition) components together with a new custom development. This approach was typical, as many government and business programs mandate the use of COTS products in the hopes of reducing system development and maintenance costs.

According to the ministry, there were no COTS products that met public health's requirements at the time. IBM proposed knitting together a number of separate COTS products into a single, public health IT system for the country. This proved to be an incredibly complex endeavour. The system needed to meet the needs of many jurisdictions of varying sizes with different public health processes, and be translated into two languages. Given this complexity, it would have been prudent for the ministry to perform a high level of due diligence to ensure IBM's proposed approach was feasible.

In early 2007, IBM's plan to integrate a number of independent COTS products was determined to be unrealistic. National Steering Committee minutes indicate that IBM acknowledged that the problems to date with the integrated COTS solution were their fault, and proposed a major shift in their approach.

## Options were not evaluated

Change is a normal part of large IT projects. However, when change occurs, it is important for organizations to update their project goals or make sure that the changes still enable them to achieve the objectives set out at the start of the project. Neither of these actions were taken in response to IBM's revised plan.

Both the ministry and an external review identified significant risks with IBM's revised plan. We found no evidence that the ministry evaluated its options, including contract termination and alternative solutions. Instead, the ministry continued forward with IBM.

## PART 2: WHY DID THINGS GO WRONG?

In moving forward with IBM, the ministry agreed to a series of change orders to the national build contract. These change orders:

- ♦ formalized the shift from a COTS-based approach to a custom solution
- ♦ de-scoped significant pieces of functionality
- ♦ changed final delivery dates, lengthening the national build timeline by almost three years
- ♦ downgraded defect severity levels for many unresolved defects
- ♦ removed compensation for unresolved level 3 defects
- ♦ capped the number of defects IBM was required to resolve per year at 1,450 (previously, this was unlimited)

The change orders transferred risk from IBM to the ministry and ultimately, to taxpayers. In particular, the ministry took on the risks of increasing costs and prolonging time to fix defects. Under the new terms, the ministry must use the majority of maintenance fees to resolve defects, rather than for system enhancements as originally intended. As well, IBM is no longer accountable for resolving all defects within a particular timeframe. Under the original terms, if IBM had taken this long to fix defects, the ministry could have accumulated monetary credits far exceeding IBM's maximum liability of \$7 million.

The ministry did not receive any tangible compensation in return for these significant concessions. As a result, the ministry lost out on many of the expected benefits of contracting out the project to an external vendor such as lower costs and reduced project risk.

The resulting gaps in national system functionality carried through to B.C.'s version. B.C. users expected the system to have far greater capabilities than it does. Some of the functionality removed was critical – such as national outbreak capabilities – and if added back into the system, will be an additional cost to B.C. and the country.

Issues with system functionality, stability and usability – some of which were known at the time of acceptance – required remediation during the B.C. implementation project. This caused delays in implementation and prolonged the use of contractors and IBM staff. Some of these same issues persist in the system today and continue to negatively impact ongoing public health operations.

### Major functional components were not realistic

A number of Panorama's major functional components depended on the existence of supports and/or infrastructure that were not yet in place. As a result, they could not be built into the system as expected. For example, the ability for parents and guardians to book immunization appointments online depended on a separate B.C. solution to verify that the parents or guardians were who they said they were, and one did not exist at the time. Where such supports and/or infrastructure did not exist, the ministry and IBM de-scoped the affected features with no financial adjustments.

## PART 2: WHY DID THINGS GO WRONG?

### Acceptance testing was inadequate

Acceptance testing is critical to ensuring that a system is working as it should, and meets user needs. We found issues with acceptance testing of the national Panorama system and with user acceptance testing prior to the B.C. implementation.

Normally with software development, the client develops test scenarios and performs acceptance testing to certify that the requirements are met and to validate the business flow. We found that the ministry obtained the scenarios used to test the national system from IBM. This is quite unusual. We also found that B.C. contracted IBM to carry out a substantial amount of the national acceptance testing. This is also unusual.

As the service provider, IBM has an interest in having the system accepted quickly. This is because after acceptance, the ministry, other participating jurisdictions, and ultimately taxpayers, are financially responsible for the remediation of deficiencies. Before acceptance, IBM is responsible for fixing deficiencies.

The ministry accepted Panorama on behalf of all Canadian jurisdictions based on the results of acceptance testing. This decision had significant financial implications. In the two years it took for IBM to resolve the defects identified during acceptance testing, B.C., IBM and other provinces identified thousands more that needed to be fixed to make the system usable. The jurisdictions had to pay an additional \$21.5 million to remediate these defects.

The scenarios used to test the system before the B.C. implementation of Panorama followed a set

user workflow. However, the design of the system allows users to perform the same tasks in a number of different ways. For this reason, it is important to test that the system holds up under non-standard scenarios. Testing under non-standard scenarios was not performed.

Finally, no testing was performed before the system was deployed to users to see how the system would react under typical usage. Doing so may have identified performance issues before the system was rolled out. This became evident when users experienced extreme performance issues following implementation.

### The system was accepted prematurely

The ministry accepted the national Panorama system before it was ready. The ministry, IBM and other jurisdictions identified thousands of defects after the ministry accepted the system, and it was unusable in 2009 when IBM staff began training health authority staff to deploy it in B.C.

In 2009 and 2010, IBM fixed defects in the national system while B.C. prepared for implementation. Despite these efforts, in 2011, it became clear that the system did not meet user needs, and the ministry and IBM initiated a remediation plan. This process, which brought together B.C. subject matter experts for all of the different modules, identified critical system issues as well as the development effort and over 320 workarounds required to make the system work for users. This resulted in significant changes to the implementation timeline and increased costs.

## PART 2: WHY DID THINGS GO WRONG?

### Decisions were made without full, unbiased project information

Over the course of our work, we heard concerns that ministry staff and executive sanitized information they provided to senior decision-makers. We share this concern, as we noted instances where ministry decision-makers did not appear to have a good understanding of the Panorama project and system issues.

From the project outset, the ministry employed a “command and control” leadership style. Numerous letters to the health authorities from senior officials, including the Minister of Health, stated that implementation of Panorama in accordance with the ministry’s schedule was not optional. In fact, the health authorities were told at a meeting with the ministry that if they did not implement Panorama, they “would not get another dime [for public health IT] for another ten years.” The ministry perceived the health authorities to be resistant to change. When health authorities tried to raise concerns around the safety and efficiency of the system, they were often dismissed and/or painted as trouble-makers and warned to stay quiet.

This had a silencing effect on joint ministry-health authority committees such as the Provincial Executive Steering Committee; members stopped speaking up – which the ministry interpreted as agreement with their approach. In reality, some were afraid that doing so would put their jobs at risk. The ministry’s discounting of health authority concerns, combined with fear among health authority staff to raise concerns, resulted in the ministry missing or ignoring important issues. This caused delays and led to higher costs.

### The ministry did not consider cost-effective system alternatives

Health authorities are responsible for the quality of care provided in their regions. Therefore, when it became clear that Panorama was affecting patient care and increasing public health costs in a time of scarce resources, most health authorities began to explore the idea of using an alternative system to collect data, which could then be fed into Panorama. In their view, there was a faster and more cost-effective way to capture public health information.

The ministry allowed Vancouver Coastal Health’s continued use of their public health system (PARIS), and later allowed Northern Health to use an alternative system (ICCIS), to record family health and immunization information as long as it was transcribed into Panorama. However, the ministry did not permit other health authorities to explore other systems. For example, in early 2014, after hearing concerns about the Panorama system and its impact on the region’s immunization rates, the Fraser Health Board of Directors ordered an independent study of alternatives. The ministry directed Fraser Health to cancel this study shortly before it was to be completed. At the time, the ministry indicated that the Province had invested significantly in Panorama, and that it was concerned that FHA was considering other options without consultation.

The approach to health information systems has changed significantly since the ministry signed its contract with IBM in 2006. COTS products that offer some of the same functionality as Panorama are available. Health authorities are shifting their focus from stand-alone systems for each area of healthcare (e.g., hospital care, mental health, public health, etc.)

## PART 2: WHY DID THINGS GO WRONG?

to integrated systems across the continuum of care. These are important considerations going forward.

### **The ministry and health authorities had competing priorities**

The ministry was responsible for delivering the national build and B.C. implementation projects on time and on budget, and the health authorities are responsible for delivering patient care.

We noted many instances where the ministry cut functionality and made other decisions that reduced stability and usability of the system in an effort to contain ever-increasing costs and lengthening

timelines. However, the health authorities – focused on patient care – could request system features without having to consider the cost and time. These split responsibilities made it difficult to reach optimal system decisions.

Adding to this, the ministry's leadership style deterred health authority representatives from delivering honest feedback. When health authorities did provide feedback, the ministry did not always take this input seriously and made decisions in spite of health authority concerns. Many of the ministry's decisions eroded the quality of the system, led to increased costs, and extended project timelines.

# RECOMMENDATIONS

THE PANORAMA EXPERIENCE has been difficult for the ministry and health authorities, and challenges with the system continue. Panorama does not have all of the functionality required to achieve all of the stated benefits of the system, and health authorities continue to be concerned about its impact on patient safety and health authority costs. Further, Panorama is not a pan-B.C. system.

In the ten years that the Panorama national build and B.C. implementation projects have been underway, health authorities have shifted towards integrated health systems, and away from stand-alone systems like Panorama. Health authorities believe that there may be a more up-to-date, cost-effective way to achieve the stated business objectives of Panorama. To date, the ministry has been unwilling to consider alternative systems.

**RECOMMENDATION 1:** *We recommend that the ministry commission an independent review of Panorama and other alternative systems to identify the most cost-effective, integrated approach to meet the current and future needs of public health in British Columbia.*

Good practice in project management is well documented. We identified numerous deficiencies in this area. Most significant, health authority public health staff and users were not adequately engaged in the Panorama project. They did not have meaningful decision-making authority, and their ability to raise concerns was compromised.

**RECOMMENDATION 2:** *We recommend that the ministry review its project management practices to ensure future IT projects are managed in accordance with good practice.*

Good practice in contract management is also well established. There are detailed guides explaining how to carry out these activities to achieve value for money. We saw examples on this audit where ministry actions diverged from good practice. For example, the ministry did not assess the impact of the re-plan on the contract's value for money or carry out benchmarking for the revised services.

**RECOMMENDATION 3:** *We recommend that the ministry review its contract management practices to ensure future IT projects are managed in accordance with good practice.*

We found that the ministry employed a “command and control” leadership style on the Panorama projects. Leading healthcare organizations are moving away from dominant leadership styles, in favour of more collaborative approaches. Emerging leadership styles focus on building a shared purpose and derive power from connection and the ability to build networks, rather than positional authority. These new leaders develop and foster an organizational culture free from “blame and shame” and seek to bring perceived trouble-makers into the fold by learning from their concerns.

**RECOMMENDATION 4:** *We recommend that the ministry review its current leadership practices and develop a collaborative leadership strategy for future IT projects.*



# APPENDIX A:

## SEVERITY DEFICIENCY LEVEL DEFINITIONS

Severity deficiency level	Original national build contract term	Alterations to national build contract via change orders
<b>1</b>	serious error or problem that causes the operation to be materially impaired or causes the data to be unreliable	<ul style="list-style-type: none"> <li>♦ catastrophic error or problem that causes the operation to be unusable and there is no workaround.</li> <li>♦ sufficient severity 2 deficiencies such that the functionality of the system deliverables is impaired as described above</li> </ul>
<b>2</b>	error or problem such that the use of the system is affected in a noticeable way as compared to the specifications but there is a workaround which is reasonably acceptable to the ministry	<ul style="list-style-type: none"> <li>♦ a serious error or problem such that the system is difficult to use for a selected function or its dependents, as compared to the specifications and there is no workaround</li> <li>♦ sufficient severity 3 deficiencies such that the functionality of the system deliverables is impaired as described above</li> </ul>
<b>3</b>	error or problem which is a minor defect with no material consequences and there is a workaround which is reasonably acceptable to the ministry or no workaround required for full functionality	<ul style="list-style-type: none"> <li>♦ an error or problem affecting the system in a noticeable way as compared to the specifications and there is a workaround</li> </ul>
<b>4</b>		<ul style="list-style-type: none"> <li>♦ an error or problem which does not constitute a severity 1, 2 or 3 deficiency; a usability error; screen or report error that does not materially affect quality and correctness of function, intended use or results; any error that is minor in nature; and there is a workaround or no workaround is required for the full functioning of the deliverable or final deliverable</li> </ul>

Source: The 2006 Master Services Agreement between IBM Canada and the Province of British Columbia, Change Order #6 to the 2006 Master Services Agreement



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## INTEGRATED CASE MANAGEMENT SYSTEM

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The Honourable Linda Reid  
Speaker of the Legislative Assembly  
Province of British Columbia  
Parliament Buildings  
Victoria, British Columbia  
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Dear Madame Speaker:

I have the honour to transmit to the Legislative Assembly  
of British Columbia my report, *Integrated Case  
Management System*.

We conducted this audit under the authority of section 11 (8)  
of the *Auditor General Act* and in accordance with the  
standards for assurance engagements set out by the Chartered  
Professional Accountants of Canada (CPA Canada) in the  
CPA Canada Handbook - Assurance.



Carol Bellringer, CPA, FCA  
Auditor General  
Victoria, British Columbia  
March 2015

# AUDITOR GENERAL'S COMMENTS

THE INTEGRATED CASE MANAGEMENT (ICM) system was intended to improve delivery of social programs and supports, but it has not met expectations. In partnership with the Ministry of Children and Family Development (MCFD) and the Ministry of Technology, Innovation and Citizens' Services (MTICS), the Ministry of Social Development and Social Innovation (MSDSI) spent \$182 million on a system that has not fulfilled key objectives.

According to the ministries, ICM was completed in November 2014, on time and on budget. However, the ministries replaced only one-third of the aging and inflexible legacy systems initially planned. ICM was an ambitious and critical project, and we appreciate the steps taken to control costs, but ICM and the legacy systems must now run concurrently.

At the time of our review, all of the costs related to the project were not fully available. Therefore, one of the eight recommendations in the report is for MSDSI to prepare the full costs for the life of the project, consistent with the business case.

In this audit, we examined access to ICM and data quality. We found that personal information was not fully safeguarded, risking loss of privacy and confidentiality. As project lead, MSDSI did not always protect confidential information by limiting access to need-to-know, and they did not monitor for inappropriate activity. There may have been security breaches without the ministry's knowledge. My Office identified similar issues in previous audits of the JUSTIN, PARIS and CORNET systems.

We also found that information used to identify clients in ICM was not always accurate or complete, and duplicate records existed. Systems like ICM are only as good as the data entered into them. Difficulty recording and finding information can reduce valuable time staff spend with clients. The ministry has processes in place to manage data quality, but it needs to do more.



CAROL BELLRINGER, CPA, FCA  
*Auditor General*

## AUDITOR GENERAL'S COMMENTS

It is important to note that we did not look at access or data quality in the legacy systems, yet the ministries should consider that the risks in ICM may also apply to the legacy systems.

The recommendations in this report summarize 46 highly technical recommendations that we provided earlier to MSDSI. While our audit findings are recorded as of the time of the audit, we understand that the ministry already addressed some of the issues.

Thank you to the ministries involved for their cooperation with this audit and their staff for their dedication in providing valuable social programs and supports.



Carol Bellringer, CPA, FCA

Auditor General

Victoria, BC

March 16, 2015

# EXECUTIVE SUMMARY

## What is the integrated case management system?

In 2006, amid growing public demand in BC for increased government coordination to protect vulnerable individuals from violence and harm, an independent review of the province's child protection system called for greater information sharing and collaboration among all agencies involved.

In response, the government launched the Integrated Case Management (ICM) system project in 2008 – a joint initiative of the:

- ♦ Ministry of Technology, Innovation and Citizens' Services (MTICS)
- ♦ Ministry of Social Development and Social Innovation (MSDSI)
- ♦ Ministry of Children and Family Development (MCFD)<sup>1</sup>

The purpose of the project was to integrate multiple program areas and systems from MSDSI and MCFD into a single system, both to improve information sharing and case management across the social services sector, and to replace disparate, aging legacy systems no longer considered sustainable for program delivery.

In November 2014, MSDSI and MCFD announced they had completed the project on time and on budget, at a total capital cost of \$182 million.

## Our scope of work

The ICM system was intended to enable the two ministries to deliver key social programs more effectively and efficiently than before.

Two aspects of this large and complex undertaking drew our attention: access and data quality management.

The new system processes and stores vast amounts of data, including personal information (in some cases, highly sensitive) for more than 2.5 million individuals. Protecting this information from inappropriate access is important for preventing loss of privacy or fraudulent use of personal information. Just as important, is establishing good data quality management practices for the system. Information that is incomplete, inaccurate or hard to find hampers the ability of workers to provide services. In many situations – but child protection cases, in particular – such delays can have serious consequences.

With these concerns in mind, we conducted our audit between November 2013 and July 2014, before full implementation of the ICM system in November 2014. We wanted to determine whether MSDSI, as project lead, had ensured that:

1. access to ICM was properly managed to protect client information from inappropriate access
2. data was managed to ensure the quality of client records in ICM

<sup>1</sup> At the time, MTICS was the Ministry of Labour and Citizens' Services, and MSDSI was the Ministry of Employment and Income Assistance.



# EXECUTIVE SUMMARY

We present the results of our audit in Part I of this report.

As well, in light of discussions in the Legislative Assembly and public concern over ICM's implementation and purported cost overruns, we undertook a review of the project's scope and costs. We present the results of our review in Part II of this report.

Note: In October 2014, we gave MSDSI a detailed technical report of our audit findings and recommendations on access and data quality management. The information was intended to provide MSDSI with the opportunity to consider making some changes to the system, based on weaknesses we had identified. The ministry responded positively and has told us that it has already addressed many of the deficiencies we summarize in this report.

## Key findings

The implementation of large and complex IT projects like ICM are often high-risk. Successful implementation can provide significant benefits and value for service delivery to the public. However, these projects often fail to meet expectations around such factors as timelines, budget, scope, quality and outcomes.

### Management of system access and data quality

Based on our audit of access and data quality, we concluded that MSDSI:

- ♦ did not properly manage access to protect client information from inappropriate access
- ♦ did not fully manage data to ensure the quality of client records in ICM

There were significant deficiencies with access management and data quality management in the new system. Although our findings were based on audit work conducted before ICM's full implementation, we did not expect such deficiencies in a relatively new and modern system. Implementing appropriate measures for managing access and data quality is fundamental to any major IT system.

*Access management* – We found that MSDSI did not adequately manage access to ICM to prevent inappropriate access to client information. Access was not always provided on a need-to-know basis. As well, essential monitoring was not in place for detecting inappropriate access and activity. This creates a risk that client information could be inappropriately accessed without the ministries' knowledge.

*Data quality management* – We found that MSDSI had identified significant issues with the quality of client records in ICM (including duplicate records, invalid data and incomplete records). To address this, MSDSI implemented a team of data stewards, completed a large-scale remediation project, and introduced a new data quality tool for implementation in the last phase of the project. However, the ministry could improve review and monitoring processes to address systemic issues and measure data quality on an ongoing basis. Any system is only as good as the information it contains; and, in the case of ICM, working through poor quality data uses up valuable time that staff can spend with clients.

## EXECUTIVE SUMMARY

### Overall project scope and costs

The ICM project did not fully replace legacy systems as initially planned. At project completion, about one-third of the legacy systems had been replaced. This means that a number of systems characterized as antiquated and expensive to maintain must continue to run. However, at the time of our review, the ICM project team was unable to provide details regarding the ongoing financial impact on operations. More importantly, this undercuts the original vision for a single integrated system across the social services sector.

The reported project capital cost for ICM was \$182 million. Supplemental capital requests for about \$13 million were also made, which MSDSI said were to meet additional requirements outside the original scope for the ICM project. And, as with any systems implementation project, there were also operating costs associated with development, implementation and maintenance of ICM.

We were unable to confirm the figures for the capital and operating costs, or to determine whether they were within budget, because the project had not yet been completed at the time of our review.

### Looking ahead

Our work on the audit of government's financial statements will include an examination of the costs associated with ICM. In addition, our Office has a number of audits in progress that focus on monitoring government's efforts to manage large IT projects.

# REPORT HIGHLIGHTS



Government spent

**\$182  
MILLION**

on ICM

and the system has not  
fulfilled key objectives.

**8**

RECOMMENDATIONS

1.  
2.  
3.  
4.  
5.  
6.  
7.  
8.

Client Information was

**NOT ALWAYS  
SAFEGUARDED**



on time,  
on budget,  
but not  
on scope

**2/3**

of legacy systems  
**HAD NOT BEEN  
REPLACED**



**client  
information**

was sometimes **INCOMPLETE**  
and **DUPLICATE** records exist.

ICM serves

**200,000  
clients**

every year



# SUMMARY OF RECOMMENDATIONS

## **WE RECOMMEND THAT THE MINISTRY OF SOCIAL DEVELOPMENT AND SOCIAL INNOVATION:**

- 1** ensure that access to ICM is based on defined business and security requirements.
- 2** ensure that access to ICM is updated promptly and regularly reviewed.
- 3** ensure that access to restricted client records in ICM is appropriately assigned only to those with a defined need.
- 4** ensure that ICM system administration accounts are properly managed.
- 5** conduct regular monitoring of ICM for inappropriate access and activity.
- 6** improve system and review processes to enhance the quality of client records in ICM.
- 7** implement a regular compliance program to assess, monitor and improve data quality in ICM on an ongoing basis.
- 8** prepare a full accounting of ICM capital and operating costs for the life of the project, consistent with details provided in the business case.

We encourage the Ministry of Social Development and Social Innovation to work collaboratively with the Ministry of Children and Family Development and the Ministry of Technology, Innovation and Citizens' Services to address our recommendations.

# RESPONSE FROM THE MINISTRY

## OF SOCIAL DEVELOPMENT AND SOCIAL INNOVATION

THE MINISTRY OF Social Development and Social Innovation (SDSI) would like to thank the Auditor General for reviewing access controls and data quality in the Integrated Case Management (ICM) system.

The ministry takes very seriously the importance of privacy, security and data quality, and is committed to ensuring ongoing due diligence in this regard. We have reviewed the Auditor General's findings and recommendations in detail and have taken prompt and appropriate action in addressing them where appropriate.

ICM was a large and complex project and in an effort to manage the related risks, a phased implementation was recommended and approved by Treasury Board in January 2010. The Auditor General's audit was conducted after three of the four project phases had been completed and a year prior to the completion of the system in November 2014. The audit used a data snapshot from November 2013, before key functionality was completed. We are pleased that the audit recommendations regarding access controls and data quality management validated the ICM Phase 4 project activities that were in progress at the time of the audit. For example, at the time of the review, work was underway on the introduction of a data quality tool to improve search capability and functionality; the completion of a data remediation project; completion of user profiles, and improved security monitoring and reporting.

The ICM system was designed to be compliant with the *Freedom of Information and Protection of Privacy Act* (FOIPPA) and other related policies to ensure the privacy, security and confidentiality of client information. A series of key reviews were completed prior to launch of each phase of ICM, including Privacy Impact Assessments (PIA) which are posted publicly on the ICM website (<http://www.integratedcasemanagement.gov.bc.ca/privacy.html>). The project team provided numerous privacy and security briefings to the Office of the Information and Privacy Commissioner ("OIPC") during each phase of ICM. The OIPC also reviewed the project team's privacy impact assessment ("PIA") for each phase and provided its comments through letters that are posted on the ICM website. As part of the due diligence and prior to Phase 4, the project team also partnered with key technology vendors and the Office of the Chief Information Officer to review the system.

The final phase of the ICM project included the implementation of security reporting to enable the essential monitoring required to ensure user access is updated in a timely manner. Controls have been strengthened and access is provided on a "need-to-know" basis, as defined by SDSI/CFD program areas and security requirements.

## RESPONSE FROM THE MINISTRY OF SOCIAL DEVELOPMENT AND SOCIAL INNOVATION

As the Auditor General noted, the ministry needs to monitor data quality and has completed key initiatives to improve data quality and continues to make this a priority. It should be noted, that as a part of Phase 4, the data remediation project exceeded the goals pertaining to data remediation and tools have been implemented to ensure data quality continues to be a top priority.

As a result of an external review commissioned by the Ministry of Children & Family Development in 2012, recommending that ICM be assessed related to child protection practices, the project approach was adjusted to work within the approved \$182M capital budget. The ministry has implemented technical changes to make the system more responsive and user-friendly.

The ministry has successfully implemented a modern technology platform that improves information sharing and provides better tools for frontline workers

who provide services to citizens accessing social services. Through the four phases of implementation, the ICM system has replaced a number of separate computer systems. Through detailed planning, a number of legacy systems were not appropriate to replace, while others could not be replaced because they are dependent on other government systems.

Despite the challenges, the fundamental reasons for moving to a new system remain – it provides our staff with the tools they need to better support vulnerable children and families across British Columbia. Since the launch of Phase 4 in November 2014, staff using the upgraded system have provided positive feedback that the ICM system reflects their input and best practice research.

## RESPONSE FROM THE MINISTRY OF SOCIAL DEVELOPMENT AND SOCIAL INNOVATION

The ministry has made progress against the Auditor General's recommendations and will continue to address the findings and recommendations:

### **Recommendation 1:**

*Ensure that access to ICM is based on defined business and security requirements.*

**Complete** - As a part of Phase 4, ICM system security profiles were reviewed in detail and updated to reflect current program area and security requirements. Job titles were further standardized and process documentation and approval processes were updated and improved.

### **Recommendation 2:**

*Ensure that access to ICM is updated promptly and regularly reviewed.*

**Complete** - Regular review cycles using new user access monitoring capabilities have been implemented.

**In progress** - These reviews will continue on an ongoing basis to ensure that all available reporting regarding user changes are added to the security review processes.

### **Recommendation 3:**

*Ensure that access to restricted client records in ICM is appropriately assigned only to those with a defined need.*

**Complete** - Security administration staff have worked with SDSI/CFD program area staff in the ministries to review and update the process and policy requirements for restricted records and to ensure adherence to the principle of 'least access'.

**In progress** - Continuous improvement of the policy will ensure the policy meets SDSI/CFD's needs. Access review processes are being updated to include regular reviews. Security Administration staff continue to work with SDSI/CFD program area leads to ensure policy and/or service delivery changes that affect access requirements are updated promptly.

### **Recommendation 4:**

*Ensure that ICM system administration accounts are properly managed.*

**Complete** - User account management processes, and related security procedures have been updated. All user accounts were reviewed as part of ICM Phase 4.

**In progress** - Security Administration staff are strengthening compliance requirements with external agencies and service providers.

## RESPONSE FROM THE MINISTRY OF SOCIAL DEVELOPMENT AND SOCIAL INNOVATION

### **Recommendation 5:**

*Conduct regular monitoring of ICM for inappropriate access and activity.*

**Complete** - As part of ICM Phase 4, user access monitoring capabilities were implemented; as well, audit logging was reviewed and enabled.

**In progress** - Staff are using this user access monitoring functionality.

### **Recommendation 6:**

*Improve system and review processes to enhance the quality of client records in ICM.*

**Complete** - As part of ICM Phase 4, significant system improvements were made to the data quality and search functionality in the system through implementation of a data quality tool. We have also improved awareness and business procedures that support ministry program areas to ensure quality of client records.

**In progress** - We are implementing data quality improvements using the new data quality tool.

### **Recommendation 7:**

*Implement a regular compliance program to assess, monitor and improve data quality in ICM on an ongoing basis.*

**Complete** - As part of ICM Phase 4 implemented in November 2014, data quality was improved by conducting a clean-up of data to remove duplicate records. Data quality management activities were augmented as part of ICM Phase 4, and a compliance program was established and implemented.

**In progress** - An ongoing data quality management program has been designed and will be implemented in 2015.

**Future** - Monthly meetings with key SDSI/CFD program areas will contribute to ongoing data quality improvements.

### **Recommendation 8:**

*Prepare a full accounting of ICM capital and operating costs for the life of the project, consistent with details provided in the business case.*

**Complete** - The ministry provides quarterly reporting to the Ministry of Finance which is standard practice across government for capital projects over \$50M.

**Future** - The ministry will prepare a full accounting of the project costs. In addition, the ministries report out operating and capital costs through the yearly public accounts process.



# BACKGROUND

THE MINISTRY OF Social Development and Social Innovation (MSDSI) and the Ministry of Children and Family Development (MCFD) spend a combined \$3.8 billion annually on key social programs, including child welfare, child care, services for children with special needs, income assistance and employment services. More than 200,000 individuals and families in BC access these services every year.

Over the years, public demand has grown for better service coordination by government in protecting vulnerable individuals from violence and harm. For example, the [2006 Hughes Review](#) (see sidebar), an independent review of the child protection system, called for greater information sharing and collaboration among ministries and agencies to reduce risk and provide more coordinated and effective services for vulnerable children and youth.

The need to deliver better, more closely integrated programs and supports to people at risk was the catalyst for developing a new case management system – a system that would provide a single, comprehensive record of a client and his or her circumstances, and enable MSDSI and MCFD to deliver services more efficiently and effectively. The system that government undertook to implement is an integrated case management (ICM) system.

## THE HUGHES REVIEW

Also known as the *BC Children and Youth Review*, the Hughes Review was an independent review of BC's child protection system. The Minister of Children and Family Development requested the review following intense criticism of the province's system for reviewing child deaths. The review began in November 2005. The final report, released in April 2006, contained 62 recommendations to improve the child protection system. It also resulted in the creation of an independent advocacy and oversight body – the Representative for Children and Youth – and the *Representative for Children and Youth Act*.

The ICM project was launched in 2008 as a partnership of three ministries: MSDSI, MCFD and the Ministry of Technology, Innovation and Citizens' Services. The Ministry of Social Development and Social Innovation had lead responsibility for project delivery<sup>2</sup>, but all three ministries were responsible for the direction of the project.

The ICM project was intended to address the business needs of MSDSI and MCFD for delivering social programs. The Ministry of Technology, Innovation and Citizens' Services provided the infrastructure and network services support for the new system.

<sup>2</sup> As indicated in Appendix A, lead responsibility was transferred from MTICS to MSDSI prior to implementation of Phase 1.

## BACKGROUND

Together, MSDSI and MCFD identified more than 50 legacy systems for potential replacement by the single ICM system. The most significant of those legacy systems had been in use for over 30 years. The information contained in the new system would be used to better manage client services, and also be available for research, evaluation and planning at the program and ministry levels. Both ministries would depend on ICM for their operational success.

The ICM project had three main objectives:

- ♦ improve information sharing in a privacy-protected manner to provide better integration of services
- ♦ replace numerous, aging and inflexible legacy systems with a single, integrated case management solution
- ♦ support front-line staff by providing better tools and simplification of business processes so that ministry staff can spend more time in direct delivery of services to clients

The ICM system was implemented in four phases over six years (see [Appendix A](#) for a timeline of the project):

- ♦ Phase 1: implemented November 29, 2010
- ♦ Phase 2: implemented April 2, 2012
- ♦ Phase 3: implemented March 4, 2013
- ♦ Phase 4: implemented November 24, 2014

As project lead, MSDSI contracted the services of a private vendor to implement ICM. The vendor was responsible for providing system integration services and implementation, and remains responsible for maintenance and support of the system. The ministry is responsible for vendor management, system operations and security management.

The ICM system is connected to several other IT systems, including financial systems for invoice and payment processing. Functions in ICM include:

- ♦ creating contact records for clients and service providers
- ♦ initiating service applications
- ♦ establishing applicant eligibility
- ♦ determining benefit amounts
- ♦ providing assessment tools to help workers assess and respond to risks

At the time of our audit, there were about 9,400 users (6,300 ministry employees and 3,100 external agencies and service providers) accessing ICM and providing support and services in regions and communities across the province.

### DEFINITION OF A USER

A *user* is a person who accesses a computer system to get information or to perform business functions. In ICM, users include ministry staff, external agencies and service providers.

# PART I:

## AN AUDIT ON MANAGING ACCESS AND DATA QUALITY

### OVERVIEW

THE VISION FOR THE ICM SYSTEM IS: *The right information to the right people at the right time, in a secure manner that protects privacy and improves outcomes for citizens through the cohesive delivery of social services.*

Our audit looked at the first two components of this vision statement: about getting “the right people” (access management) “the right information” (data quality management).

#### Access management

Large integrated information systems like ICM are intended to improve information sharing across programs and to support better decision making. However, given the volume of information in such a system, it is challenging to ensure that this information is not only accessible to those who need it, but also secured and protected from those who should not have it (i.e., inappropriate access).

The ICM system holds personal information for more than 2.5 million individuals. A compromise in the system could result in loss of individual privacy or fraudulent use of personal information. One of the stated outcomes for ICM is keeping information safe and secure, and also shared appropriately.

#### Data quality management

Systems like ICM rely on the quality of the data and information they contain. Accurate, accessible and complete information is fundamental to the development and operation of any technology system. Client information in ICM is shared by a number of programs across MSDSI and MCFD. Incorrect client

identification could result in erroneous record updates, causing incorrect assistance or risks to personal safety (as in the case of child protection). Both MSDSI and MCFD recognize that ICM must provide accurate client identification for effective program delivery.

### AUDIT OBJECTIVES AND SCOPE

Our objectives in examining the ICM system were to determine whether MSDSI had ensured that:

1. access to ICM was properly managed to protect client information from inappropriate access
2. data was managed to ensure the quality of client records in ICM

In examining access management, we focused on the measures necessary to limit access to need-to-know (i.e., access is provided only to those who require it to perform their jobs). In examining data quality management, we focused primarily on the quality of client identification information. The scope of our audit is summarized below:

## PART I: AN AUDIT ON MANAGING ACCESS AND DATA QUALITY

Audit objective	In scope	Out of scope
1. Access management	<ul style="list-style-type: none"> <li>• how the ministry defined and managed user access to client information in ICM</li> </ul>	<ul style="list-style-type: none"> <li>• whether users accessed the correct information for delivering services to clients</li> <li>• access management by service providers and external agencies</li> <li>• access to legacy, backup or other systems containing ICM client information</li> </ul>
2. Data quality management	<ul style="list-style-type: none"> <li>• how the ministry managed the quality of client records* in ICM</li> <li>• how well the ministry managed the conversion of client records from legacy systems to ICM</li> </ul>	<ul style="list-style-type: none"> <li>• whether services were provided to the right client</li> <li>• whether clients received the appropriate services</li> </ul>

\* The term “client records” refers to ICM contact records that belong to clients. It does not include case, incident or other records that are associated with client records.

We developed our audit objectives based on the stated vision and goals of the ICM project, international standards for information security and COBIT 5 (see sidebar).

### ISO AND COBIT 5

International standards for information security refers to *ISO/IEC 27002 on Information Technology – Security Techniques – Code of Practice for Information Security*, which is issued by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

COBIT 5 is a business framework for the governance and management of enterprise IT. It was developed by a global task force and development team from the IT Governance Institute.

We conducted the audit in accordance with the standards for assurance engagements set out by the Chartered Professional Accountants of Canada (CPA Canada) in the CPA Canada Handbook—Assurance and Value-for-Money Auditing in the Public Sector, Section PS 5400, and under the authority of Section 11(8) of the *Auditor General Act*.

We carried out this work between November 2013 and July 2014, before full implementation of ICM. Our work involved:

- ♦ obtaining access to a copy of the ICM database (taken November 26, 2013)
- ♦ interviewing ministry executives, IT support staff, project staff and program area staff
- ♦ verifying ministry business practices and processes
- ♦ reviewing policies, procedures and other documentation

## PART I: AN AUDIT ON MANAGING ACCESS AND DATA QUALITY

### AUDIT CONCLUSION

Based on our audit of access and data quality, we concluded that MSDSI:

- ♦ did not properly manage access to protect client information from inappropriate access
- ♦ did not fully manage data to ensure the quality of client records in ICM

### KEY FINDINGS AND RECOMMENDATIONS

#### Access management

Access to information must be managed to ensure that the security and integrity of the information are maintained. Access should be based on business needs and security requirements. Excessive or inappropriate access can result in security breaches and loss of privacy. Unmonitored access can result in information being inappropriately accessed without the ministries' knowledge.

We therefore assessed whether MSDSI had ensured that:

- ♦ access to ICM was defined by business and security requirements
- ♦ user accounts in ICM were properly managed
- ♦ access to restricted client records in ICM was appropriately assigned
- ♦ system administration accounts in ICM were properly managed
- ♦ access to ICM was monitored for inappropriate access and activity

Finding 1 – Access to ICM was defined based on business and security requirements, but was not consistently applied.

An access model defines how access should be implemented and controlled in a system. We expected to find that a formal access model had been defined and implemented for ICM based on business and security requirements. More specifically, we expected to find that these requirements were based on job roles and the principle of need-to-know.

We found that the model developed by MSDSI and MCFD for defining access to ICM was consistent with our expectations. However, the model was not consistently applied: more than one-third of the total 9,400 users were given access outside of the defined access model. This is significant because users may have access beyond what they require, which adds to the risk of inappropriate access.

**RECOMMENDATION 1:** *We recommend that the Ministry of Social Development and Social Innovation ensure that access to ICM is based on defined business and security requirements.*

## PART I: AN AUDIT ON MANAGING ACCESS AND DATA QUALITY

### Finding 2 – User accounts in ICM were not properly managed.

A well-designed user account management process ensures users are given the right level of access. This process should be ongoing because users change jobs, leave employment, or take extended leave. We expected to find that security administrators appropriately assigned user access, promptly changed or removed access as required, and periodically reviewed access to ensure it was kept current and appropriate.

We found that both MSDSI and MCFD had formal user account management processes. However, ongoing account maintenance was not properly managed to ensure user access remained appropriate. We found that the ministries, in some cases, did not immediately remove or change user access when employment status or job function changed. Also, both ministries lacked an effective process to communicate these changes to security administrators in a timely manner, and there was no regular review to ensure access was required or appropriate. As a result, a number of users still had access that was neither required nor appropriate.

**RECOMMENDATION 2:** *We recommend that the Ministry of Social Development and Social Innovation ensure that access to ICM is updated promptly and regularly reviewed.*

### Finding 3 – Access to restricted client records in ICM was not always appropriately assigned.

Access to restricted client records should be limited when broader access could result in harm to an individual. We expected to find that access to restricted client records was appropriately limited to those who require access for their jobs.

We found that ICM has functionality that enables MSDSI and MCFD to limit access to restricted records based on job roles. Access to restricted records was appropriately limited to those program area staff (such as team supervisors for the child protection program) who required access for their jobs. However, we found that a number of other staff (such as policy analysts) also had access to restricted records even though their need for access had not been defined.

Ministry policy restricts staff from accessing specific client records when, for example, there is a perceived conflict of interest or a risk that confidentiality may be compromised. However, we found that ICM was unable to prevent access to specific records for those staff who had already been given general access to restricted records.

Furthermore, we found that MSDSI and MCFD had not reviewed access to find out whether access to restricted records was properly assigned. As a result, there is a risk that client information held in restricted records could be inappropriately accessed without the ministries' knowledge.

**RECOMMENDATION 3:** *We recommend that the Ministry of Social Development and Social Innovation ensure that access to restricted client records in ICM is appropriately assigned only to those with a defined need.*

## PART I: AN AUDIT ON MANAGING ACCESS AND DATA QUALITY

**Finding 4 – System administration accounts in ICM were not properly managed.**

System administrators are users who have an elevated level of access so that they can manage and provide system and support services, such as security and maintenance services. These users have access to vast amounts of confidential data, and the ability to make changes to system setup and records. There is a higher risk associated with this level of access. MSDSI is responsible for the security and system administration functions for both MSDSI and MCFD. We expected to find that MSDSI had a process in place to manage system administration accounts effectively.

We found that system administration accounts were not regularly reviewed for validity, and changes made to these accounts were not always approved. Although most system administration accounts that we selected for review were confirmed to have correct access, we found there were a number of temporary system administration accounts that remained active, even though these accounts were no longer required. At the time of our audit, there was one reported incident that showed unauthorized changes were made to a few system administration accounts. Ineffective management of these accounts can contribute to system failures and security breaches.

**RECOMMENDATION 4:** *We recommend that the Ministry of Social Development and Social Innovation ensure that ICM system administration accounts are properly managed.*

**Finding 5 – Monitoring of ICM for inappropriate access and activity was deficient.**

Monitoring is critical for detecting inappropriate access and activity. As users access the system, information is collected and stored in audit logs, which can then be used to identify and analyze unusual patterns of activity.

We expected to find that MSDSI recorded and retained pertinent information in audit logs for access monitoring, and used automated log management tools to detect and analyze these activities. We found, however, that MSDSI did not proactively monitor for inappropriate access and activity, and investigated security-related incidents only on an ad hoc basis. As a result, inappropriate access or activity may have taken place without the ministries' knowledge.

**RECOMMENDATION 5:** *We recommend that the Ministry of Social Development and Social Innovation conduct regular monitoring of ICM for inappropriate access and activity.*

## PART I: AN AUDIT ON MANAGING ACCESS AND DATA QUALITY

### Data Quality Management

The ICM system is contact-centric, meaning it relies on information in contact records (see sidebar) for client identification and case management. The quality of data in client records significantly affects the accuracy of client identification and, by extension, service delivery.

We therefore expected to find that MSDSI was effectively managing the quality of client records.

Our examination of client records focused on whether MSDSI:

- ♦ had adequately managed data quality during conversion from legacy systems to ICM
- ♦ had put preventative measures in place to ensure that accurate and complete client identity information was recorded during intake
- ♦ was managing the quality of client records in ICM on an ongoing basis

### AN EXPLANATORY NOTE: CONTACTS AND CLIENTS

The ministries have defined a *contact* as anyone who needs to be tracked within ICM, and may include “clients, family members of clients, foster parents, lawyers, counsellors, physicians, service provider staff, police officers, complainants, and the general public”. A *client* is someone who receives social assistance or services. Thus, all clients are contacts, but not all contacts are clients.

Finding 6 – The Ministry of Social Development and Social Innovation did not adequately manage data quality during conversion.

About 2.3 million contact records (including client records) were converted from legacy systems to ICM. We expected to find that data quality was assessed in legacy systems, and that incorrect, poorly formatted and duplicate data was cleansed during conversion to ICM.

We found that MSDSI had a sound data conversion strategy in place that was consistent with good practice. This included assessing the quality of data in legacy systems and cleansing data prior to migration into ICM. We also found that the strategy included appropriate measures for testing and validating the conversion process.

Although MSDSI had assessed some aspects of data quality during conversion, the extent of data quality assessment and cleansing was inadequate.

In particular, we found that the process identified only a limited number of potential duplicate records for cleansing. We also found that MSDSI did not address all identified data quality issues during the conversion process.

Ministry staff told us they lacked the technology to carry out the conversion tasks economically: the process required substantial manual effort by front-line staff. Recent remediation work to remove duplicate records confirmed that a large number of duplicate contacts existed. Our analysis indicated that the majority of these duplicate records came from legacy systems.



## PART I: AN AUDIT ON MANAGING ACCESS AND DATA QUALITY

Failure to adequately assess and cleanse data during the Phase 2 conversion of contact records undermined data quality in ICM, and resulted in the need for substantial remediation efforts in later phases to improve data quality.

**Finding 7 – Preventative measures did not adequately ensure the correct recording of client identity information during intake.**

Preventative measures are undertaken to ensure the completeness and accuracy of information when it is entered into the system. These measures may be system-based or embedded in business practices. We expected to find that, where appropriate, preventative measures were in place to ensure that client information entered into ICM was complete, accurate and unique. And, where preventative measures were not feasible, we expected to find other measures set up to identify and correct errors on an ongoing basis.

The preventative measures we found during our audit were largely ineffective: system-based controls were limited, and the effectiveness of business practices varied by program area. Business and legislative requirements for collecting client information vary by program area, which makes standardization difficult. As a result, requirements for creating a new client record were minimal, and the quality of the information collected for some program areas may not have been sufficient to support accurate contact identification. This creates a risk that incomplete, inaccurate or duplicate information may have been created.

We found that the requirements for client identification varied by program area. Programs that provide financial benefits, such as income assistance and child care subsidy, had more rigorous identification requirements for applicants, and focused on ensuring information accuracy. These requirements included, for instance, applying a unique identification number (such as a social insurance number or personal health number) to a record, which creates a specific searchable number to prevent confusion among individuals with the same name. On the other hand, programs that provide social services or respond to child protection incidents often lacked the authority or business requirements to collect identity-proofing information. Consequently, the accuracy and completeness of information varied, which could compromise data quality and make record searches difficult.

At the time of our audit, the system search and potential duplication detection functionality were rudimentary and largely ineffective. The ICM system flagged only potential duplicates based on an exact match (First Name, Last Name, Date of Birth and Gender). Phonetic search was not available for names that sound similar (for example, Jon versus John). Furthermore, the effectiveness of the search was dependent on the accuracy and completeness of information. If there was an error (for example, a misspelled name or an incorrect date of birth) or missing information, the system would not detect the duplicate.

We found that MSDSI was instead relying on individual program areas to ensure the quality of

## PART I: AN AUDIT ON MANAGING ACCESS AND DATA QUALITY

information they entered into ICM. There was no central oversight or review to identify areas of greater risk or to develop processes specific to program areas to improve information accuracy. Because ICM depends on shared client information across program areas, poor data quality in one area impacts all other areas. This means that existing information may be difficult to find in the system and that duplicate records will be created.

**RECOMMENDATION 6:** *We recommend that the Ministry of Social Development and Social Innovation improve system and review processes to enhance the quality of client records in ICM.*

Finding 8 – Data quality of client records was managed on an ongoing basis, but the ministry’s approach could be improved.

Good data quality management practices can improve information reliability and support efficient and effective program delivery. We expected to find that MSDSI identified and addressed data quality issues in a timely and effective manner, monitored the state of data quality on an ongoing basis, and identified opportunities for continuous improvement.

We found that MSDSI was aware of data quality issues in the system and working to address them. A team of data stewards had successfully identified, prioritized and addressed a number of data quality issues. Data correction is an important activity that contributes to improved data quality in ICM; however, at the time of the audit, data quality issues persisted.

As the lead ministry for the project, MSDSI recently completed a substantial one-time effort to remediate duplicate records and several other data quality anomalies. The ministry reported that the volume of records remediated was significant. Additionally, the implementation of a new enterprise data quality tool should improve data quality. However, it is too soon to determine the effectiveness of these efforts. The ministry will need to measure and monitor results to know the impact these efforts have on improving data quality.

At the time of our audit, ICM contained over 2.5 million client records. The quality of those records depends largely on the programs a client is associated with. Although MSDSI has identified the nature and volume of a number of data quality issues, we found the ministry could improve data quality monitoring. The overall picture of data quality was absent and, because MSDSI had not established data quality baselines or thresholds for individual program areas, it did not know the degree to which data met expected or acceptable levels of quality. Moreover, MSDSI had not analyzed data quality in relation to the composition of contact records (clients or non-clients, active or inactive, or a breakdown of clients by program area) to identify areas where there was greater risk of poor client information.

**RECOMMENDATION 7:** *We recommend that the Ministry of Social Development and Social Innovation implement a regular compliance program to assess, monitor and improve data quality in ICM on an ongoing basis.*

# PART II:

## A REVIEW OF ICM PROJECT SCOPE AND COSTS

### THE SCOPE OF THIS WORK

THE ICM PROJECT was initiated in 2008, and was approved to proceed in November 2009 with a target completion of September 2014. Budgeted capital funding was \$182 million. In a joint statement, MSDSI and MCFD announced that the ICM project had been completed on November 24, 2014, on time and on budget.

We conducted a review to determine whether MSDSI completed the ICM implementation as initially planned. In this part of the report, we highlight our key findings on project scope and cost.

We carried out our review under the authority of Section 11(8) of the *Auditor General Act*. It is important to note that we have not performed an audit on matters pertaining to costs, benefits, savings and functionality and therefore do not express assurance on this information.

### WHAT WE FOUND

#### ICM project scope

The scope of ICM implementation was not fully completed as initially planned. The legacy systems were partially replaced, but some key functions in ICM still depend on legacy systems for full operation. At the time of our review, MSDSI had not yet announced any

further work to replace the remaining legacy systems or the ongoing cost to operate them.

In March 2013, the ICM Project Board reassessed the ICM project status and adjusted the scope to address priority issues in the MCFD child welfare program. Because of system and usability issues, the Project Board invested significant effort and budget into stabilizing child welfare functionality.

#### MAJOR FACTORS CONTRIBUTING TO SCOPE REDUCTION OF THE ICM PROJECT:

- ♦ the decision to focus on meeting MCFD's critical business needs while remaining within budget and timeline constraints
- ♦ changes in the practice model, which resulted in changes to system requirements for the MCFD child welfare program
- ♦ significant remediation efforts to address concerns and improve systems and practices related to the MCFD child welfare program

## PART II: A REVIEW OF ICM PROJECT SCOPE AND COSTS

This shift in priority meant there was insufficient budget to completely move programs off the existing legacy systems.

To complete the project on time and on budget, Phases 4 and 5 were merged into a single phase and the scope was reduced (see sidebar on page 24).

Consequently, the functionality and scope of programs and services managed in ICM were less than expected. We found that MSDSI, as the lead ministry for the project, had not accomplished legacy system replacement as initially planned. Of particular concern to us was that MSDSI had not replaced the Management Information System (see sidebar) – the core legacy system for both MSDSI and MCFD.

This means that the two ministries must continue to rely on the Management Information System and other aging legacy systems for program delivery. More significantly, this undercuts the original vision for a single integrated system across the social services sector.

### MANAGEMENT INFORMATION SYSTEM

The Management Information System is the legacy case management system for MSDSI and MCFD. It was the key legacy system – built over 30 years ago – identified for replacement by ICM in the business case. Government has often described this system as antiquated, inflexible, aging and costly to maintain. In addition to case management functionality, the Management Information System provided (and in some cases continues to provide) eligibility determination and benefits calculation for program areas such as income assistance.

### Legacy system replacement

The government characterized legacy systems as inflexible, antiquated, fragmented and costly to maintain. They indicated that many of these older systems had a “high potential for failure” and pose risks to system and business continuity. There was a business need for replacing these “obsolete” systems with modern technology to deliver better and more efficient services.

More than 50 systems were identified for potential replacement. In particular, the replacement of the Management Information System was set out as a requirement in the initial project scope. Ministry staff told us they did not commit to the replacement of each of these systems. Rather, their intention was to determine replacement needs as the project progressed.

By the end of project completion in November 2014, about one-third of these legacy systems had been replaced (see [Appendix B](#)).

Although we found that MSDSI had completed a substantial amount of conversion, moving some of its and MCFD’s core programs from the Management Information System to ICM, not all programs were converted. Exhibit 1 shows the programs that are currently delivering their services using ICM. A number of programs originally covered in the ICM project scope (in particular, those of MCFD) did not proceed with implementation. The ministries decided not to proceed with the implementation of remaining programs until issues with the child welfare program were addressed.

## PART II: A REVIEW OF ICM PROJECT SCOPE AND COSTS

**Exhibit 1:** Ministry programs delivered through ICM

Ministry of Social Development and Social Innovation	Ministry of Children and Family Development
<ul style="list-style-type: none"> <li>♦ BC Employment and Assistance (includes income assistance)</li> <li>♦ Employment Program of BC</li> <li>♦ Bus Pass</li> <li>♦ Senior's Supplement</li> </ul>	<ul style="list-style-type: none"> <li>♦ Child Welfare</li> <li>♦ Child Care Subsidy</li> <li>♦ Autism Funding</li> <li>♦ Medical Benefits</li> </ul>

Source: Compiled by the Office of the Auditor General of British Columbia

### ICM functionality revised

The April 2013 decision to reduce the scope of ICM implementation means several areas of functionality

were not implemented as initially planned.

In some cases, however, functionality was added as enhancements (see Exhibit 2).

**Exhibit 2:** Highlight of changes to functionality in ICM

#### *Enhanced functionality:*

- ♦ **Child welfare upgrade:** The most significant change includes a number of enhancements to improve functionality in MCFD child welfare, including enhanced intake, case management, relationship functionality and history diagrams.
- ♦ **Channel integration:** Functionality was added to support MSDSI's strategy for better information exchange with the client through telephony and client self-service.
- ♦ **Alternative payment methods:** Methods were added for deploying emergency payments via electronic fund transfer, instead of manual processing.

#### *Reduced functionality:*

- ♦ **Full eligibility determination and benefits calculation:** MSDSI had not fully implemented the function for determining eligibility and calculating expected benefits (e.g., for income assistance payments). As a result, ICM still relies on the Management Information System (MIS) to perform a number of additional eligibility and benefits calculations. This means MIS cannot be retired until this functionality is replaced in ICM.
- ♦ **Contract management:** Initially, MSDSI expected to fulfill contract management functionality through a corporate (government-wide) solution, but the corporate solution was never implemented.
- ♦ **Full integration with corporate financial management solution:** MSDSI did not implement the planned full integration of ICM with the government accounting system for contract management and payment generation.
- ♦ **Integration with the corporate Information Access Layer:** This was a government initiative that would have enabled multiple connections between ICM and other government systems. However, government moved away from this initiative, so the functionality was not available.
- ♦ **Modules or add-ons:** MSDSI originally planned for additional functionality – including calendaring, scheduling, risk management, waitlist management, and certification and licensing management – but did not implement this.

Source: Compiled by the Office of the Auditor General of British Columbia

## PART II: A REVIEW OF ICM PROJECT SCOPE AND COSTS

### Project cost

In a joint statement, MSDSI and MCFD have reported that the project capital costs for ICM implementation was \$182 million. This is consistent with the November 2009 budget for the project.

Additionally, the two ministries requested supplementary capital funding of approximately \$13 million. Ministry staff told us that these requests were treated separately, as they related to new requirements or unforeseen circumstances (for example, requirements to address change in policy or legislation) that could not have been anticipated in the original project scope.

The ministries also incurred operating costs associated with the development, implementation and maintenance of ICM (see sidebar). The ICM project team provided Treasury Board with regular reports on these costs. However, at the time of our review, MSDSI told us that a complete reconciliation of these costs for the life of the project was not yet available, because the project was not yet complete and extensive effort would be required to compile and analyze the information. The ministry indicated that this information would be available after the project is complete.

**RECOMMENDATION 8:** *We recommend that the Ministry of Social Development and Social Innovation prepare a full accounting of ICM capital and operating costs for the life of the project, consistent with details provided in the business case.*

### AN EXPLANATORY NOTE ABOUT SYSTEMS DEVELOPMENT COSTS

As with any large system development project, there are significant costs associated with the acquisition, development, testing and implementation of software for the life of the project. Examples of costs incurred at different stages include:

- ♦ **design and planning:** involves establishing system requirements, evaluating and selecting vendors, and developing a blueprint and implementation plan
- ♦ **application development:** involves software configuration, interfacing, coding, installing hardware, testing and data conversion
- ♦ **post implementation:** involves user training and maintenance for ongoing operation of the system

Costs can be for external vendors (e.g., software acquisition costs and consultant fees for system integration, maintenance and support) or internal staff resources (e.g., training, data conversion and user acceptance testing).

For the purpose of financial reporting, these costs are accounted for, and reported, as either capital or operating costs. The distinction between capital and operating costs is important because it shows how government spending is tracked and reported. Government accounting policies and guidelines define how these costs are to be accounted for. Generally, costs related to configuration and development, and to upgrades and enhancements to provide additional functionality, are treated as capital costs. All other costs are treated as operating costs.

# APPENDIX A:

## ICM PROJECT TIMELINE

The following table provides a high-level overview of the project timeline, including significant events.

Date	Event summary
March 2008	Treasury Board approves \$107 million in capital for the first three phases of the ICM project. The cost for all five phases is estimated at \$140 million. However, approval of funding for Phases 4 and 5 is deferred until the ministries provide a business case for their implementation.
April 2009	The ministries select Deloitte Inc. as Systems Integrator for the development and implementation of ICM.
October 2009	Treasury Board approves the ministries to enter into an interim contract with Deloitte Inc. to retain key Deloitte resources while the project is re-focusing.
November 2009	<p>The ministries report that the project budget is insufficient and propose a revised five-phase implementation plan that calls for a project capital budget of \$182 million. The increase in the proposed budget is attributed primarily to higher than expected System Integrator costs, and an increase of 18 months to the project timeline.</p> <p>The submission also asks Treasury Board to transfer lead responsibility for the ICM project from the Deputy Minister of Citizens' Services (now MTICS) to the Deputy Minister of Human and Social Development (now MSDSI). This submission represents the most complete and up-to-date business case for the ICM project.</p>
January 2010	Treasury Board approves the revised five-phase implementation plan for the ICM project (\$182 million).
November 2010	As the lead ministry for the project, MSDSI implements Phase 1 on November 29, 2010, and introduces activity planning, document management and basic intake functions for both MSDSI and MCFD. Phase 1 also includes implementation of security access rules governing user access. MCFD reduces the number of planned users and makes the use of ICM by MCFD optional, resulting in lower participation than initially planned (fewer than 25 users instead of 300).
April 2012	MSDSI implements Phase 2 on April 2, 2012, and focuses on basic case management for a number of programs in MSDSI and MCFD. This marks the start of ICM operating as the system for service delivery for those programs that moved to ICM from the Management Information System (MIS). A change in MCFD's practice model results in system redesign work and a more open-ended, but less tailored, solution for MCFD.

*MSDSI – Ministry of Social Development and Social Innovation*

*MCFD – Ministry of Children and Family Development*

*MTICS – Ministry of Technology, Innovation and Citizens' Services*

## APPENDIX A: ICM PROJECT TIMELINE

Date	Event summary
July 2012	The Representative for Children and Youth (RCY) releases a public statement on July 19, 2012, highlighting concerns related to the implementation of ICM for MCFD, including the usability, accessibility and quality of information in the system (full report and related background available on the <a href="#">RCY website</a> ).
July 2012	MSDSI implements a minor system release (2.1) to introduce “corporate data warehouse, defect fixes and high priority enhancements”.
July 2012 to May 2013	MSDSI performs a detailed analysis in response to usability issues experienced by MCFD field workers, which subsequently results in Release 2.2 in September 2012 (see below). Additionally, MCFD hires more than 100 additional staff to support front-line workers while they receive training and transition to the new system.
August 2012	Deputy Minister for MCFD commissions an independent assessment to look at key issues, challenges and options for improving implementation of ICM for MCFD, including a review of good practices and computer systems from other jurisdictions. The assessment results in the Queenswood Reports (the interim report was completed in November 2012, and the final report was completed in July 2013, both available on the <a href="#">ICM website</a> ).
September 2012	MSDSI implements a major system release (2.2) on September 24, 2012, to address usability issues related to MCFD child welfare program, and to implement key elements of MSDSI's policy reform for Income Assistance. The changes include improved client search and identification, and usability improvements. The cost of Release 2.2 is funded through “a supplemental and separate capital appropriation approved by Treasury Board”.
March 2013	<p>MSDSI implements Phase 3 on March 4, 2013. Phase 3 focuses on deployment of the Bus Pass and Senior's Supplement programs for MSDSI, and the initial implementation of the Service Provider Portal, including bringing onboard the “first wave” of service providers (e.g., childcare providers). The Portal allows service providers to view orders in ICM, create and submit invoices to ministry program areas (e.g., child care subsidy, autism, medical benefits) and verify payment information.</p> <p>MCFD case management is moved out of scope partway through the design for a number of program areas.</p>
April 2013	ICM Project Board adjusts project scope to address critical issues related to ICM implementation for MCFD child welfare. In order to complete the project on time and on budget, the Project Board merges Phases 4 and 5 into a single phase and reduces the scope of ICM implementation. In particular, the shift in priority to support child welfare means there is insufficient budget to move programs completely off the legacy systems. The implementation timeline for Phase 4 (now the final phase of implementation) is December 2014, and the project capital budget remains unchanged at \$182 million.



## APPENDIX A: ICM PROJECT TIMELINE

Date	Event summary
October 2013	Treasury Board accepts the Project Board's decision to reduce project scope to complete the project within the approved timeline and budget. This includes the decision to merge Phases 4 and 5 into a single phase and to remove the requirement to fully transition off MIS.
April 2014	ICM begins experiencing intermittent performance and connection issues. MSDSI coordinates a team of IT experts to troubleshoot the issues and stabilize the system, and limits the number of users accessing the system over several weeks.
November 2014	MSDSI implements Phase 4 on November 24, 2014, which marks the completion of the ICM project. Phase 4 involves implementing a number of enhancements, including an MCFD child welfare upgrade and MSDSI Channel Integration (client self-service), as well as implementing an enterprise data quality tool which provides increased search functionality for users and improved data quality management functionality for data stewards.

Source: Compiled by the Office of the Auditor General of British Columbia

# APPENDIX B:

## STATUS OF LEGACY SYSTEM REPLACEMENT

This section provides the status, at the time of project completion, of the 56 legacy systems identified for potential replacement by ICM. The ICM project team has indicated that there was not a firm commitment to replace each of the systems listed, but that this list represented potential candidates for replacement.

Legacy systems replaced (17)	
Ministry	System
MSDSI	BC Employment Program
	Bridging Employment Program
	Bus Pass
	Care Analysis and Tracking
	Client Transaction System
	Common System for Grants and Contributions
	Community Assistance Program
	Contact IV
	Employment Program for Persons with Disabilities
	Self-Service Application (Agent Dashboard)
	Senior Supplement
MCFD	After Hours
	After Hours Community Information System
	After Hours Operational Reporting
	Child Care Subsidy
	Child Care Subsidy Evaluator
	Reportable Circumstances Templates

Legacy systems partially replaced (5)	
Ministry	System
MSDSI	Complaint Tracking System
	Fraud Allegation Reporting
	Management Information System (MIS)
MCFD	Autism and Medical Benefits Analysis Tracking
	Intake and Child Services (MIS SWS)

*MSDSI – Ministry of Social Development and Social Innovation*

*MCFD – Ministry of Children and Family Development*

*MTICS – Ministry of Technology, Innovation and Citizens' Services*

## APPENDIX B: STATUS OF LEGACY SYSTEM REPLACEMENT

Legacy systems not replaced (34)	
Ministry	System
MSDSI	Advocate Call Management System
	CLBC Templates
	File Review and Distribution
	Prevention and Loss Management Services System
	Primary Access Regional Information System (PARIS)
MCFD	Aboriginal Case Practice Audit Tool
	Adoption Management System
	Adoption Reunion Registry
	Birth Father Registry
	Brief Child and Family Phone Interview
	CARIS Reader
	Child Tax Benefit
	Community Information System – Helpline
	Community and Residential Information System (CARIS)
	Contract Writing Tool
	Customer Call Management System
	Department of Indian Affairs and Northern Development System
	Delegation Management System
	Early Childhood Educator Registry
	Family Group Conferencing
	Integrated Case Practice Audit Tool
	Integrated Practice Analysis Tool
	Management and Reporting System
	Online Healthware Reader
	Person Registry Web Services
	Post Adoption Assistance for Adoption Services
	Post Adoption Openness
	RAP Templates
	Report Distribution System
	Resource and Payment (RAP) System
	Security Registry Web Services
	Service Registry Web Services
	Word Template System
MTICS	Remedy (replacement of MSDSI/MCFD use only)

Source: Compiled by the Office of the Auditor General of British Columbia



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OFFICE OF THE  
**Auditor General**  
of British Columbia



December 2015

## THE STATUS OF GOVERNMENT'S GENERAL COMPUTING CONTROLS: 2014

[www.bcauditor.com](http://www.bcauditor.com)

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The Honourable Linda Reid  
Speaker of the Legislative Assembly  
Province of British Columbia  
Parliament Buildings  
Victoria, British Columbia  
V8V 1X4

Dear Madame Speaker:

I have the honour to transmit to the Legislative Assembly of British Columbia my report, *The Status of Government's General Computing Controls: 2014*.

We conducted this audit under the authority of sections 10 and 11 (8) (b) of the *Auditor General Act* and in accordance with the standards for assurance engagements set out by the Chartered Professional Accountants of Canada (CPA) in the CPA Canada Handbook – Assurance, and in accordance with Value-for-Money Auditing in the Public Sector.



Carol Bellringer, FCPA, FCA  
Auditor General  
Victoria, B.C.  
December, 2015

# AUDITOR GENERAL'S COMMENTS

INFORMATION TECHNOLOGY (IT) systems are vulnerable to threats like hacking, theft, and systems disruption due to physical damage or sabotage. For government IT systems, there's even more at stake because these systems contain substantial – and sensitive – information. We rely on IT systems for essential services like healthcare, education and transportation, and for millions of financial transactions across all government organizations.

Strong general computing controls are government's first line of defence against potential threats. They control who can access the systems (confidentiality), how to make changes to the systems (integrity), and backup and recovery of systems (availability).

We've seen issues with general computing controls in previous audits of IT systems, including PARIS, CORNET, JUSTIN, ICM, and wireless networks in government. Over the last 10 years, 78% of the recommendations in our IT audit reports have been about improving general computing controls, thus illustrating their importance.

For this report, we looked at how good government's general computing controls are, and how good government organizations think they are. To do this, we asked 148 government organizations (ministries, Crown corporations, health authorities, universities, colleges, schools and more) to self-assess how well-developed and capable their general computing controls are. This is known as the maturity level. We then validated 13 self-assessments from across all types of organizations.

The majority of organizations self-assessed at maturity level 3 and above. However, in our validation, we found that 69% of organizations over-rated their self-assessments. They didn't have sufficient evidence to support their self-assessments. And most of the organizations lacked documentation of policies and procedures – both hallmarks of mature



CAROL BELLRINGER, FCPA, FCA  
*Auditor General*



## AUDITOR GENERAL'S COMMENTS

general computing controls. We encourage all organizations to take a critical look at their IT processes and be realistic about their level of maturity.

We believe that each organization should aim for at least maturity level 3 as their baseline. That said, some organizations should have a higher target maturity level, especially those that have complex computing needs or handle sensitive information.

The findings and recommendations from this audit should be of interest to all IT professionals in government organizations. Senior management needs to fully understand the importance of general computing controls and how they can mitigate threats to their IT systems. We are recommending that organizations review their business and IT goals, and determine which maturity level is best suited for their needs, and then, ensure that maturity level is achieved and maintained.

We are grateful to all 148 organizations for completing their self-assessments. We had a 100% response rate, which helps to make our job easier. And thank you to the 13 organizations whose results we validated – we appreciate your cooperation.



Carol Bellringer, FCPA, FCA  
Auditor General  
Victoria, B.C.  
December, 2015

# REPORT HIGHLIGHTS

USE OF **IT** COMES  
WITH RISKS:

**FRAUD  
ERRORS  
SYSTEM  
DISRUPTION**



Strong general  
computing controls  
can reduce the impact  
of risks.

BC government  
organizations  
**SELF-ASSESSED A  
HIGHER AVERAGE  
MATURITY LEVEL  
THAN 2013**

Majority of  
organizations  
self-assessed at

5  
4  
3 ← **MATURITY  
LEVEL 3**  
2 **AND**  
1 **ABOVE**  
0



**IT is critical**

to government's  
service delivery –  
from healthcare to  
education

**78%**

of our previous  
**IT audit**  
recommendations  
were about

**general  
computing  
controls**

**69%** of audited  
organizations lacked  
sufficient evidence  
to support their  
self-assessed levels

Over **600**  
**IT services**  
are **outsourced**  
to external  
parties



# RESPONSE FROM THE MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES

THE OFFICE OF the Chief Information Officer (OCIO) would like to thank the Auditor General for reviewing the status of Government's General Computing controls. Government takes very seriously the importance of general computing controls as the first line of defense against potential threats, and is committed to ensuring ongoing confidentiality, integrity and availability of systems and data under its mandate.

I accept the Auditor General's recommendation pertaining to the Government Chief Information Officer's role in promoting strong controls and assisting organizations with implementing them, and will continue to carry out this role within my mandate. I have taken prompt and appropriate action and have planned future improvements, to the extent that my office is empowered to do so under the government Core Policies.

To date, we have completed our Annual Information Security Review and created a Vulnerability and Risk Management Team to respond to relevant incidents, integrated formal security requirements into vendor service procurements, implemented advanced cybersecurity and vulnerability scanning tools, published new standards for Critical Systems and Enterprise Business Architecture to be applied by all ministries, formalized the Terms of Reference and processes for OCIO's Change Advisory Board, and completed government's annual Business Continuity Plan exercise and developed plans to address the identified gaps.

In the coming months, we plan to undertake a comprehensive data classification standards review, continue our work on developing a Cloud security standard, continue to implement critical security infrastructure into government's data centres, implement a government-wide proactive issues management process and continue our efforts to ensure compliance with relevant government standards and policies.

We appreciate the efforts of the Office of the Auditor General (OAG) of British Columbia in their assessment of government's computing general controls with the ultimate objective of reducing overall risk to government. The information provided by "The Status of Government's General Computing Controls: 2014" has provided valuable information regarding the maturity of the management of the controls and will assist in prioritizing improvements.

My office will continue to work with Ministry Chief Information Officers to improve management of controls to achieve their targeted maturity level. We look forward to future years' assessment by the Auditor General staff.

# BACKGROUND

## THE IMPORTANCE OF GENERAL COMPUTING CONTROLS

INFORMATION TECHNOLOGY (IT) is critical to government's day-to-day operations. From delivering services like healthcare and education, to processing billions of dollars in transactions, B.C.'s government IT systems handle substantial and sensitive information. This impacts the daily lives of everyone in our province.

More and more, government is relying on third parties to develop their IT systems and provide IT services. There are currently over 600 outsourced IT systems and services across government.

All these come with risks, such as:

- ♦ fraud: intentional access to systems and data for personal gain
- ♦ human errors: unintentional changes to systems and data
- ♦ down time: inability to resume critical services quickly after an unexpected disruption (power outages, disasters or malicious activities)

To reduce the impact of these risks, government needs strong controls.

General computing controls ensure that IT systems and services can help organizations fulfill their needs (the business objectives) through the proper development and implementation of applications, as well as the integrity of programs, data files, and computer operations.

They play an important role in detecting and preventing fraud and errors, protecting organizations' IT assets, and ensuring that critical business operations could continue. As such, 78% of the

recommendations in our IT audit reports over the last 10 years focused on improving general computing controls. See [Appendix B](#) for a summary of these 104 IT audit recommendations.

## RESPONSIBILITY FOR GENERAL COMPUTING CONTROLS

The B.C. Office of the Government Chief Information Officer is mandated with governance authority for standards setting, oversight and approvals for the province's information and communications technology.

B.C. government organizations are responsible for following the spirit and intent of this policy in designing and implementing the general computing controls best suited for their IT environment – regardless of whether IT systems or services are in-house or outsourced.

B.C. government organizations include ministries, Crown corporations, universities, colleges, school districts, health authorities and other organizations controlled by, or accountable to, the provincial government. Collectively, they are called the *Government Reporting Entity* (GRE).

# WHAT WE DID

## 2013

IN 2013, WE asked 138 organizations in the GRE to complete a self-assessment of their sophistication regarding use of general computing controls. We reported the results in terms of a maturity level that each B.C. government organization had attained.

The self-assessment was designed using the maturity model defined in the COBIT 4.1 framework (see Exhibit 1). The maturity model is a way to assess how well developed and capable the established IT controls are.

COBIT 4.1 is a globally accepted framework developed by the IT Governance Institute. The institute was formed by ISACA – an independent, non-profit, global association that engages in the development, adoption and use of globally accepted,

industry-leading knowledge and practices for information systems.

The self-assessment focused on *nine critical IT processes* defined in COBIT 4.1 as essential for maintaining:

- ♦ *confidentiality*: protecting the information they manage
- ♦ *integrity*: ensuring that transactions are processed correctly
- ♦ *availability*: ensuring critical government services are always up and running

### Exhibit 1: COBIT 4.1 Maturity model rating definitions

**0 - Non-existent:** Complete lack of any recognizable processes. The enterprise has not even recognized that there is an issue to be addressed.

**1 - Initial / ad hoc:** There is evidence that the enterprise has recognized that the issues exist and need to be addressed. There are, however, no standardized processes; instead, there are *ad hoc* approaches that tend to be applied on an individual or case-by-case basis. The overall approach to management is disorganized.

**2 - Repeatable but intuitive:** Processes have developed to the stage where similar procedures are followed by different people undertaking the same task. There is no formal training or communication of standard procedures, and responsibility is left to the individual. There is a high degree of reliance on the knowledge of individuals and, therefore, errors are likely.

**3 - Defined Process:** Procedures have been standardized and documented, and communicated through training. It is mandated that these processes should be followed; however, it is unlikely that deviations will be detected. The procedures themselves are not sophisticated but are the formalization of existing practices.

**4 - Managed and measurable:** Management monitors and measures compliance with procedures and takes action where processes appear not to be working effectively. Processes are under constant improvement and provide good practice. Automation and tools are used in a limited or fragmented way.

**5 - Optimized:** Processes have been refined to a level of good practice, based on the results of continuous improvement and maturity modeling with other enterprises. IT is used in an integrated way to automate the workflow, providing tools to improve quality and effectiveness, making the enterprise quick to adapt.

Source: COBIT 4.1 control framework for IT governance ([www.isaca.org](http://www.isaca.org))

## WHAT WE DID

See [Table 1](#) for the description of each of the nine areas.

In 2013, we received 100% of the organizations' self-assessments. We did not validate the results of their self-assessments, but we sent reports to the heads of each organization. The reports showed their results compared to similar organizations and provided recommendations on how they can achieve or improve their target maturity levels. We also sent a summary report to the B.C. Government Chief Information Officer.

In January 2014, we published a high-level report summarizing our findings and intent for future years as part of our [IT compendium report](#).

## 2014

In August 2014, we asked the same 137<sup>1</sup> organizations, plus nine Independent Offices of the Legislative Assembly and two new organizations (in total, 148 organizations), to complete the same self-assessment.

This year though, we selected 13 organizations and validated their self-assessments. This sample included a ministry, a health authority, two Crown corporations, three universities, two colleges and four school districts. The validation process included:

- ♦ reviewing the completed self-assessment form
- ♦ interviewing key IT personnel from each organization
- ♦ examining supporting evidence for the self-assessed levels

Again, we sent detailed reports to the heads of all 148 organizations, comparing their results to similar organizations, as well as their 2013 results. These reports provided recommendations on how they can achieve or improve on their target maturity levels. We also sent a summary report to the B.C. Government Chief Information Officer.

We conducted this project under sections 10 and 11 (8) (b) of the *Auditor General Act* from August 2014 to June 2015.

## DETERMINING THE BENCHMARK

The COBIT 4.1 model states that maturity levels may be different for each organization, depending on the organizations' business objectives, complexity of their computing systems and IT environment, and the value of the information they manage. For example, a government organization that has the personal information of every person in British Columbia, or that provides critical services, should have higher maturity levels.

We believe that each organization should aim for at least *maturity level 3: Defined Process*, as their baseline. At this level, organizations have standardized and documented their procedures, mandated that they be followed, and trained staff accordingly.

<sup>1</sup> One of the 138 organizations in 2013 was dissolved in 2014.

# WHAT WE OBSERVED

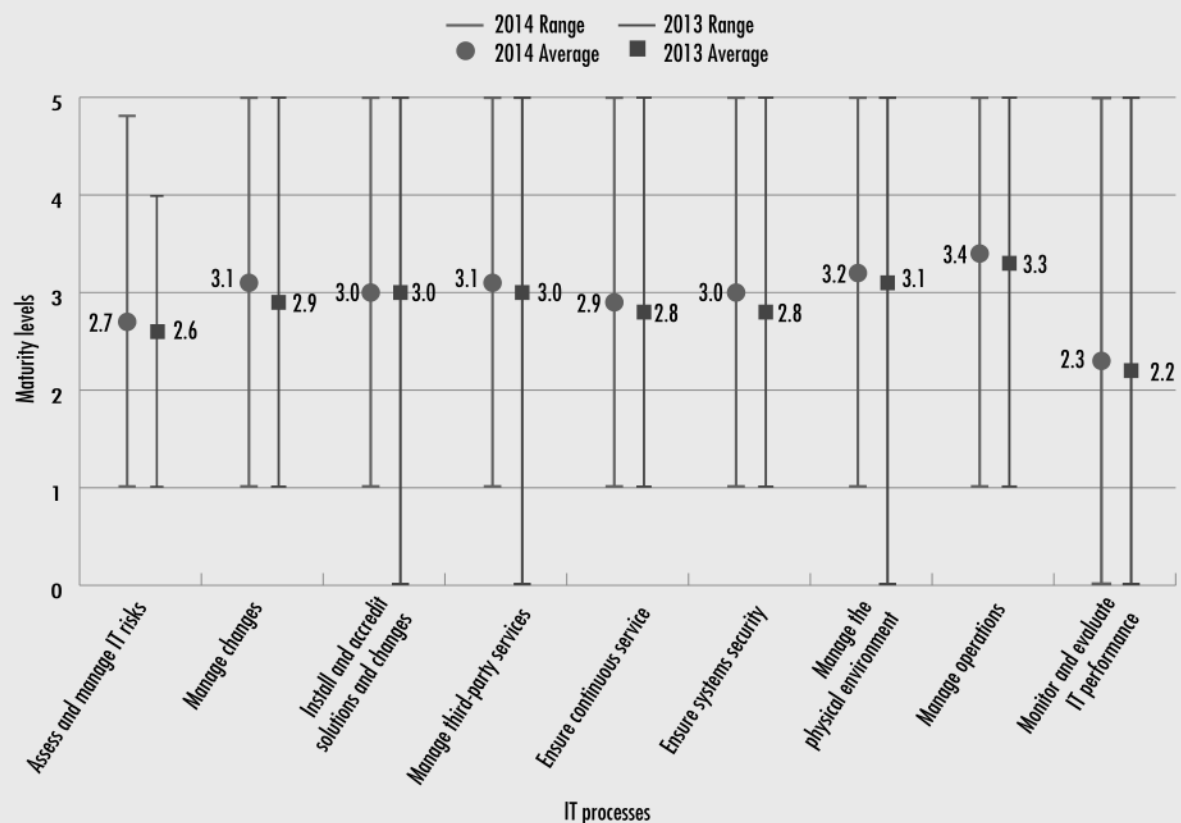
## ORGANIZATIONS SELF-ASSESSED A HIGHER AVERAGE MATURITY LEVEL THAN 2013

OVERALL, THE AVERAGE self-assessed maturity level across all the organizations in the B.C. GRE and the nine IT processes was between 2.3 and 3.4. This is slightly higher than the 2013 results, which were between maturity levels 2.2 and 3.3 (See Exhibit 2).

Health authorities, ministries and Crown corporations had consistently higher average maturity levels than universities, colleges and school districts.

See [Appendix A](#) for maturity levels by the nine IT processes and type of organization.

**Exhibit 2:** Range and average self-assessed maturity level for each IT process



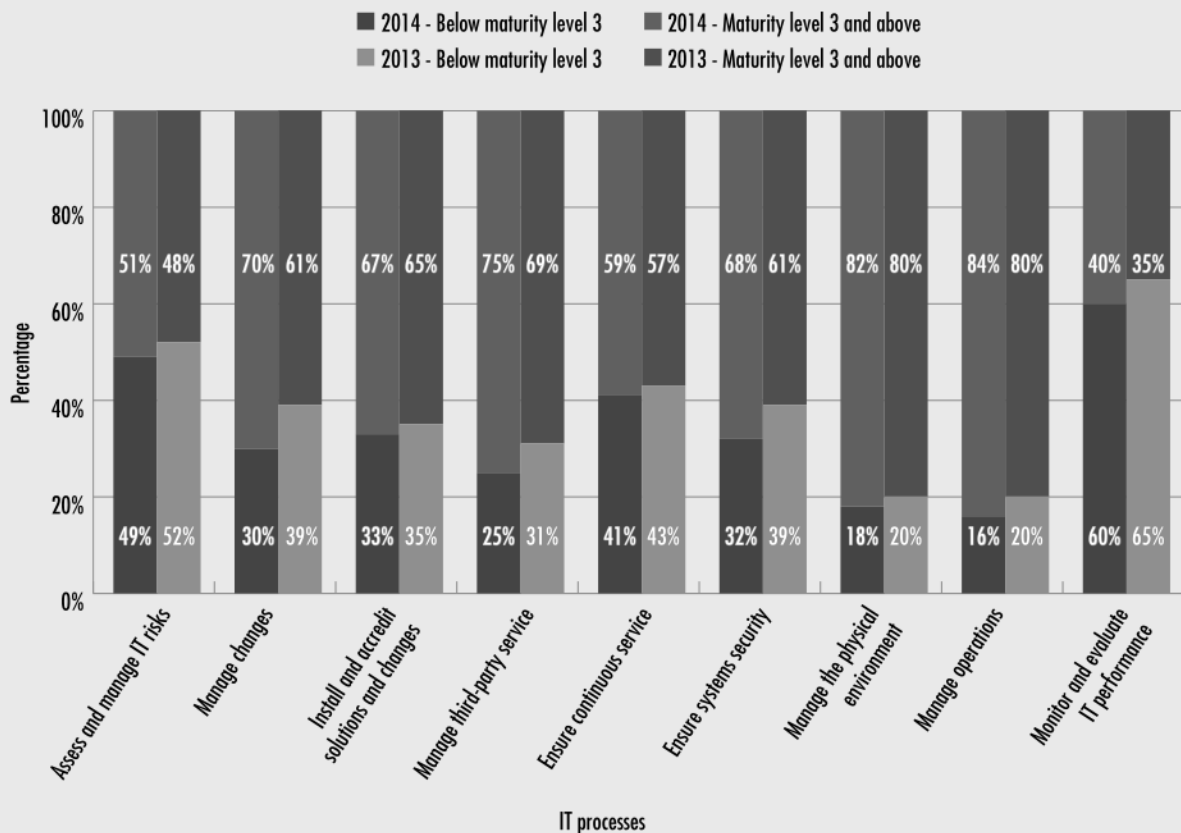
Source: Office of the Auditor General of British Columbia

## WHAT WE OBSERVED

### THE MAJORITY OF ORGANIZATIONS SELF-ASSESSED AT MATURITY LEVEL 3 AND ABOVE

Between 51% and 84% of the organizations self-assessed at maturity level 3 and above in eight of the nine IT processes (See Exhibit 3).

**Exhibit 3:** Percentage of organizations that self-assessed at maturity level 3 and above for each IT process



Source: Office of the Auditor General of British Columbia



## WHAT WE OBSERVED

### MOST ORGANIZATIONS LACKED SUFFICIENT EVIDENCE TO SUPPORT THEIR SELF-ASSESSED MATURITY LEVEL

In our validation, we found that nine of the 13 organizations (69%) did not have sufficient evidence to support their self-assessed maturity level, in one or as many as all nine IT processes.

For organizations that had insufficient evidence to support their self-assessments, we discussed our

findings with those organizations and adjusted their maturity levels accordingly.

#### Validation findings for the nine IT processes

The table below summarizes our validation results for each of the nine IT processes we looked at.

**Table 1:** Validation findings for each IT process

#### 1. Assess and manage IT risks

All organizations should define a risk management framework for identifying, assessing and treating risks that affect key business areas. The framework helps gather information on IT operations risks so that senior management can make informed decisions about the risks they are willing to accept.

Number of organizations with insufficient evidence	Deficiencies in general computing controls
Four organizations lacked sufficient evidence to support self-assessed maturity levels 3 and 4	<ul style="list-style-type: none"><li>♦ Risk management processes and activities were:<ul style="list-style-type: none"><li>♦ not formally documented</li><li>♦ in the process of being documented</li><li>♦ in the early stage of implementation</li></ul></li><li>♦ Risk management processes were not consistently applied to all activities in IT operations</li></ul>

## WHAT WE OBSERVED

### 2. Manage changes

Organizations should manage changes to systems to prevent inaccurate data processing, disruption or delay of services, or cause loss of information. Prior to implementation, organizations should define policies, standards, procedures, and roles and responsibilities for monitoring, assessing and authorizing changes.

Number of organizations with insufficient evidence	Deficiencies in general computing controls
Three organizations lacked sufficient evidence to support self-assessed maturity levels 3, 4 or 5	<ul style="list-style-type: none"> <li>♦ Change management processes were: <ul style="list-style-type: none"> <li>♦ not established</li> <li>♦ not formally documented</li> <li>♦ in the process of being developed</li> <li>♦ in the early stage of implementation</li> </ul> </li> <li>♦ Lack of management's periodic monitoring of compliance with established policies, standards and procedures</li> </ul>

### 3. Install and accredit solutions and changes

In conjunction with the policies and procedures for managing changes to systems, organizations need to have proper planning, testing and implementation of changes and carry out a post-implementation review. This will help ensure that systems are operational and are in-line with the agreed-upon expectations and outcomes.

Number of organizations with insufficient evidence	Deficiencies in general computing controls
Four organizations lacked sufficient evidence to support self-assessed maturity levels 3 or 4	<ul style="list-style-type: none"> <li>♦ Procedures were: <ul style="list-style-type: none"> <li>♦ ad hoc</li> <li>♦ informally documented</li> <li>♦ still being developed</li> </ul> </li> </ul>

### 4. Manage third-party services

Organizations should ensure that third-party service providers are meeting business requirements. This is accomplished by clearly defining the roles, responsibilities and expectations of all parties, together with effective monitoring of compliance with service agreements. These processes help organizations mitigate the risk of third-party providers failing to perform in accordance with agreements.

Number of organizations with insufficient evidence	Deficiencies in general computing controls
Two organizations lacked sufficient evidence to support self-assessed maturity levels of 3 or 4.5	<ul style="list-style-type: none"> <li>♦ Lack of formal documentation in selecting and managing third-party providers</li> <li>♦ Did not follow its IT purchasing policy and the policy was out-dated</li> </ul>

## WHAT WE OBSERVED

### 5. Ensure continuous service

The provision of continuous, uninterrupted service requires defining roles and responsibilities for all involved parties; developing, maintaining and periodic testing of IT continuity plans; using off-site backup storage for systems and data; and, periodic IT continuity training. These processes help minimize the impact of a major IT service interruption on key business functions and processes.

Number of organizations with insufficient evidence	Deficiencies in general computing controls
Four organizations lacked sufficient evidence to support self-assessed maturity levels of 3, 3.5 or 4	<ul style="list-style-type: none"> <li>♦ Roles and responsibilities were not defined</li> <li>♦ Lack of training and monitoring for continuous service</li> <li>♦ IT continuity plans were: <ul style="list-style-type: none"> <li>♦ non-existent</li> <li>♦ in the process of being developed</li> <li>♦ in existence, but neither updated nor regularly tested</li> </ul> </li> <li>♦ Backup facility was close to the main data centre and was exposed to the same physical risks (earthquake, storm, flood, fire, etc.)</li> </ul>

### 6. Ensure systems security

To maintain the integrity of critical information and protect their IT assets, organizations should define a security management process which typically includes:

- ♦ establishing and maintaining IT security, policies, standards, procedures, plans, roles and responsibilities
- ♦ monitoring and testing security plans periodically to identify security weaknesses or incidents
- ♦ developing and carrying out corrective actions in order to minimize their business impact

Number of organizations with insufficient evidence	Deficiencies in general computing controls
Five organizations lacked sufficient evidence to support self-assessed maturity levels of 3 to 4.5	<ul style="list-style-type: none"> <li>♦ IT security policies, procedures and plans were: <ul style="list-style-type: none"> <li>♦ not defined or formally documented</li> <li>♦ in the process of being developed</li> <li>♦ not current</li> </ul> </li> <li>♦ IT security procedures were not aligned with IT security policies</li> <li>♦ Responsibility for systems security was neither clearly assigned nor independent from IT operations</li> <li>♦ Security awareness and training was limited</li> <li>♦ Risk and impact analysis, testing, monitoring and reporting on security were rarely carried out or was not aligned with business objectives</li> </ul>

## WHAT WE OBSERVED

### 7. Manage the physical environment

To protect computing facilities and staff from intentional or unintentional harm, organizations should:

- ♦ define the roles and responsibilities for managing the physical environment
- ♦ establish appropriate physical site requirements
- ♦ monitor environmental factors
- ♦ manage physical access

Number of organizations with insufficient evidence	Deficiencies in general computing controls
Seven organizations lacked sufficient evidence to support self-assessed maturity levels between 2 and 5	<ul style="list-style-type: none"><li>♦ Lack of formal documentation of defined:<ul style="list-style-type: none"><li>♦ roles and responsibilities</li><li>♦ environmental and physical security requirements</li></ul></li><li>♦ Physical access to computing facilities was neither monitored nor reviewed</li><li>♦ Some organizations had not implemented preventive measures; where they had, the monitoring was weak</li><li>♦ Not all staff were trained in health, safety and emergency procedures</li></ul>

## WHAT WE OBSERVED

### 8. Manage operations

To ensure complete and accurate processing of data and minimize delays in business operations, organizations need to have effective management of data processing procedures and diligent maintenance of computing hardware. This includes:

- ♦ defining roles and responsibilities for managing IT operations
- ♦ establishing operating policies and procedures for data processing
- ♦ protecting sensitive reports
- ♦ monitoring IT infrastructure performance
- ♦ ensuring preventive maintenance of computing hardware

Number of organizations with insufficient evidence	Deficiencies in general computing controls
Five organizations lacked sufficient evidence to support self-assessed maturity levels of 3.75, 4 or 4.5	<ul style="list-style-type: none"> <li>♦ Lack of formal or up-to-date documentation of: <ul style="list-style-type: none"> <li>♦ IT standards and operating procedures</li> <li>♦ clearly defined responsibilities</li> </ul> </li> <li>♦ Lack of: <ul style="list-style-type: none"> <li>♦ ongoing training</li> <li>♦ monitoring against IT standards</li> </ul> </li> <li>♦ High degree of reliance on the knowledge of individuals managing IT operations</li> <li>♦ Processes for monitoring the IT infrastructure were not sufficiently addressing the root causes of operational errors and failures</li> </ul>

### 9. Monitor and evaluate IT performance

Monitoring is essential for effective management of IT performance, and ensures that things are done in line with the set directions and policies. This process includes defining and reporting on relevant performance indicators, and addressing deviations promptly.

Number of organizations with insufficient evidence	Deficiencies in general computing controls
Five organizations lacked sufficient evidence to support self-assessed maturity levels of 2 to 4	<ul style="list-style-type: none"> <li>♦ Organizations used ad hoc and informal approaches in monitoring and evaluating IT performance</li> <li>♦ High degree of reliance on the knowledge of individuals monitoring activities</li> <li>♦ Procedures and indicators for managing IT performance were still in development</li> <li>♦ Where monitoring processes exist, the indicators were output-based, rather than outcome-based</li> </ul>

Source: Office of the Auditor General of British Columbia

# WHAT ORGANIZATIONS SHOULD DO

WE RECOMMEND THAT with regard to the general computing controls,\* organizations in the B.C. Government Reporting Entity, periodically:

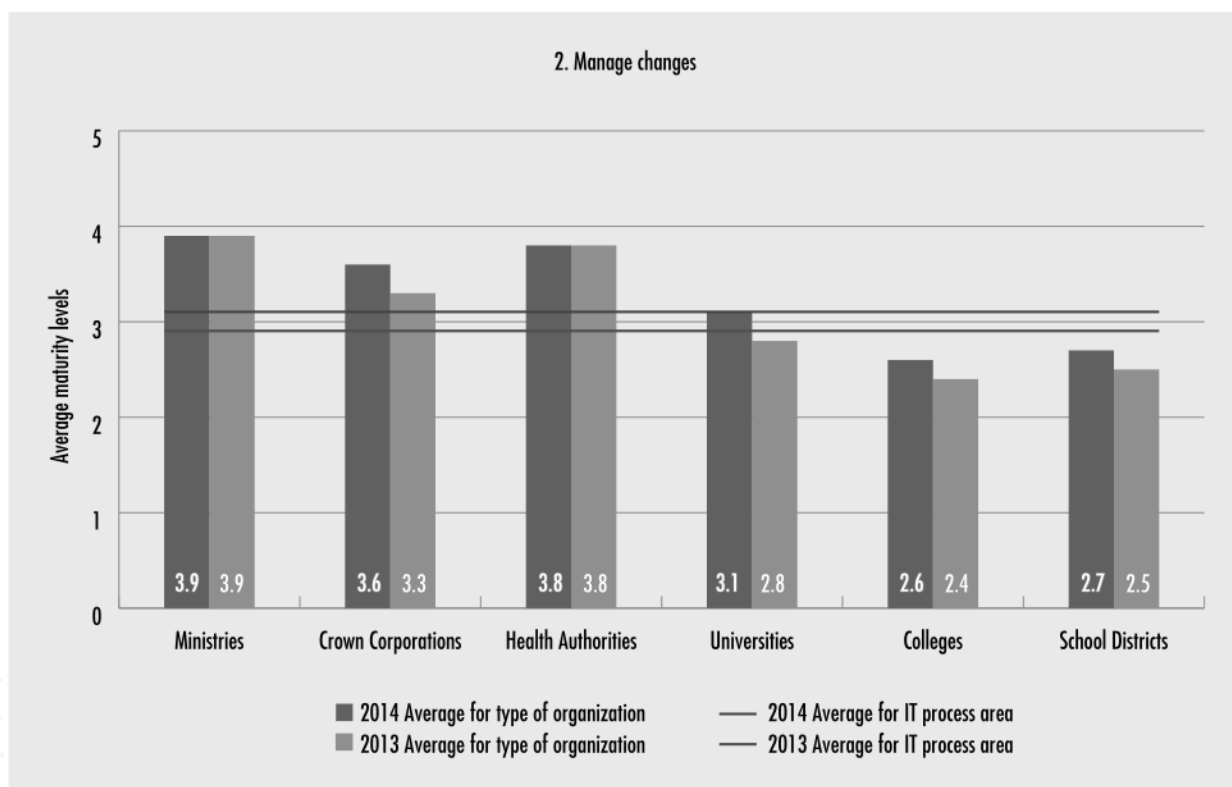
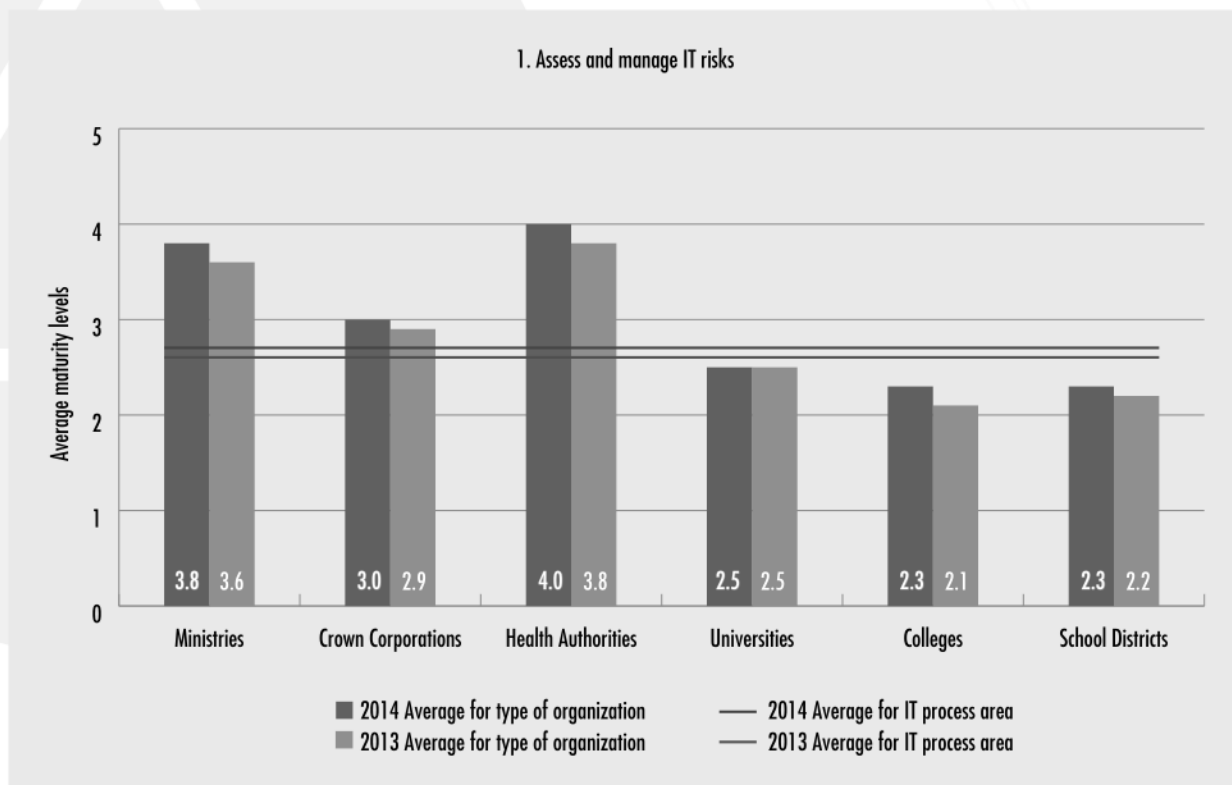
1. review their business and IT goals, and determine the target maturity level
2. analyze the controls necessary for meeting the target maturity level
3. determine what needs to be done to achieve the target maturity level
4. monitor the progress in achieving the target maturity level

\*in accordance with the COBIT 4.1 maturity model

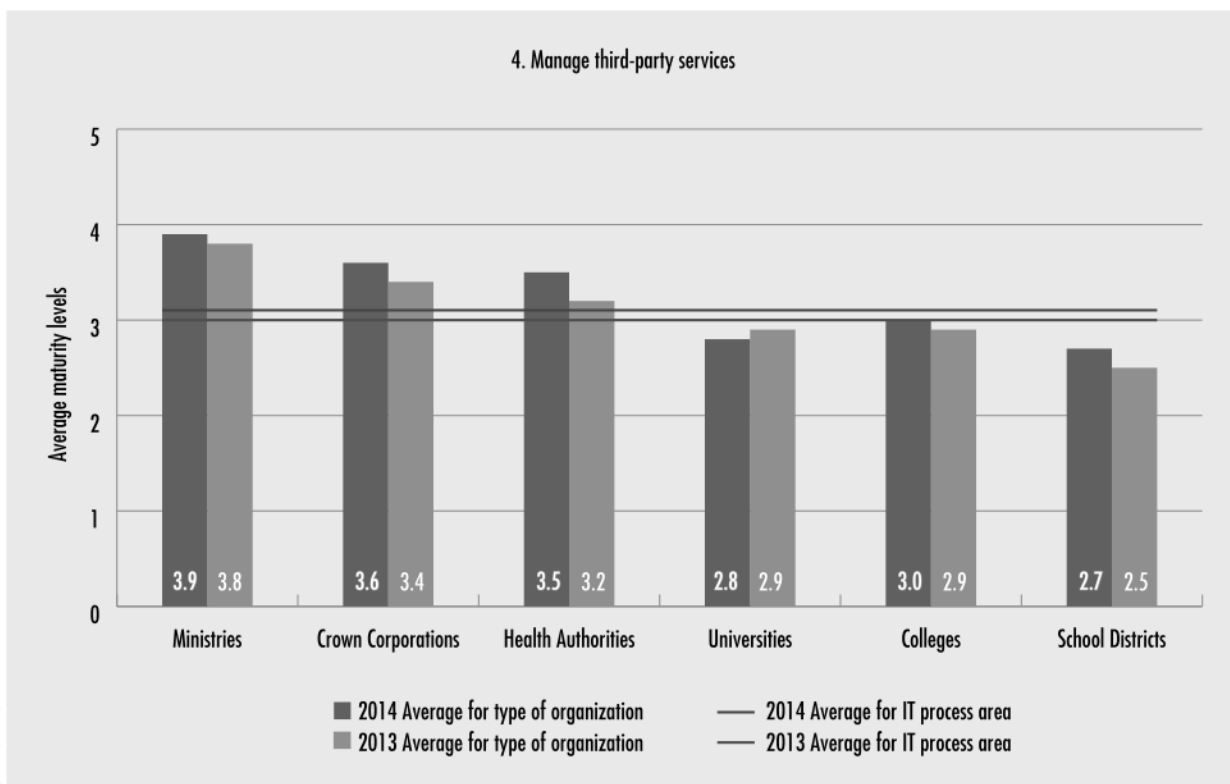
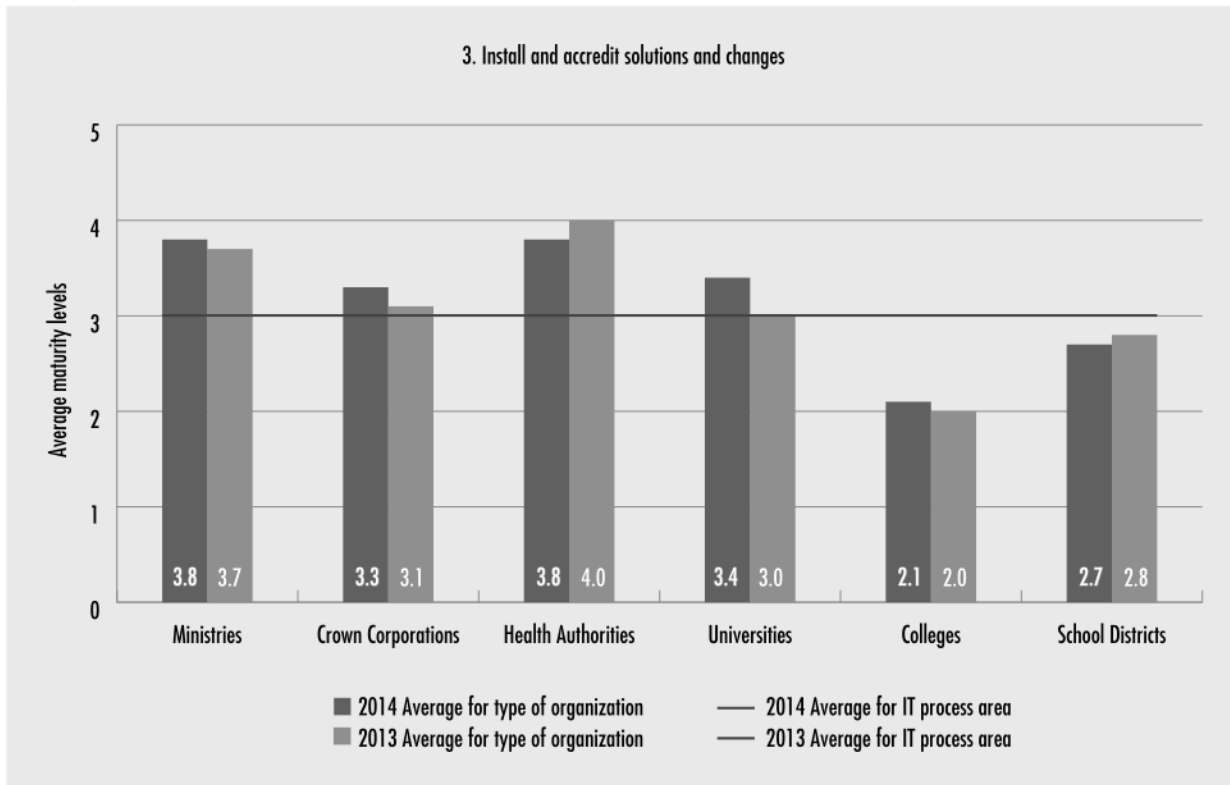
We also recommend that the B.C. Office of the Government Chief Information Officer continue to promote strong general computing controls and assist government organizations in achieving and improving their target maturity level.

# APPENDIX A:

## MATURITY LEVEL BY IT PROCESS AND TYPE OF ORGANIZATION

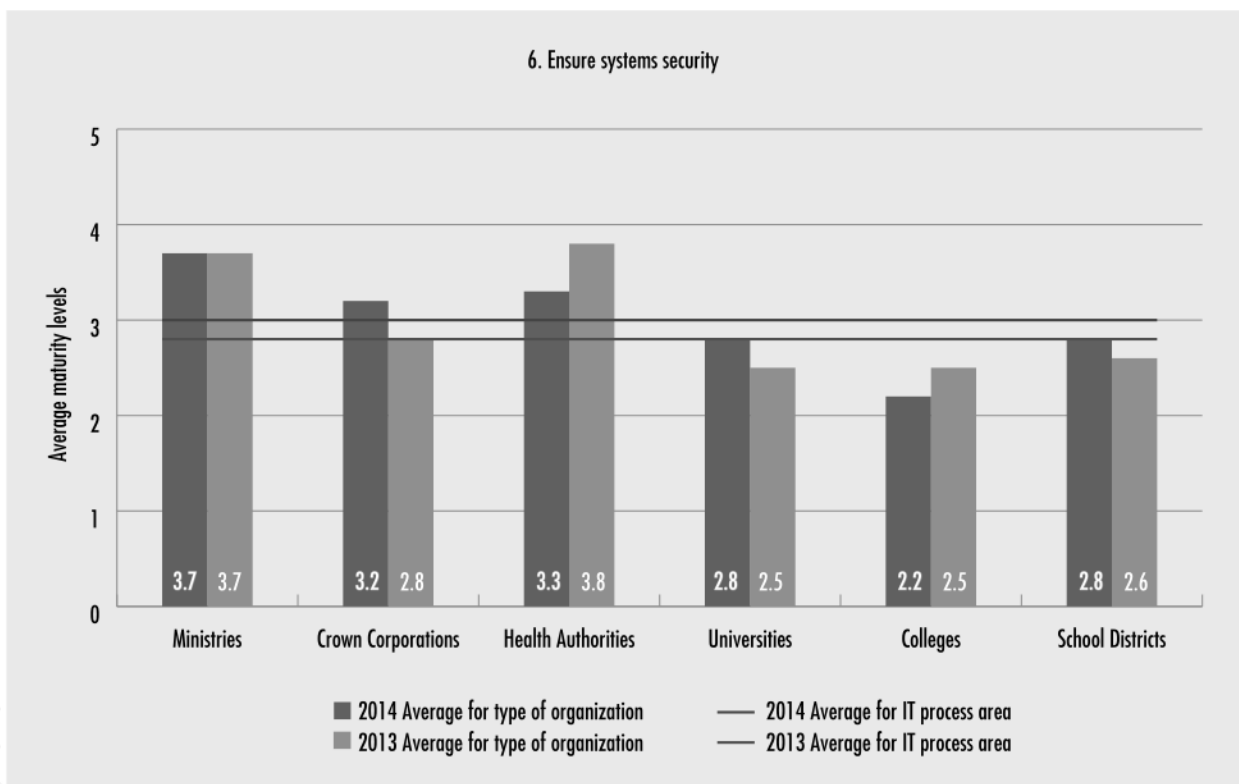
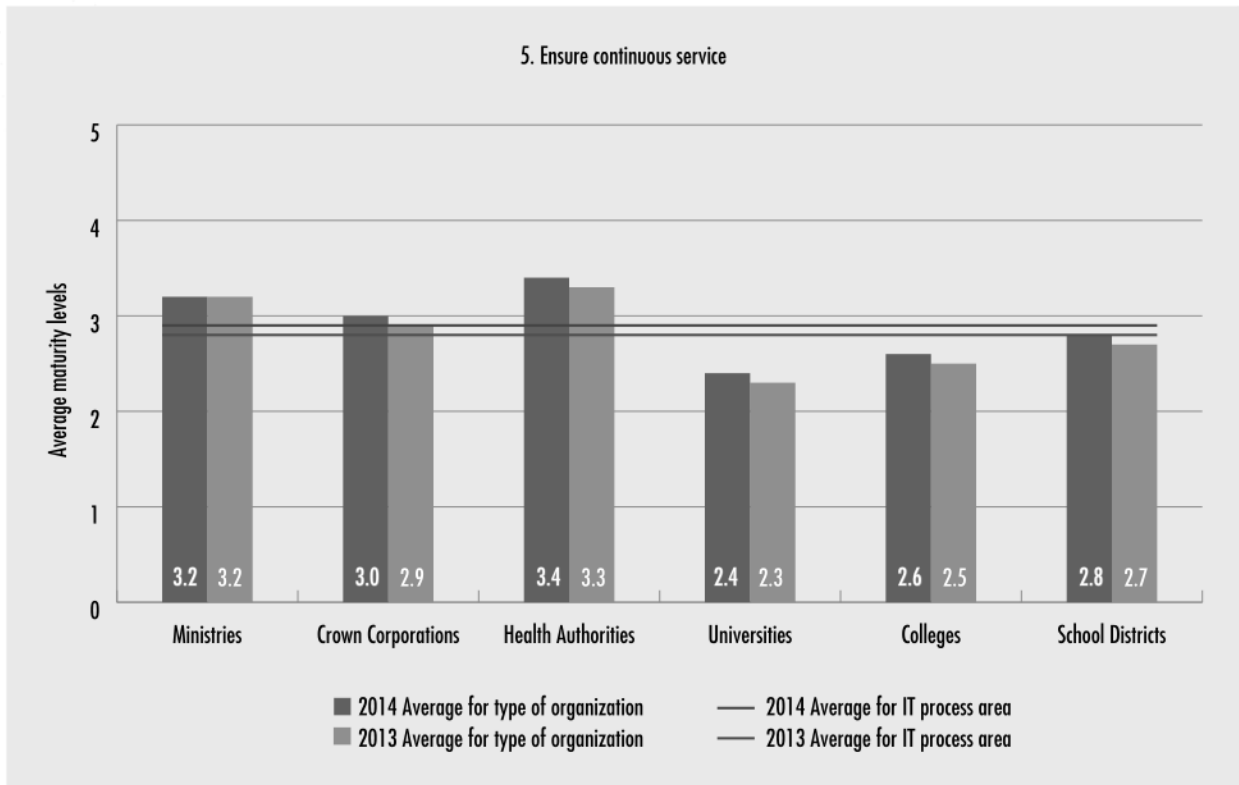


## APPENDIX A: MATURITY LEVEL BY IT PROCESS AND TYPE OF ORGANIZATION

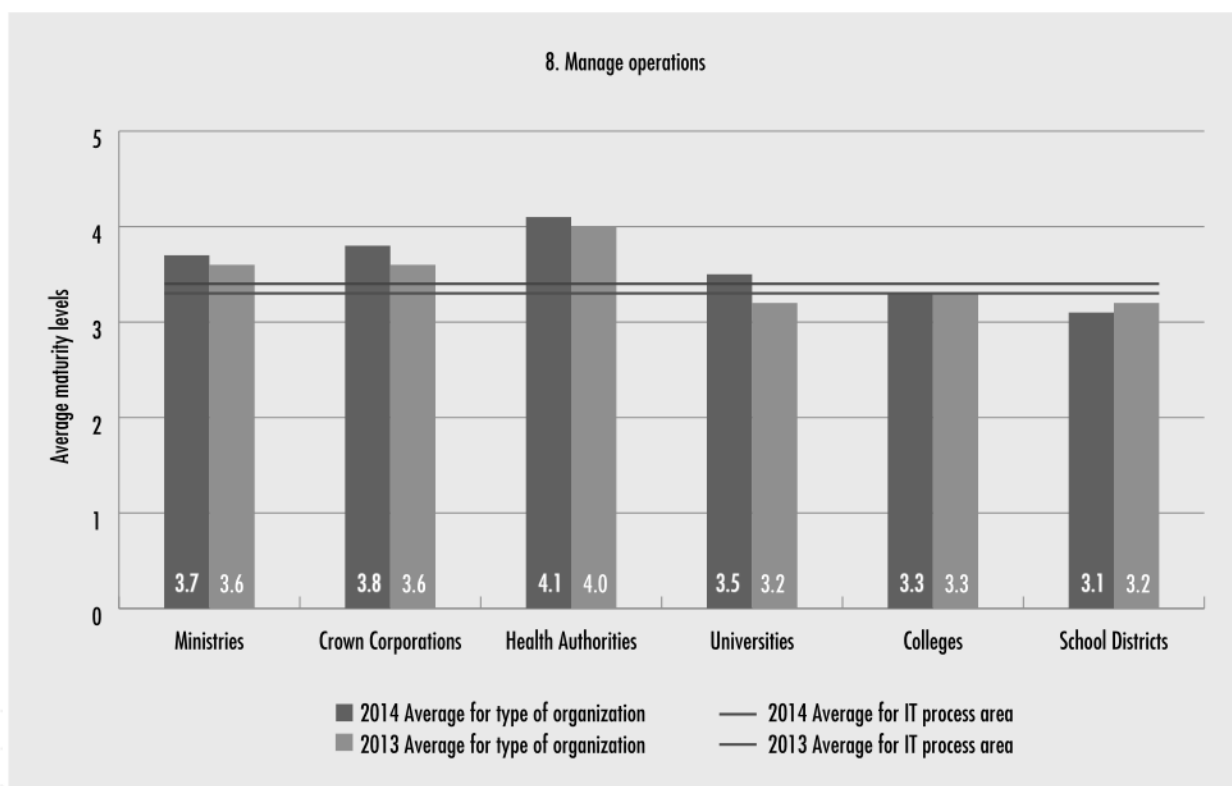
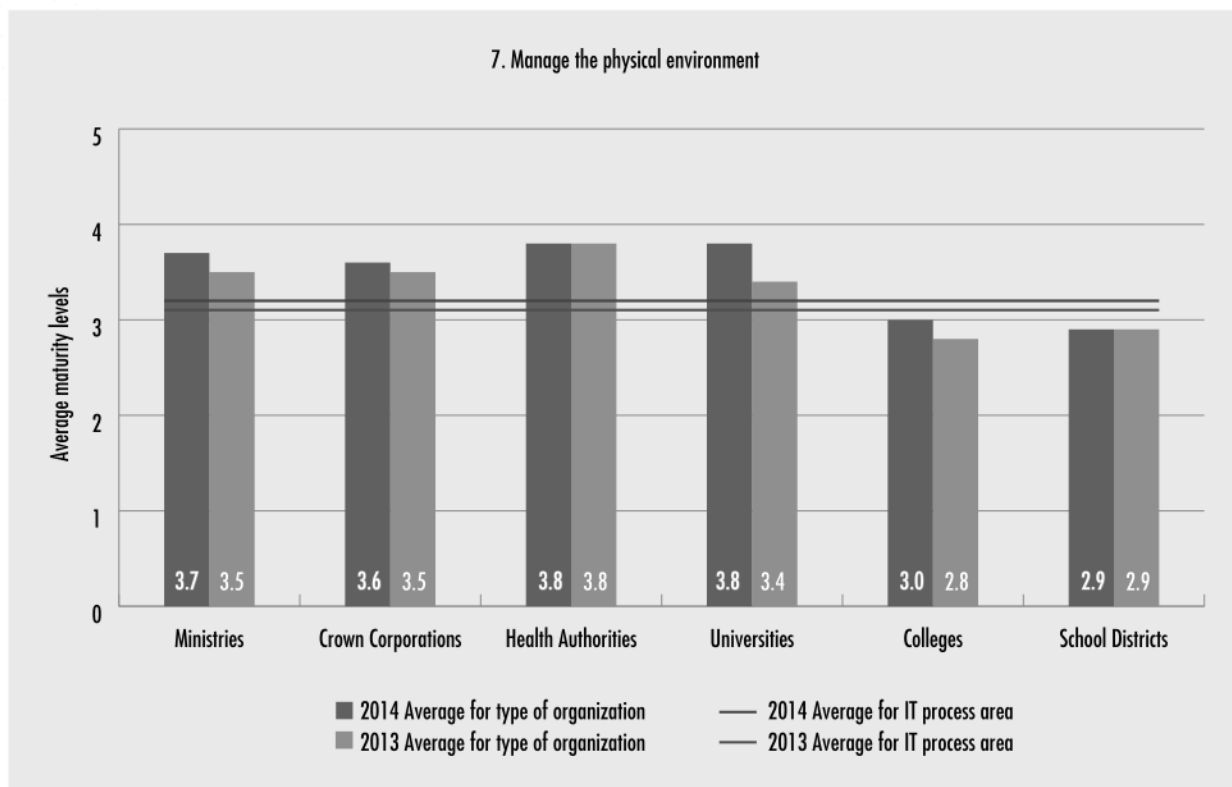




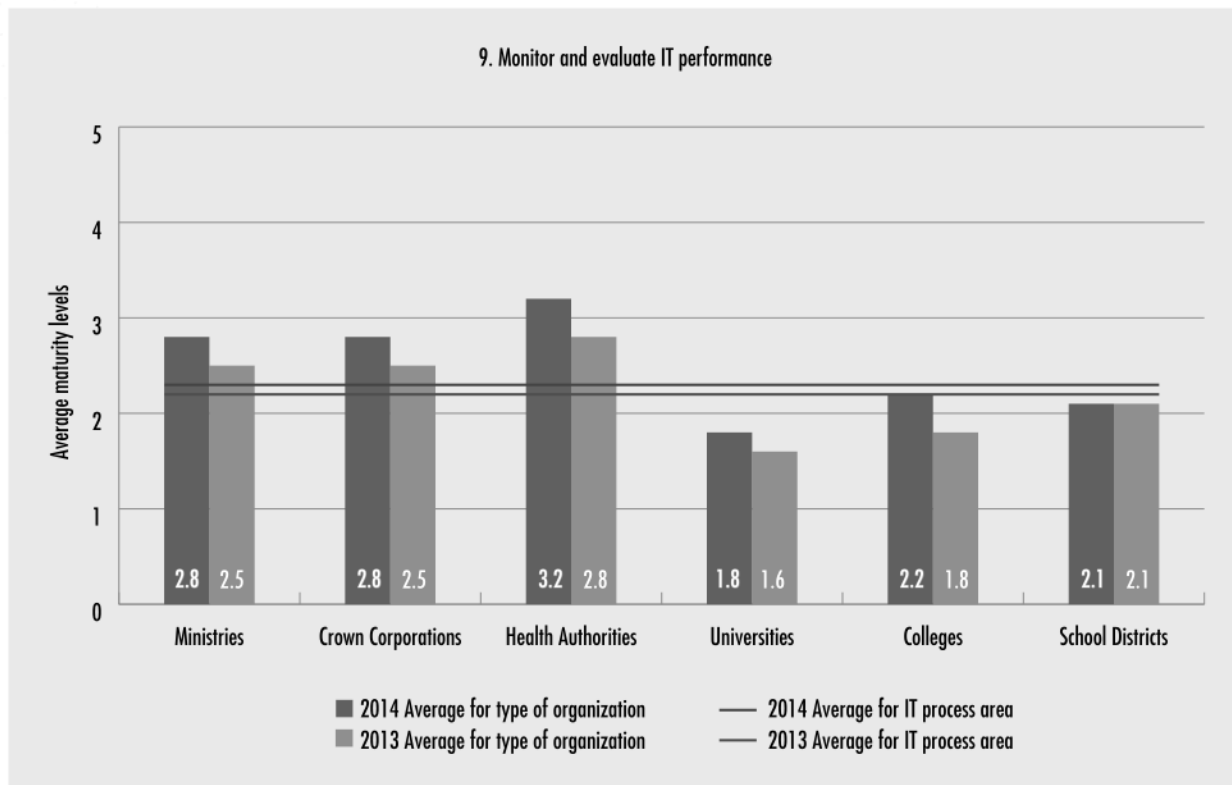
## APPENDIX A: MATURITY LEVEL BY IT PROCESS AND TYPE OF ORGANIZATION



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# APPENDIX B:

## SUMMARY OF IT AUDIT RECOMMENDATIONS OVER THE LAST 10 YEARS

IT audit report title	Total number of recommendations	Number of recommendations within the nine IT processes	Percentage of recommendations within the nine IT processes
Audit of the Government's Corporate Accounting System: Part 1	14	12	86%
Audit of the Government's Corporate Accounting System: Part 2	13	5	38%
Electronic Health Record Implementation in British Columbia	3	2	67%
Information Technology Compendium - Web Application Security Audit	4	4	100%
Integrated Case Management System	7	5	71%
IT Continuity Planning in Government	9	9	100%
Managing Access to the Corrections Case Management System	9	9	100%
Managing Government's Payment Processing	6	3	50%
Securing the Justin System: Access and Security Audit at The Ministry of Justice	5	5	100%
Summary Report: Results of Completed Projects - Info Security Management: An Audit on How Well Government is Identifying and Assessing its Risks	6	6	100%
Summary Report: Results of Completed Projects - Wireless Networking Security Phase 3	22	16	73%
The PARIS System for Community Care Services: Access and Security	10	9	90%
Wireless Networking Security in Government Phase 2	21	15	71%
Wireless Networking Security in Victoria Government Offices: Gaps in the Defensive Line	4	4	100%
Total	133	104	78%



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*Thank you to our staff members  
not listed above for your work on  
this project.*



OFFICE OF THE  
**Auditor General**  
of British Columbia

The House in Committee of Supply (Section A); D. McRae in the chair.

The committee met at 2:43 p.m.

On Vote 41: ministry operations, \$63,971,000.

**The Chair:** Well, ladies and gentlemen, it is a beautiful sunny day in Victoria in April, and I am pleased to call the Committee Supply, Section A, to order.

Minister, do you have an opening statement?

**Hon. A. Virk:** Yes. First of all, I'd like to introduce my staff that are present. I have Deputy Minister John Jacobson with me on my left. On my right I have Associate Deputy Minister Sarf Ahmed. We're also joined by ADMs. We've got Colin McEwan from the budget area, and we have Bette-Jo Hughes, associate DM, as well, here with us.

I'm pleased to introduce the estimates of the Ministry of Technology, Innovation and Citizens' Services. The ministry's role is to provide British Columbians with easy access to government services, to support leading-edge technology and development opportunities and to provide infrastructure support to government ministries.

On the technology and innovation side, we support British Columbia as a recognized leader in research and innovation. Technology plays a significant role in our lives, from the electricity that powers this room to the gas that fuels the cars. We're exposed to technology in the everyday part of our lives, and British Columbia's innovators are leading the path.

[1445] 

Because of this, it is one of the key eight sectors identified in the B.C. jobs plan and is an increasingly key driver for the economy, creating over 84,000 jobs for British Columbians. We continue to develop, and we will be among the top provincial performers in terms of growth in technology revenues.

I look forward to the many opportunities that fall under this growing ministry. I'm ready and look forward to answering any questions that we may have.

**The Chair:** The Chair recognizes the member for Nanaimo–North Cowichan. Member, do you have an opening statement?

**D. Routley:** Yes, I do.

It is my intention to call on the expertise of the minister's staff, and I'm sure that they'll live up to the fine standard that's been displayed in all of the estimates that I've witnessed in my ten years as an MLA. I am concerned about a number of issues

around, particularly, the open government segments of the ministry, FOI performance and FOI issues generally, as well as privacy protection.

[G. Kylo in the chair.]

Of course, a very current issue on top of mind of British Columbians and top of debate in this Legislature over the past few days and even over the past few years is the sale of public assets. Of course, we'll be asking questions related to those sales. We have provided the minister with a number of specific properties and sales that were transacted in the past year. We've requested information that was lacking from some of the releases that we've seen so far, and I'll be asking for more clarification on those issues.

We will be asking questions about the ongoing crisis around archiving of the records of British Columbia that has been referred to by previous Information and Privacy Commissioners as putting the historical record of British Columbia in peril. There has been some recent development — as recently as today, in fact — in that area of the ministry's business.

Then from about 5:30 till 6:30 this afternoon another member will be asking questions. Vancouver-Fairview will be asking questions about the technology side of the ministry. Then there will be, I hope, opportunity from 6:30 to 6:45 for us to sum up our business.

With that, I'll begin questions.

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**The Chair:** Yes, please do so.

**D. Routley:** Can the minister answer whether there have been any fee increases or new fees imposed within the ministry or by the ministry, for what, and how much revenue are those fees generating? How does this compare to old fees that the ministry has charged?

**Hon. A. Virk:** In response to the question, in the current period in question there have been no fee increases.

**D. Routley:** Have there been any funds transferred from other ministries? What programs would these funds be funding? Have any program areas been moved to another ministry? Of course, one large one, GCPE, has been moved, but have there been other movements?

[1450] 

**Hon. A. Virk:** There is a number of changes. First of all, the board resourcing development office transferred to the responsibility of the Ministry of Advanced



Education, as did, correctly noted by the member, the GCPE, properly referred to as government communications and public engagement — also transferred to the Ministry of Advanced Education.

In terms of other changes, there is less funding — which was transferred to the Ministry of Finance for corporate accounting services in the years 2014 and 2015.


**D. Routley:** How much was the fund transfer in terms of budget for the transfer of the government communications and public engagement unit?

**Hon. A. Virk:** The transfer for GCPE communications was the amount of \$37.255 million.

**D. Routley:** Are there federal funds transferred to the ministry, and if so, what programs do these fund?

**Hon. A. Virk:** There have been no funds transferred to this ministry in this period.

**D. Routley:** Has the ministry received Treasury Board approval for access to the contingencies in the new programs vote? Has the ministry accessed those funds for any programs? Did the ministry access the contingency funds in the previous year?

[1455-1500] 

**Hon. A. Virk:** Thanks for the question from the member opposite. The Treasury Board had approved in 2014-2015 a sum of up to \$5 million for an increase in connectivity across British Columbia. The final number in terms of the access to those contingencies will not be known until the 2014-2015 accounts are finalized. At present there is no request for access to contingencies in the current fiscal period 2015-16.

**D. Routley:** Are there any ongoing reviews in the ministry, and have any reviews been completed in the past six months?

**Hon. A. Virk:** In terms of ongoing reviews, as a matter of efficiency and transparency and accountability, there are reviews in terms of performance at supervisory levels that are ongoing all the time. Perhaps if the member can clarify the types of reviews or if there are specifics that he's looking for, then I could better provide him more of a succinct response.

**D. Routley:** I suppose.... Aside from the pro forma reviews or the normal reviews in the course of the business of the ministry, are there any reviews that would not be considered routine?

**Hon. A. Virk:** Other than the cyclical, ongoing reviews in terms of proper stewardship, there are no extra-special reviews ongoing at present.

[1505] 

**D. Routley:** In September of 2014 the Office of the Information and Privacy Commissioner released a report entitled *A Step Backwards: Report Card on Government's Access to Information Responses*. There are a number of very critical judgments of the ministry's performance and the government's performance in living up to the deadlines of FOI guidelines. Did this report from the Office of the Information and Privacy Commissioner not trigger or precipitate any review of the ministry's operations?

**Hon. A. Virk:** In terms of the area of freedom of information, the ministry is constantly examining performance of that particular area. The report from the commissioner is helpful as we continue our ongoing examination process, to continue to make the process that much more accessible.

**D. Routley:** I assume from the minister's answer that that means there was no review triggered by the particular concerns expressed in the commissioner's report.

[1510] 

**Hon. A. Virk:** As I said, there is an ongoing examination of the efficiencies of FOI, and the report was certainly helpful in accentuating the ongoing improvement process that continues on. We appreciate the work of the commissioner in compiling that report.

**D. Routley:** Are there any audits being done in the ministry that go beyond the standard and routine audits that would be performed?

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**Hon. A. Virk:** The Office of the Auditor General is currently conducting an audit of the workstation services agreement. The nature of the work in the ministry as it relates to IT and technology and communications is such that there is an ongoing review or internal cyclical audit mechanism that's always ongoing as well. But that doesn't answer the member's question in the sense that they're not extraordinary examinations. They're ongoing all the time.

**D. Routley:** How much was spent on contractors providing services to the ministry in the last fiscal year? Has this gone up or down since the previous year?

[1515] 

**Hon. A. Virk:** First of all, let me start from last year, as until the final accounting mechanisms are completed, we will only be able to provide last year's costs in the question that's asked. We'll certainly endeavour to get that to the member.

In terms of a comparison for this year, the 2015-16 year, it's too early to be able to do a comparison. We'll certainly be able to provide that after that fiscal year finishes, which will be sometime down the road.

**D. Routley:** Is the minister aware of how many contracts were tendered and how many of these were direct-awarded versus how many might have been put to bid?

**Hon. A. Virk:** There was a total of 305 contracts, of which 94 were direct awards and 211 were in the bid process.

**D. Routley:** Could the minister explain to me the circumstances of the failure of the relationship between the government and IBM as a service provider?

**Hon. A. Virk:** As the member understands, I would define and narrow my response to within the space of the Ministry of Technology, Innovation and Citizens' Services, which has contracts and ongoing contracts with IBM.

**D. Routley:** The minister was responsible for the design and implementation of the integrated case management system. At the time of conception, development design, the ministry was warned repeatedly by the Privacy Commissioner that privacy audits would be appropriate and probably would save the government considerable resources, considerable taxpayers' resources, should there be any problems detected at that stage.

[1520] 

The ministry resisted, I believe, seven calls for privacy audits. Now that the system is in operation, we see that there are considerable privacy complications and failures.

Can the ministry, now that we are experiencing the legacy of that system, estimate the costs that will be incurred due to the failure of the system on the privacy issues that we're seeing that might have been avoided had the ministry acted on the recommendations of the Privacy Commissioner earlier?

[1525] 

**Hon. A. Virk:** In terms of privacy impact assessments, they were indeed completed at each of the implementation phases and reviewed by the Office of the Information and Privacy Commissioner.


The member for Nanaimo–North Cowichan mentioned reference to the October 2013 audit, which was done prior to the completion of the project. What the audit did confirm is the necessity of the phased approach. As the Auditor General indicated, the majority of the issues raised were resolved by the completion of the project.

If the member has any further questions in terms of the specifics to that, he certainly can direct those to the Ministry of Social Development and Social Innovation.

**D. Routley:** Well, the ministry was advised during the conceptual and design phases of the system that privacy audits should be done. This was a recommendation directly from the Privacy Commissioner. This was a recommendation made to the committee reviewing the Freedom of Information and Protection of Privacy Act.

The ministry did not carry out privacy audits during the conceptual and design phases, which would have been the key phases to appropriately do privacy audits in order to avoid what was described by the commissioners at the time — two commissioners, in fact — as potentially the source of huge costs for the public in rectifying problems beyond the design and conceptual phases.

Can the minister explain to me why the ministry didn't heed that advice? It's quite clear that now the problems that were predicted have come to pass.

[1530-1535] 

[D. McRae in the chair.]

**Hon. A. Virk:** Just to add some clarity, the business owner for the ICM system is the Ministry of Social Development and Social Innovation. This ministry did indeed work with SDI in the consulting with the Office of Information and Privacy Commissioner throughout the four phases, and privacy impact assessments were completed with the knowledge of the Privacy Commissioner throughout the four phases of implementation.

**D. Routley:** The problem I have with the minister's answer is that he avoids the fact that privacy assessments were not done before implementation. It's all well and good that privacy assessments were done during the implementation phases, but privacy assessments were not done during the design and conceptual phases of the sys-

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tem. That has become a significant problem in terms of the loss of public resources because of failures.

What we're hearing from people within ministries who are expected to use the system is that it has failed them. This has been well documented. Private information within the Ministry of Social Development has in fact been compromised and has

been vulnerable. There's been a lack of adequate protections for people in terms of their privacy.

As a result, the system is only one-third implemented upon completion. The minister can talk about a phased implementation. A phased implementation can mean "were completed." One-third of the ministry is capable of using it, and the other two-thirds are on the never-never plan or whatever plan the minister may want to refer to. The fact is that one-third of the system is being used. Two-thirds of those systems that it was meant to replace are still operating.

As far as we can detect, in speaking to people that have shared information with us, the rest of the system is unlikely at any time soon to be put to use. Does this mean that completion of a \$200 million system really means completion of a system that would cost \$600 million if it were to be fully implemented? Or does it mean that \$60 million was put to good use and \$140 million was essentially wasted if the system is not able to satisfactorily replace those legacy systems that are still in use?

[1540] 

**Hon. A. Virk:** The member is certainly asking, in terms of privacy impact assessments, the time when they're completed. Each privacy impact assessment was completed and reviewed with the Privacy Commissioner prior to each phase being implemented. However the member wants to take that, they're completed prior to it commencing — prior to phase 1 commencing and so forth and so on.

In terms of the broad speculation that the member engaged in, in terms of what percentage is good and what's not, I could certainly take the questions to the SDSI Ministry for a response to that broad speculation.

**D. Routley:** Could the minister share with me any other data-sharing initiatives that the ministry is working on currently?

[1545] 

**Hon. A. Virk:** To improve the delivery of services throughout B.C., we have just completed an information-sharing agreement, a privacy impact assessment and an integrated a program agreement between Service B.C. and Social Development. These agreements have been reviewed by the Office of the Information and Privacy Commissioner.

**D. Routley:** Is the ministry currently involved in any data-sharing initiatives in partnership with health authorities?

**Hon. A. Virk:** There's no data sharing directly with any health authorities.

**D. Routley:** My question wasn't that there would be data sharing. Is the ministry working on any data-sharing initiatives inside government? I should clarify — in terms of designing and implementing any systems.

[1550] 

**Hon. A. Virk:** The ministry is working with the Ministry of Health in sharing identity information as it relates to the B.C. Services Card program.

**D. Routley:** I'd like to move on to the issue of asset sales. In the 2013-2014 government asset sales summary, it is indicated that over 50 properties were sold, and we have requested information detailing those sales. Particularly, we'd like to see information that has been redacted from some of the documents that we have received.

I would like to first ask the minister a general question. Does he believe that the appraised value, the sale value and the identity of the purchaser should be publicly released, should be publicly available after a sale is completed?

[1555] 

**Hon. A. Virk:** The first part of the member's comment was that he would like to see redacted information. Any information that is redacted is completed by professional public servants according to the FOI Act, and is certainly not I as a minister or a political decision in terms of what information.... It's the application of the act.

Once a sale is completed, the land sale information is available through the land sale and survey authority on our ministry website.

**D. Routley:** Well, the minister's answer completely disregards the fact that the Information and Privacy Commissioner ordered the release of the information that we've been bringing to light over the past few days, that being the appraisal values of properties and the identity of the people who sold those properties and the amount that they were sold for.

How can the minister say that that is information that can be rightfully redacted when the Information and Privacy Commissioner has only just recently forced the government to release that information to the opposition, through FOI requests, that had initially been redacted?

I'm asking: does the minister disagree with the Information and Privacy Commissioner that that information should be public? Is he putting on the record now that he will defy the rulings of the Information and Privacy Commissioner and not release that information on the properties that we have, in the past two days — on

Friday, in fact — sent to his office and repeatedly asked for information pertaining to?

[1600] 

**Hon. A. Virk:** The suggestions made by the member — I categorically suggest that they are wrong. The trusted and well-trained public servants that are responsible for the FOI Act release information based upon their best analysis of the act. Indeed, the Information and Privacy Commissioner certainly has the ability to issue instructions and clarity in terms of what additional information should be released.

**D. Routley:** In fact, the Information and Privacy Commissioner did indicate that that information should be available. Is the minister prepared now to release to me the appraisal values, the sale values and the identity of purchasers for the properties that I have requested in the past few days?

[1605] 

**Hon. A. Virk:** The information released through an FOI request is dependent on the timing of the request. The act is very specific in terms of competitiveness of industry, of government. If a transaction is in progress, some information may indeed be redacted by public servants in applying the act.

As the member suggested, if a deal is completed, that may change the timing if there are other deals that are tied to it. The public servants have to apply the act in different points of time and will release information based upon the act in those different points in time.

**D. Routley:** It's interesting that a member so well noted for his respect of the Freedom of Information Act of the province is in charge of this ministry. It's pretty clear in his response that he's not interested in making this aspect of government's business as transparent as it possibly can be.

It's clear that the government did not release the appraised values, or the purchaser, or the price of the properties that are now the subject of such serious contention and scandal. The principle that was applied by the Information and Privacy Commissioner in ordering the release of that information is intact and should be applied to any other government business of a similar nature.

Let's go to the property that has been the highest point of contention, the Burke Mountain property that was appraised to have a value of approximately \$6 million. The sale price declared by the government was \$100,000, sold to a person who had made approximately \$1 million in donations to the B.C. Liberals over the past decade, \$225,000 since the asset sales program was announced, and made donations the day before and the day after the sale — that property.

I have a question about that property specifically. What amount of property transfer tax was paid on that transaction?

[1610] 

**Hon. A. Virk:** The member has suggested a number of times some order that he has referred to from the Office of the Information and Privacy Commissioner. For clarification, I'm advised by my staff that the commissioner did not issue any such order. In fact, the government, represented by the Ministry of Forests, reconsidered after the timing change and the completion of the transaction, thus facilitating the release of further information.

[1615] 

Regarding the amount of property purchase tax, this is indeed paid by the purchaser. We'll find out that information and provide it to the member, as requested.

**D. Routley:** Well, it seems that should be basic information that should be available. I'm very disturbed that the ministry is not able to provide that number to me right now. I would like to ask the minister to tell me upon which value the property transfer tax was calculated. Was it calculated on the sale price, or was it calculated on the assessed value?

**Hon. A. Virk:** I'm sorry that the member is disturbed. I wouldn't expect him to be disturbed in this environment. But as I said, we'll determine the amount and how that's calculated. Then, when we have that amount, we'll certainly provide that to the member, as requested.

**D. Routley:** I would ask the minister to consult with the staff that are surrounding him and ask them what value the property transfer tax is calculated upon — the assessed value or the sale price.

**Hon. A. Virk:** As I said before, we will determine the total value — the question that the member asked — and once that information is in my hands, I will have that provided to the member's office.

**D. Routley:** My partner's family owns a real estate company. Her brother is the president of the Vancouver Island Real Estate Board. I've talked to a lot of realtors, and I'm sure I'm on firm ground in saying that the property transfer tax ought to be calculated on the assessed value of the property. So if it is not calculated upon that price and if it is calculated upon the sale price, then I would suggest the B.C. taxpayer has taken a double kick in all of these transactions.



It only raises more suspicion when the minister is unwilling to provide such basic information, particularly when we have provided the minister with questions related to so many specific properties.

I'll move on, and I will ask the minister if he can tell me what the appraised value, the assessed value, the sale

[ Page 7260 ]

price and the name of the purchaser was for the closed road at McCallum Road and Trans-Canada Highway.

[1620] 

**Hon. A. Virk:** I'm advised that those locations referred to by the member for Nanaimo–North Cowichan are in the conduct of the Ministry of Transportation. We'll certainly pass on the member's request to that ministry to respond accordingly.

**D. Routley:** I have the feeling that there might be additional commitments to pass on information as soon as possible. I'd like the minister to commit to passing on the information related to property tax calculations and the information that I'm going to be asking him over the next several questions, as soon as possible — and make some sort of commitment to me now as to how long that should take.

[1625] 

**Hon. A. Virk:** As the member alluded to, he certainly has questions on a number of different properties. I endeavour that, if he can provide us a list of properties he wants information on, we can provide that to the respective ministries that have ownership and will provide that request to those ministries forthwith upon receiving that full list of ministries' information that he's requesting.

I can't submit to him a timeline in which those other ministries may have to take to collect that information or the availability to him, but the requests would be submitted forthwith upon receiving the information from the member for Nanaimo–North Cowichan.

**D. Eby:** My question probably will have been anticipated, certainly, by the minister's staff. I've asked this for the past two years in a row. This is the third year I'm asking about the Jericho lands, which are located in Vancouver–Point Grey. There's a provincial parcel of property, a number of acres.

The neighbours and community members are incredibly concerned that the province will do what they did with Burke Mountain, which is, essentially, to give the property away to a friend of the government and not take into account the concerns of their community.

They have good reason to be concerned. July 25 I came here, and I asked if the government was planning to sell the land. I was told no. January 30, 2014, the government wrote to a journalist saying they weren't planning on selling the land.

[D. Ashton in the chair.]

May 6, 2014, I came here and asked. The government said they weren't planning on selling the land. I bring those messages back to my community, and sure enough, on December 4, 2014, they read in the news: "At this point we're in early conversations with First Nations about their interest in the property for the purposes of sale." They heard that from the former minister before this minister took over this ministry.

I'm wondering if I can get a straight answer from this minister. Where is the government at in the sale of the Jericho lands, and what interests of the communities will be taken into account before the land is sold? Or will they be hearing about the sale on Global rather than through proper communications and consultation with the community?

**Hon. A. Virk:** I can confirm to the member for Vancouver–Point Grey that in recent months we have begun to engage in more formal discussions. We won't prejudge the outcome of the discussions. We're certainly interested in what they have to say and what opportunity is presented. First Nations are certainly noted.... We're happy to explore the opportunity with First Nations, should an offer eventually materialize.


**D. Eby:** I thought my question to the minister was clear, but I'll say it again in a much shorter form. Will he consult with the community before disposing of this land? Will he come to the community, or will his representatives come to the community, and consult before selling this land so that they can hear the concerns and visions that the community has for the future of this land?

[1630] 

**Hon. A. Virk:** As the member may very well know, local government is indeed responsible for all land use decisions and will certainly employ all different ordinances and bylaws and processes they have. That's when the extensive community consultations would occur.

**D. Routley:** I suppose the simple word "brutal" as a description of an answer isn't entirely parliamentary, but it seems appropriate that an answer like that should be described by myself and my colleague here from Vancouver–Point Grey — that that is absolutely brutal.

This ministry is responsible for the sale of these properties, yet the minister who is responsible for transparency in government, for open government, is refusing to commit to community consultation on the disposal of important public properties, important to the constituents of my colleague from Vancouver–Point Grey, important in terms of the history of the province. That the government and this minister are not prepared to commit to full consultation with the community seems, in that simple word, brutal. It's unbelievable to me.

[1635] 

The answer the minister gave before the questions from the member for Vancouver–Point Grey around the appraisal value, the sale price and the identity of purchasers, that he would have the ministries that owned

[ Page 7261 ]

the properties confirm that information for me, is also a brutal avoidance of sharing information.

His ministry is responsible for the sale of those properties. His ministry and the staff that surround him and the minister have access to that information now. The public, the people of B.C., ought to have access to that information now.

I'll ask him about the Willingdon lands in Burnaby. What was the appraised value for this property, done by B.C. Assessment? Was a third-party assessment done or an appraisal? What date was the property sold? We know it was sold, and we know it was sold for \$57.9 million. We would like to know what the value was — the appraisal, the assessment and the date of the sale.

**The Chair:** Thank you, Member.

I'm the new kid on the block here. I just want to keep the demeanour and the questions all on an even keel. I understand that the last couple of days have been a bit tenuous for everybody. But we just want to keep an even keel on everything, and I'll just ask both sides, please, if at all possible.

**Hon. A. Virk:** Thank you, Mr. Chair, for your comments as well. I will certainly refrain from providing any comments on the member opposite's comments.

In terms of the questions he asked on the Willingdon lands, that's a property within the purview of my ministry. That land deal closed in March of 2014. The assessed value was \$35.197 million, the appraised value was \$61.290 million, and the sale price was \$57.908 million.

[1640] 

**D. Routley:** I'll share with the minister a comment that I received from George MacMinn, who was the Clerk of this House or Deputy Clerk for 53 years — the

longest-serving Clerk or Deputy Clerk in the Commonwealth. He said that there's anger and passion in the chambers of our government so that there isn't blood in the streets that would be caused by the frustration of the people over governments doing things like selling \$6 million worth of property for \$100,000.

That's why people who vote for their government and then see this sort of behaviour are caused to send their members, their representatives, to their government with their passion, which, in this case, is a passion generated by an anger over what appears to be a substantial loss of value to the public and that loss being to the benefit of a major donor of the political party, the B.C. Liberal Party, that the minister represents in government.

I would like to ask a question about the property at 5455 Manor Street in Burnaby. Its assessed value is \$888,000. Was there a third-party appraisal? What date was the sale? What was the sale price? And what was the name of the individual or group that purchased the property?

**Hon. A. Virk:** The aforementioned parcel is within the purview of the Ministry of Transportation. As before, with some of the other parcels, we will certainly pass on that request to the ministry.

Perhaps, for efficiency and to assist the member, if he has a long list of properties that he's looking for information on, as I suggested before, he can provide that, and then we can appropriately pass that information to the appropriate ministries that have that information to consider the request.

**D. Routley:** The property that I described was sold by the ministry that the minister is responsible for. Why can he not provide the information that I've asked?

[1645] 

**Hon. A. Virk:** The Minister of Finance has overall responsibility for surplus asset sales — just as a reminder to the member.

My staff does provide management assistance in the program. The ministries that own the properties are responsible for the transactions. The transactions that have completed, the information as to sales, is available on our website and on land titles. If there's additional information on a different ministry's property, we can certainly pass on that request to that ministry on behalf of the member.

**D. Routley:** Entirely unacceptable. The ministry is responsible for the sale of the properties. The ministry released the information on the properties that have been the contentious issue of the recent days.

[1650] 

I'd like to ask about a property in Comox — the old Brooklyn School, 1475 Noel Avenue. This property was assessed by B.C. Assessment at \$4.5 million. It was sold on the 9th of October, 2013, for \$2.4 million to Northgate Christian school. I would like to know: was there a third-party appraisal done on this property, and if so, what was the appraised value?

**Hon. A. Virk:** I'm advised that particular property.... There's certainly information that the member has, and we'll pass on that request. That property was owned by the Ministry of Education, and we'll pass on the request for additional information to that ministry.

**D. Routley:** The Ministry of Education didn't sell the property. The Ministry of Citizens' Services sold the property. I'm asking the Minister of Citizens' Services how much he sold the property for or how much it was appraised to be worth. His ministry sold the property. He has the information.

Please, Minister, give me the information. What was the appraised value of that property?

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**Hon. A. Virk:** If I may clarify again, as I said before, our ministry provides the administrative assistance to other ministries. As I said, this property was owned by the Ministry of Education, and as such, it was additional information, as the member is requesting. We'll certainly pass on his request — as I have said so on all other sales he requested — or other information to the ministry that owned the property.

**D. Routley:** I'd like to ask about the Tranquille lands in Kamloops at 1955 Tranquille Road. This was a 2012 land assessment of \$2.07 million. It was sold for \$1.825 million. What was the third-party-appraised value of that property?

[1655] 

**Hon. A. Virk:** I'm advised that that specific property was the ownership of the Interior Health Authority and we'll certainly provide them with the request from the member.

**D. Routley:** Who was the owner of the Willingdon lands in Burnaby?

**Hon. A. Virk:** The member may recall correspondence with my office, that we would respond to questions in terms of properties that were part of the Shared Services B.C. inventory. The Willingdon lands were part of the inventory. As such, I was able to provide that information to the member.

When the member has requests on properties that were the purview of other ministries.... In those cases, as I have said, the Minister of Finance has overall

responsibility of the release of assets for economic gain, and other ministries have conduct of those properties. We can pass those requests on accordingly.

**D. Routley:** I absolutely do not accept that as an answer from the minister. His ministry sells the properties. His ministry provided the information to the opposition on the properties on Burke Mountain in Coquitlam. I am asking him to provide the same information for other properties which he was responsible for the sale of.

I'm asking now about the former Grief Point Elementary in Powell River at 6960 Quesnel Street. Its assessed value by B.C. Assessment was \$2.96 million. Was there a third-party appraisal done on this property?

It sold on the 20th of September, 2013, for \$625,000 to the Powell River Christian School. I would like to know if there was a third-party appraisal done and what value was placed on that property by a third party. His ministry is responsible for that sale. He should provide that information as the minister responsible for open government and transparency as well as the sale and disposal of public property.

[1700] 

**Hon. A. Virk:** That particular property, the elementary school that the member refers to, understandably, is the purview of the appropriate school district in that area. We'll certainly pass that on to that organization through the Minister of Education.

As I said before, if there are properties that are part of the Shared Services B.C. inventory, that's one matter. Once again, if there's a long and exhaustive list of properties that the member wishes to have information on, if he wishes in the interests of expediency to provide that, then we can provide that and endeavour to put his request forward to those areas that have the ability to respond to those questions.

**D. Routley:** It's not only unacceptable that the minister responsible for the sale of the properties won't share the information but also unacceptable that our short time in estimates is eaten up by his extensive consultations — just to simply stand up and regurgitate the same boilerplate excuse for not sharing the information that he is duty-bound to provide to British Columbians.

I think it's absolutely disgraceful that we're not able to get better answers from this minister about properties — in this case, assessed at \$2.96 million and sold for \$625,000, so \$2.3 million less than the assessed value. All I'm asking the minister for is the appraisal value, third-party appraisal, to verify whether \$625,000 is a fair price for a property that B.C. Assessment valued at \$2.96 million.

You know, that would clear up a lot of suspicion that people have about the goings-on in the minister's bailiwick. People would not then perhaps be so suspicious of the minister's business when it pertains to the sale of properties if the minister would share that information. Perhaps the appraisal value would support a sale price

of \$625,000 for a property that was valued by B.C. Assessment at \$2.96 million. But the minister's answer, which seems ridiculous to me....

The minister appears to suggest that he doesn't have the information or at least that he's unwilling to share it. It only heightens people's suspicion around this issue and causes the minister more grief, I'm sure.

In the case of that elementary school in Powell River, I asked for the appraisal, and the minister consulted for four or five minutes and stood up and gave me the boilerplate answer. I'd like to ask the minister this. Does he have the information at his disposal? Is he refusing to share it, or does he not have it?

**Hon. A. Virk:** As I've stated a number of times before, if the member has a list of properties across British Columbia over a multi-year period that he wishes additional information on, we'd certainly endeavour to take that list and pass it to the appropriate location — and pass his requests on to the appropriate location — such that they can respond accordingly to the member.

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[1705] 

**D. Routley:** We're making progress because the minister didn't eat up four or five minutes of my time consulting before giving the same excuse.

That's facetious, and it's perhaps a little bit disrespectful, but it's out of an absolute frustration with the minister, who refuses to be transparent, who refuses to share information that clearly is at his disposal and that the people of B.C. have a very heightened interest in receiving.

So I would like to ask the minister: does the minister have the information? Does he know what the appraised value of that school in Powell River is? Is he refusing to share that information, or does he not have the information?

**Hon. A. Virk:** As I said, if the member has an exhaustive list and is looking for additional information, I will certainly, as I've said a number of times, take his requests for the various properties to the various locations in British Columbia under the release of assets or economic gain and provide that to the bodies that can seek that information and provide it back to the member.

I've advised the member a number of times that I will endeavour to do so, by being provided his list of the locations that he wishes. I'm certain that he has others that he will want to ask information on. As I said, if there are properties that are part of the inventory of Shared Services B.C., that information will be available with me, and I would be able to respond to the member.

**The Chair:** Member, just before....

I'm just going to ask this of all members. It's my understanding and.... I would like to encourage everybody to ensure that their questions are relevant to the

operational responsibilities of the ministry. What I've heard here as Chair is that the minister has said he has asked for a list, but he has also stated that he will provide these answers. I'm assuming it's as soon as possible, so that these answers will come forward.

All I can ask is: let's try and keep this moving in the right direction. I think we are going to carry on in the right direction if we accept what the minister is saying, that these answers will be provided in the essence of quickness.

Am I correct, Minister?

**Hon. A. Virk:** If I may clarify, I would forward the request that the member has made to the appropriate ministries.

**The Chair:** Okay. Thank you.

**D. Routley:** I respect the advice of the Chair. I also am very uncomfortable with the answer, because in fact we have provided this list to the minister. We have provided the list of properties and requested that the minister attend estimates with this information. He's had time to assemble this information, but he has not answered the question I've asked. I have not asked the specific value in the last two questions. I've asked him: does he know what the appraised value of the school in Powell River is? And he is refusing to share that information here. Or does he not have the information? That seems a pretty basic question.

**Hon. A. Virk:** As I have reiterated a number of times, the release of assets for economic gain is the sole privy and is accountable to the Minister of Finance. As such, those questions on those initiatives can be directed to that ministry's estimates.

As I said, if the member continues on this line of questioning, I can continue to assist him. He can provide that list, and we can put it to the appropriate ministry that can endeavour to take that request and then appropriately respond to it.

**D. Routley:** As the minister's answers are repetitive, despite the variety of questions, I'll continue to ask that question one more time. The information that I asked for is the appraisal value. Does the minister have the information and will not release it, or does he not have the information? Is the information not available to him? His ministry sold the property. Is he saying to me now that he will not divulge that information or that he doesn't have the information?

[1710] 

**Hon. A. Virk:** As there has been correspondence between my office and the member opposite, if there are questions surrounding properties within the inventory of Shared Services B.C., that information is readily available. As I've responded to the member, in terms of estimate appraisal, sale price, sale date and information that



surrounds other areas of responsibility, I'll certainly take that information. I don't have that available at my fingertips, and it's not in my purview.


If the member has information regarding property that is in the purview and responsibility of other areas of government, if he can provide that list, we can certainly pass it on to them so they can search out the information and respond to the member's request.

**D. Routley:** The minister sold the property. Does he have the appraisal?

**Hon. A. Virk:** The staff that accompanies me certainly came prepared with the information surrounding the inventory of a property that is part of Shared Services B.C. The inventory that our ministry provided aid and assistance to in the disposal of those properties of other ministries — that information is not readily available with my team and my staff at present.

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That's why I suggested the fullest of lists that the member has. We can certainly take that. Then that request can appropriately.... We can respond back to the member with the information that he has requested upon checking with the ministry and those that have that fullest information.

[1715] 

**K. Corrigan:** I had a question or two about the Willingdon lands, 3405 Willingdon Avenue. My understanding is the information has already been provided — maybe just confirmation on this — that the assessed values of those lands was \$61 million. Is that correct?

**A Voice:** Appraised.

**K. Corrigan:** Sorry, appraised value.

**Hon. A. Virk:** For the benefit of the member, I did respond, and this is information that I do have. It's within the inventory of Shared Services B.C. In fact, I'll give you a whole rundown.

The assessed value was \$35.197 million. The appraised value was \$61.29 million. The sale price was \$57.908 million.

**K. Corrigan:** Just to be clear. The \$61 million appraised value — was that for the land itself and none of the other components of that deal? In other words, that didn't include the liquor distribution centre, didn't include anything else — was simply the appraised value of that piece of property. Is that correct?

**Hon. A. Virk:** Yes.

**K. Corrigan:** Can I get a copy of that appraisal?

**Hon. A. Virk:** The staff certainly doesn't have that with them here today, but they'll certainly endeavour to review it for appropriate application of privacy concerns and get back to the member.

**K. Corrigan:** I'll take that as a yes unless there's some legal reason why it can't be provided to me. My understanding is that some appraisals have been made public through freedom of information or other manners. I'd love to see a copy of it.

I'm just wondering if I could quickly ask about the process. The city of Burnaby, my understanding is, had an appraisal done of the same piece of property for \$42 million, which is substantially less than this amount. Perhaps the minister, just as my final question, could give me an assessment of what the minister believes was the obligation to the city of Burnaby in terms of whether or not they informed the city of Burnaby that they were considering a different sale and what they did in terms of informing the city of Burnaby about the progress of those negotiations. Because as you well know, the city of Burnaby was interested in buying that property.

[1720] 

**Hon. A. Virk:** Let me provide some fulsome information for the member from Burnaby. The government did, indeed, consult with the city of Burnaby in regards to the Willingdon lands beginning in June of 2012. The city was granted an exclusive period, some 75 days, to complete their due diligence and submit an appropriate offer. The city had ample opportunity to do due diligence, and at the end of the period did not come forth with an offer.

The province had a legal duty to consult with First Nations. During this consultation an agreement was reached to purchase at, incidentally, considerably higher than the appraised value.

**D. Routley:** Now, in the interests of what little time remains, I would like the minister to give some sort of a commitment as to what time frame we're looking at for our list of properties, which was forwarded to his ministry on Friday of last week. How long should we expect it to take for us to receive the information we've requested?

**Hon. A. Virk:** We certainly endeavour to ensure that information is provided as soon as possible.

**D. Routley:** The other very basic question I had was around the calculation of property transfer tax — whether it is calculated on the assessed value, as it is for every other British Columbian on every other land transaction, or the sale price. If the minister could provide that information, I would be most relieved.

**Hon. A. Virk:** That information for the member is certainly available on the Land Title and Survey Authority website and, additionally, on the Ministry of Finance's website. Just to summarize, the property purchased asset is based on fair market value as determined by sale.

[M. Bernier in the chair.]

**D. Routley:** On to FOI processing time. If I could ask a couple of questions with the remaining time.

Has the average processing length of time increased or decreased since the time of the commissioner's latest report, *A Step Backwards*?

**Hon. A. Virk:** The average processing time for 2014-2015 is 43 days. Just for comparative purposes, 2013-14 was 44 days.

**D. Routley:** Yes, and to put that in context, in 2013-2014, the 44 business days — that was up from a 30-day

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average the year before, 2012-2013. What is the minister doing in order to address this increase in length of processing time?

One day has been taken off the average, but when we're rounding figures, that could be as little as half a day. What is the minister doing to improve response times to meet his legal obligations under the Freedom of Information and Protection of Privacy Act, which is 30 business days? That was the average only two years ago.

[The bells were rung.]

**The Chair:** As the division bells are ringing, we're going to recess till the end of division. Thank you.

The committee recessed from 5:34 p.m. to 5:47 p.m.

[M. Bernier in the chair.]

**Hon. A. Virk:** The member from Burnaby suggests I should just say yes, but I think there's a different response.

The process will continue to improve. We've completed a major lean process, introduced a new system and will continue to improve the processes. These improvements have allowed government to manage year-over-year volume increases.

**D. Routley:** Why is the ministry not proactively publishing the calendars of senior staff as recommended by the Information and Privacy Commissioner?

**Hon. A. Virk:** There is one requester. Upon an analysis of security and threat assessment, those calendars will not be published.

**K. Corrigan:** I asked a question earlier about the process with regard to the sale of the Willingdon lands. I was told by the minister that with regard to negotiations with Burnaby, there was an exclusive period of 75 days during which the city of Burnaby had the ability to come forward to make an offer — an exclusive period to make that offer — but they didn't make that offer and so there was no deal.

Could the minister confirm that the ministry asked for that exclusivity period to be extended? Could the minister confirm that after that extension was granted by the city of Burnaby, it was during that extended period that there was an understanding on both sides that that period would continue during the consultation period?

[1750] 

Then, after that, the ministry then came back — I believe the words of the then minister were “you snooze, you lose” — and said that they had a deal with the First Nations and with the Aquilini Group. Is that correct?

**Hon. A. Virk:** Mr. Chair, if I just may.... For your information, we are here, certainly, to provide estimates on the 2015-2016 vote. If this line of questions continues on issues from 2013 or 2014 or other periods, it's not within the purview of these estimates to continue on that line.

**K. Corrigan:** I believe that we have been through that kind of discussion in this chamber and in the main House many a time. We've sought rulings on that, and we have been told repeatedly that to get an understanding of the future, it's good to understand the past. Thank you. I see that our Chair is nodding, and so the question stands.

**Hon. A. Virk:** I guess your nodding means yes.

**The Chair:** My nodding means yes. The question is in line with the estimates.

**Hon. A. Virk:** Thank you, Mr. Chair. Since it is a period, we're talking, some time ago, and there are some specific questions in terms of discussions and negotiations that occurred, we'll provide that information to the member after having researched it appropriately to ensure that it's accurate.

**K. Corrigan:** I'd be interested in timelines and so on — as much specific information as possible.

My final question, I hope. The appraised value was \$61 million, I believe. I think we've had that discussion already. The sale price was somewhere around \$57-point-something million, almost \$58 million. I'm wondering if the minister could confirm: is that the amount that was actually paid for the property?

**Hon. A. Virk:** Yes.

**V. Huntington:** I appreciate the critic of the Technology portfolio allowing me a quick question. To the minister and his staff: it's a question directed about Internet connectivity on Westham Island in south Delta. I'd like specifically to ask a question about the possibility of improving Internet connectivity on Westham Island.

You've been doing good work with Telus across the province and with the funding from the connecting British Columbia agreement on improving Internet connectivity in rural and northern areas. What I would like the ministry to understand is that the Internet connectivity on Westham Island, which is ten minutes as the crow flies from downtown Vancouver, is non-existent. It isn't supplied by Delta Cable, nor does Telus supply Internet connectivity.

[1755] 

Even though it's largely a rural area, with float homes along its coastline, it does have the Canadian Wildlife Service on Westham Island, and it is part of the Lower Mainland.

I understand that Telus intends to invest \$1.16 billion in 2015 and 2016 to expand urban and rural Internet

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connectivity and capacity. In light of the work that both the ministry and Telus have been doing, I would ask if the ministry staff could evaluate Internet connectivity on Westham Island and work with Telus and Delta Cable, as appropriate, to see if there are options to improve access. It is a semi-urban area and is not on Mars. I would like the minister to take a look at the potential for connectivity, finally.

**Hon. A. Virk:** Thank you for the request. Whether it's the Lower Mainland or remotest rural British Columbia, we have the same commitment to ensure that we bring connectivity all across British Columbia, unless of course, you're hiding from technology somewhere and don't want to be connected.

I can certainly arrange for my staff to meet with the member to provide a technical briefing on that location and to pursue and discuss what options are available.

**G. Heyman:** Thank you to the minister for answers to questions so far. I am going to ask a number of questions related to technology and government support for technology generally, as well as the Innovation Council and the Premier's Technology Council.

I have, in previous sets of estimates, referred to studies by the B.C. Technology Industry Association — their report card, which is done periodically by KPMG. I am going to ask some questions of the minister with respect to activities of his ministry or the government generally, or advocacy that he may be undertaking as the minister responsible, to respond to some very interesting points and requests made by the industry association.

As the minister is, I'm sure, aware, one of the significant points made by the BCTIA in their four-point plan.... It flows from some key points that were made in the *Technology Report Card* — one of them being that it's necessary to revitalize access to early-stage venture capital in British Columbia.

While the start-up capital is pretty good, one of the reasons that KPMG gave the industry a C-plus — which is a slight rise from the C of the year previous but still not all that good in comparison to other provinces in Canada — was the need to invest in early-stage venture capital in order to take companies past the start-up stage. I'll deal with the issue of talent availability that was also raised in the report card subsequently.

As a result of this report card, the industry presented a four-point plan. Part of the points they made was that there was an opportunity between 2014 and 2020 to double the percentage of the technology sector's share of B.C.'s GDP from 8 percent to 16 percent.

They had a very interesting graph that showed if investment continued at the rate it was currently growing, we would reach some growth in jobs, not insignificant. But with the trend, which looked like it was starting, for investment to taper off, in fact, we would not get that growth.

If we invested in a pretty reasonable manner in supporting early-stage companies, there was the potential to not only double GDP share but to grow by an additional 31,000 jobs in a six-year period. That is not insignificant, particularly considering that these jobs pay 66 percent, on average, higher than the B.C. industrial average.

My question is to the minister. The industry association recommended that B.C. set aside \$50 million and ask the federal government to add another \$50 million to establish a regional fund of funds to invest, 50 percent of which would have to be invested in British Columbia.

[1800] 

They expected that the private sector's contribution would effectively triple that available fund, and that could make a huge difference.

In addition, the industry association recommended that the amount available in the small business venture capital fund shoot up to \$50 million. It has gone up, but only by about \$3 million in this year's budget, which is not that large an amount, even though it will result in an additional \$10 million overall in investment.

There were some other recommendations, including that the limit for a company be raised from \$5 million to \$10 million and that the \$200,000 cap be eliminated, as well as the carry forward period be extended from five years to ten years.

My question to the minister.... I realize I've lumped a lot of things in here, but I know you're going to consult, so we may as well get it all on the table at once.

Those measures are not addressed in this year's budget. Can the minister say if it is the government's intention to look seriously at these recommendations, especially given the significant number of jobs that have been projected as a distinct possibility to be created as a result of increased venture capital investment? Is there contemplation of some action being taken to fully meet or partially meet these objectives? Does the minister think that these are good ideas? In general, can the minister comment on these recommendations by the industry association?

**Hon. A. Virk:** I want to thank the member, actually, for his passion. He joins government in his passion and support for the tech industry and the recognition from the members opposite that we have such a vibrant, important industry in our midst. It is by the virtue of a strong environment that promotes business, an environment with some of the lowest business taxes in the universe — some of the lowest corporate taxes, the lowest personal taxes — that result in many of these tech companies choosing to, first of all, stay here, to remain here, to grow here.

I have travelled around the province and spoken to members of BCTIA, Bill Tam and others, consistently. I think the report is valuable. We take those considerations to heart. We are going to continue that dialogue with members of BCTIA and members of other associa-

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tions. In fact, I was with Acetech just a week ago to have the same discussions — discussions with different verticals within the tech industry, from the life sciences right to the gamers.

This government indeed, as the member suggested.... The small business venture capital tax credit has gone up from \$30 million to \$33 million. Within a responsible government, within a balanced budget, we're going to continue to work with this industry to realize that growth, that growth from 84,000 jobs and how we can make that sector even more vibrant.

**G. Heyman:** I would thank the minister for his comments. He's correct. I certainly share enthusiasm, as do my colleagues, for the tech sector. We know that despite the significant importance that resources play and will always play in the

economy of British Columbia, the tech sector actually employs more people than all of the aspects of the resource sector combined.

[1805] 

It has a great future. One of the reasons it has a great future is because much of what it does is not only noncontroversial in terms of environmental impact. Much of it is actually devoted to contributing to worthwhile endeavours like clean technology that actually help us address greenhouse gas emissions.

There's a tremendous opportunity in technology to add value to our resources so that within the resource sector we get more jobs, we get more value, and we get more return for our activities in that sector. It seems to me to be a win-win, and it also seems to me to be a good place for government to be placing a focus and devoting some significant financial resources.

When I looked at this year's budget, I saw significant amounts of money devoted to oil and gas road maintenance — significantly more new money, that is, than one can say is being devoted to anything that could be generally described as technology or the green economy.

I also am not sure about the minister's numbers. My understanding, although it's a little hard to ascertain in the budget, is that the small business venture capital tax credit quantum is going up to about \$28 million, not \$33 million, but I will have to look at those numbers again.

Anyway, notwithstanding the minister's answer, it's good to hear that he's in dialogue with the industry associations, as we all should be, whether we're in government or opposition. But the fact remains that B.C. is second to last in the level of total venture capital among the 20 North American jurisdictions that were examined by KPMG.

That doesn't seem, to me at least, to be good enough. It seems to me to be something that the government would want to address in a practical manner, because notwithstanding the vibrancy of the tech sector in British Columbia, we're not that large a jurisdiction. We don't have a lot of large anchor companies, but we could have, and we could certainly help grow people through the early stage.

Can the minister say whether additional moneys being made available for venture capital leverage or a fund or additional money being added to the small business venture capital tax credit fund or some changes to the caps or the carry-forward periods or the amount of individual investments are being contemplated or if it would be something that the minister and his staff are examining in order to be able to report whether the claims of the industry associations stand up and that this is something that should be seriously addressed?

**Hon. A. Virk:** I thank the member for his question. The Ministry of International Trade has conduct of the venture capital file and is working very hard and diligently



on bringing forth recommendations. I very much look forward to what those recommendations look like.

The member will be very happy to know that we are renewing a tech strategy. It's currently being looked at and put together, and part of that is consultations across industry. It's not just the industry representative group. It's actually going to the small entrepreneur, the small business man and business woman. It doesn't mean only in the metropolitan areas. It's in rural locations. It's in the north. It's in the Kelowna area. It's in Kamloops.

[1810] 

We want to have that examined, that personal discussion with as many individuals as possible. There are commonalities that we're hearing from different verticals in this space, and we're going to incorporate all that we hear. We're working on that in terms of a tech strategy. The member will certainly hear about it in short order, a renewed tech strategy.

This government is absolutely committed to the tech sector, to grow that from 84,000 jobs to a number that's even higher. I do have to comment that the tech and resource sectors do go hand in hand. It's a complementary industry in that they complement each other very well.

**G. Heyman:** In the interests of time, I'm going to ask two questions at once. One of them is: notwithstanding the responsibility of the Ministry of Small Business, can the minister confirm that he considers it a part of his role to advocate with that ministry with respect to tax credits?

The second question should be hopefully fairly easy to answer. I would love to have a briefing from the minister's staff at some point on the progress of the tech strategy and at some point, obviously when it's complete and it's appropriate, a briefing on what it looks like.

**Hon. A. Virk:** In relation to the two questions that the member proposed, certainly, part of our tech strategy is going to look at the variety of instruments, including the small business venture capital tax credit, venture capital. I anticipate talking about talent and a host of other

[ Page 7268 ]

things as well. Certainly, at the appropriate time I'd be more than happy to have staff or myself sit down with the member opposite to discuss tech strategy, when it's the appropriate timing.

**G. Heyman:** Thanks to the minister for that offer, and let the record show that it's a standing request. When the minister or the minister's staff think the time is right, please contact my office.

My next question.... This is interesting, because the former minister is now the Minister of Advanced Education, and this minister is the former Minister of Advanced Education. One of the things the report card indicated is that there's a shortage of specific talents such as engineering, science and marketing — a shortage of graduates in B.C., as well as a need for people with those skills. My question to the minister is: is he advocating with the Minister of Advanced Education to take steps to create spaces for graduates in the specific fields that have been identified by the tech report card?

**Hon. A. Virk:** I had this real long answer all figured out, but the answer is yes.

**G. Heyman:** That's probably the right answer.

Employment in the sector was the third-highest growth among all industries in B.C. between 1999 and 2012. However, employment's been flat since 2009, by some reports. It's interesting to note that there's local demand for a number of types of technology goods that can't be met by local supply or aren't met by local supply. B.C. is importing about \$5 billion worth of technology goods, while we're only generating \$1 billion in exports.

[1815] 

My question to the minister is: what steps is the minister taking, or does the minister think could be taken, to create and encourage the production of those goods that are needed in B.C. so that they can be supplied from B.C. companies rather than by imports?

A corollary question is.... Other jurisdictions often use government procurement to help spur certain manufacturing, particularly in technology. It's well known that in the United States the Silicon Valley expansion was supported by a significant government investment. Government can also play a role by establishing a connectivity office that helps connect businesses in B.C., for example, with tech producers in B.C. to ensure that, where there's production and where there's a demand, the people who need to know how to connect those two actually are able to do that, and that's expedited.

That doesn't appear to be the case in British Columbia. There is no such office, and people in the sector have often told me that that would be a good thing. It would help the sector. It would help grow companies within the sector, as well as employment within the sector.

Could the minister comment?

**Hon. A. Virk:** All the points that the member raises are indeed important points, and these are the points that are being examined as we plan and prepare and get work done in preparing our new tech strategy.

**G. Heyman:** I'm going to move on to the Innovation Council now. The mandate of the Innovation Council is to "advance commercialization in B.C. through focused support to start-up companies and facilitation of partnerships between industry and academia" and "work cooperatively with the B.C. Regional Science and Technology Network offices and the university-industry liaison offices operating in the province," and also to support job creation and the development of highly skilled talent, making it easier for entrepreneurs and start-up companies to succeed in B.C.

The Innovation Council's budget states that its funding is planned to remain fixed at the same amount that it has been from 2013 right through to 2018. However, there's a great need for more funding for these technology initiatives.

Why is the ministry choosing not to keep pace with the sector's needs or even inflation, leaving BCIC's budget stagnant?

[1820] 

**Hon. A. Virk:** I would be remiss not to commend the work of the British Columbia Innovation Council and what they do in terms of tech accelerators, the support, the executives in residence and the new, young entrepreneurs that are promoted there. It's not only what government spends. It's what BCIC is able to leverage in private industry in its accelerators. It's able to leverage at the federal government. It's able to exponentially increase the value of its work in partnerships with associations across the country. They continue to do absolutely excellent work.

**G. Heyman:** As the minister knows, a review of BCIC was done in 2011 by an external firm. Cabinet received a request for the decision regarding the B.C. Innovation Council on November 2, 2011. The opposition has requested the report in past estimates. We finally, via FOI, received a version that was heavily redacted under section 12. In fact, I think over 75 percent of the report was redacted. The only part that really wasn't redacted was the title page, the table of contents, a couple of pages of positive recommendations and a list of all of the people who were part of the council and who'd been contacted by the council.

Given the fact that other reports on Crown agencies, other reviews, have been released — for instance, the Lottery Corporation this past December — why does the government and the ministry continue to refuse to share the full report?

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**Hon. A. Virk:** The report that the member mentioned and the sections he mentioned are indeed correct. All has been released that can be released, and the application of the appropriate legislation has been applied.

**G. Heyman:** For the record, if the ministry thinks that it can release positive recommendations but not recommendations that we may assume were not so positive.... I'm not sure why section 12 applies to one of them but not all of them.

Notwithstanding that, and notwithstanding the very many blank pages with "Key finding" as a title, we have a letter from the then minister to the chair of the board of directors of the B.C. Innovation Council on October 2, 2012, that was a letter of direction.

One can infer from the letter that the minister found some, what are called, areas of improvement that could be made at the corporation's executive levels — or perhaps what would reflect negative findings from the review. They have to do with weakness and inability at the leadership level and involve board executives and CEOs. The letter, for instance, instructs the board chair to align BCIC's board governance model with board resourcing and development office policies and best practices.

What are the grounds for that recommendation, and what was the board governance model prior to the review?

[1825] 

**Hon. A. Virk:** I'm advised that in 2012 that letter was indeed received as sent by the minister at the time and all the stipulated requisites and areas that needed to be done were acted upon as requested.

**The Chair:** Just a reminder to the member what the vote number is right now, just to inform you, if you can somehow make sure that your questions are actually tied to the vote on the floor and to this year's estimates.

**G. Heyman:** So for clarity, for my previous question and the ones coming up, I would say we have an amount of money devoted to the Innovation Council. I think it's in the public interest that the money is well spent and well accounted for.

What I'm trying to ascertain is what changes were made to ensure that the money is well spent and well accounted for, in comparison to how it might have been spent or accounted for previously. In order to ascertain that, it's important to know what the deficiencies were previously.

Having said that, my question to the minister, which I don't have an answer for, is: what were the grounds for the recommendation, and specifically, what improvements were made?

[P. Pimm in the chair]

**Hon. A. Virk:** The question relates to a letter written by a previous minister probably several ministers ago in 2012. I'm trying to connect that with the current vote that we have in front of us right now.

If you so choose to decide, we can respond appropriately in writing to the member after examining the letter. I don't have that 2012 letter readily available to examine, to respond in the most fulsome sense that I would like to, to the member.

**G. Heyman:** I actually do have a copy of the letter, although it's highlighted at my own discretion, so perhaps I will keep it.

[1830] 

If the minister will commit to provide answers in writing, I will state again that the purpose of the question that has to do with the recommendations made by the previous minister in 2012 is to ascertain exactly what deficiencies were corrected and whether, in fact, they have been corrected. With that, I will read a series of questions into the record, if that's all right.

The letter expands on the recommendation with additional directives instructing the BCIC board to align with government expectations, including: "Set up a board structure compatible with other Crown corporations, with an accompanying contract for fulfilling the duties of a board director, formalize conflict-of-interest rules and define board director expectations and accountabilities, including attendance and time commitment expected."

My question with respect to this is: what is the basis for that recommendation? Have the deficiencies that caused the recommendation to be made been implemented, in whole or in part, and what do they look like in order to assure taxpayers that the budget money allocated to this council is now being appropriately used?

Next question. What is the basis for the recommendation that the board "develop a performance contract for the CEO that includes development and execution of an operating plan that is directly a result of the strategic plan to build the right organizational structure, roles, competencies and capacity for a highly credible organization," and again, how has this recommendation been acted on?

Next question. How is the changeover of CEOs related to the recommendation that the board develop a performance contract for the CEO, and is the minister satisfied that this changeover has contributed to addressing the recommendation?

My next question. The letter directs BCIC to "recruit and select BCIC executives and staff using a competency profile and a strong, transparent recruiting process, including references." This recommendation seems to suggest that standard hiring practices were lacking prior to the review. So my question is: why was the recommendation made, and are hiring practices now appropriate?

My next question. The letter also recommends that BCIC "develop a new set of outcome-based performance

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measures as part of a rigorous approach to planning and evaluation and extend these metrics to partner selection and reporting." What was the level of planning and

evaluation in place prior to this letter, and have the recommendations been implemented in a manner that the minister considers appropriate to ensure that the budget moneys are being spent wisely?

My final question with respect to BCIC is that.... The letter directs BCIC to divest itself from all non-core responsibilities, including, interestingly, science fairs and secondary school programs that presumably were meant to ensure that young people were encouraged to enrol in. Specifically, those disciplines that we discussed earlier appear to not be graduating enough students in British Columbia to meet demand of the industry. Why was the Crown corporation assigned the role to promote the knowledge economy told to walk away from projects that foster the next generation of innovators?

I will be happy to receive a response to those questions. I will now move on to the Premier's Technology Council.

My questions are.... The Premier's technology government website stated that the council publishes reports up to twice a year making recommendations that aim to help B.C. attract high-tech industry investment and growth. However, there have been no reports by the Premier's Technology Council since June 2010. Why have there been no reports published in the last five years?

**Hon. A. Virk:** It's the Premier's Tech Council. I think that question is most appropriately put to the Premier, as it is the Premier's Tech Council.

[1835] 

**G. Heyman:** My understanding is that the tech council, notwithstanding the fact that it's called the Premier's Technology Council, is the responsibility of this minister and resides within this ministry. If that's the case, I think the minister should be able to answer the question.

**Hon. A. Virk:** The direction for the council is provided by the Premier.

**G. Heyman:** But I am correct that the ministry overall has responsibility for the council and that it resides within the ministry's budget?

**Hon. A. Virk:** The budget does, indeed, reside in the ministry. In terms of the performance of the council, that does, as I mentioned before, reside with the sole purview of the Premier.

**G. Heyman:** I imagine that I could go to the Premier's estimates and ask the Premier why the technology council has not met its mandate to publish reports up to twice a year over the last five years. I can also imagine that the answer I might get would be: "Too bad. You should have asked that question of the Ministry of

Technology, Innovation and Citizens' Services because that's who oversees the council."

Is the minister telling me and members of the opposition that, in fact, it's the Premier's responsibility to ensure that the council meets its mandate to publish reports?

**Hon. A. Virk:** The ministry does not have the authority for whether or not the Premier's Technology Council does publish the reports, as they may or may not be required to do.

**G. Heyman:** Perhaps the minister can tell me how often the council meets and how the members of the council are chosen.

**Hon. A. Virk:** The members are appointed. The member is certainly free to take that up at estimates at his choosing in a different venue.

[1840] 

**D. Routley:** I would like to ask the minister about one more property — we were asking about property asset sales earlier — and that is the south block of the Legislature and the portion of the Q lot located on Superior Street in Victoria, right across the street from the Legislature. I would like to know the sale price, the purchaser and the appraisal for that property, please.

**Hon. A. Virk:** The question relates to south block and a portion of Q lot. A portion of Q lot is still retained by government — a small portion of Q lot and a small block. The sale price was \$34 million, the appraised value was \$27.7 million, and the assessed value was \$33.506 million.

**G. Heyman:** I note the hour. I have two more questions on the Premier's Technology Council. I have one that I forgot to ask on the innovation council. I will read the questions. If the minister has time to answer them, that's great. If not, I'd appreciate the answers in writing.

With respect to the technology council, when does the Premier's Technology Council plan to release its current initiative review and make recommendations on the provincial government's research and innovation investments over the last decade?

What is the annual budget of the council this year as well as the budget from the last two years for the Premier's Technology Council? The council does not actually generate annual reports with annual budget information, and we could not locate it through other public avenues. If it's possible for the minister to say where this information can be publicly accessed, that would be extremely useful.

With respect to the innovation council, I note that in this year's budget.... We've talked earlier about the good

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work of the innovation council. I agree. There are many good things to say about the accelerator programs, the mentorship. I know the council is focused, but when I look at the council's budget, its budget is fairly flat, at just under \$7½ million a year. It's actually forecast to drop to \$7.344 million in 2017-18. In terms of programs and initiatives, it's gone down this year from last year by approximately \$200,000 and goes up slightly but not to the same level in the next two years. There's a lot of good that could be done with these expenditures.

Just for comparison, I note that the not-as-large province of Saskatchewan with not as large a tech sector has budgeted in 2015-16 over \$30 million. Manitoba has budgeted \$17 million, and the tiny province of Prince Edward Island has budgeted over \$21½ million in 2013-14. That's the most recent budget for which I have figures.

My question to the minister would be: why does this government not invest a larger portion of the budget, which comes closer to that of other provinces without as robust a tech sector, in our innovation council in order to help spur the growth of GDP in this sector as well as jobs? Are there any plans to do so, notwithstanding the fact that if I look at the three-year budget plan, they don't appear to exist?

[1845] 

**Hon. A. Virk:** The budget for BCIC is stable at \$6.09 million. There are moneys in reserve that come into play that fluctuate the total revenue from time to time. In comparison to that — and hardly to compare it — Saskatchewan has an entirely different business model, so it's not comparing apples to apples.

In terms of the Premier's Tech Council, there's a budget of \$425,000 annually allotted for that organization.

Mr. Chair, if I may, noting the hour, I move that the committee rise, report progress and ask leave to sit again.

Motion approved.

The committee rose at 6:47 p.m.





Protecting privacy. Promoting transparency.

# INVESTIGATION REPORT F16-01

## Ministry of Education

**Elizabeth Denham**  
**Information and Privacy Commissioner for B.C.**

**January 28, 2016**

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## COMMISSIONER'S MESSAGE

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This report details the circumstances surrounding the loss of a portable hard drive by the Ministry of Education containing the personal information of 3.4 million BC and Yukon students and teachers.

As Commissioner, I have long argued that the responsibility of public servants to safeguard personal information assets is directly comparable to their responsibility to safeguard financial assets.

Fortunately, the Government of British Columbia has a very long tradition of strong financial management, which includes specialized training and record keeping as well as a robust audit function, so the probability of a loss, for example, of \$3.4 million is highly unlikely.

Information assets, particularly personal information of citizens, deserve the same respect, rigour and control. While government has rules and policies in place to protect personal information, there is not the same tradition of adhering to these rules and policies and safeguarding personal information.

Regrettably, this report documents evidence that a number of policies were not followed. Unsuccessful staff training and the failure to monitor compliance, such as through a privacy audit program, directly contributed to this significant breach.

If this was actually a situation involving a cash loss of \$3.4 million, I believe the government would take rapid, dramatic and decisive action to deal with the situation, including increasing the training of staff and possibly improvements in many aspects of financial management such as record keeping and auditing.

I believe that only when Ministries view personal information assets with the same attitude and care that they view financial assets entrusted to them will British Columbians' trust be earned.

I hope that this report assists with the fundamental attitude change I believe is required. Personal information has great value – its loss has a real and lasting negative impact on British Columbians.

Elizabeth Denham  
Information and Privacy Commissioner for British Columbia

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## EXECUTIVE SUMMARY

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On September 18, 2015, government notified the Office of the Information and Privacy Commissioner (“OIPC”) that the Ministry of Education (“Ministry”) was unable to locate a hard drive containing the personal information of 3.4 million BC and Yukon students and BC teachers.

For most of the students, the information consisted of name, gender, date of birth and Personal Educational Number (“PEN”). For a subset of students, it also included address, type of schooling and grade information. The data also disclosed whether students were part of any of the following groups: cancer survivors; children in care; special needs students; children who withdrew from school and post-secondary students receiving financial assistance.

In 2011, the Ministry had transferred the information from the corporate servers to two portable hard drives: one to be used by Ministry staff and the other to be stored offsite as a backup. There was a record that one of the drives was stored at a warehouse leased by the Ministry for the storage of exams and curriculum materials, but no one could verify whether it had ever arrived at the warehouse.

On September 21, 2015, this office initiated an investigation under s. 42(1)(a) of the *Freedom of Information and Protection of Privacy Act* (“FIPPA”) to determine whether the Ministry had met its obligations under s. 30 of FIPPA to protect personal information in its custody. The investigation examined whether it had adequate security in place to protect the personal information and whether it met s. 30 requirements in responding to the breach.

The investigation found that the Ministry failed to provide adequate security to prevent unauthorized access, use or disclosure. While there were sound privacy and security policies and directives in place of which Ministry employees were aware, several employees contravened a series of them. The transfer of the data from the Ministry server to the mobile hard drives contravened corporate policy and a recent directive stemming from another high profile privacy breach. The Ministry compounded this contravention by failing to encrypt the information, as corporate information security policies required. This contravention made the information accessible to anyone in possession of the hard drive.

The Ministry also failed to record the existence of these hard drives in an inventory of information assets, as required under corporate policy, or in a directory of Personal Information Banks as required under s. 69 of FIPPA. This contravention made it difficult for the Ministry to keep track of the hard drive. Finally, it failed to store the backup hard drive in a government approved records facility, as required by corporate records management policy. These facilities have the infrastructure to keep records secure and to be able to locate them easily.

On the issue of its response to the breach, the Ministry met its obligations under s. 30 of FIPPA. The Ministry conducted a series of comprehensive searches for the backup hard drive. Its analysis of the risks to affected individuals was appropriate. In the circumstances, it was reasonable to employ indirect notification of all individuals through a public media release and direct notification targeted at more vulnerable groups, where the Ministry had reliable contact information. Finally, the preventative measures it adopted by returning the data from the **office-use** hard drive to the server; developing an inventory of all mobile storage devices; and implementing a privacy management policy were reasonable and appropriate.

The failure of the employees involved in the creation of the hard drives to follow clear privacy and information security policies indicated that the training the employees received was not effective. It illustrated the need for better training, executive leadership and compliance monitoring.

The report includes a series of recommendations to strengthen the security and privacy of personal information.

## 1.0 INTRODUCTION AND PURPOSE OF REPORT

### 1.1 INTRODUCTION

On September 18, 2015, government officials notified my office that the Ministry of Education (“Ministry”) was unable to locate a portable hard drive containing a large volume of personal information.<sup>1</sup> The Ministry believed that the unencrypted hard drive had gone missing from a locked cage, located in a warehouse leased by the Ministry, where the hard drive was supposedly last seen around May of 2011.

The purpose of storing information on this hard drive was to provide a backup for the purpose of disaster recovery of data and research reports that were being stored on another portable hard drive actively used in Ministry offices.

The Ministry was able to locate the office-use hard drive, from which it determined that the backup hard drive contained the personal information of approximately 3.4 million British Columbia students and teachers and Yukon students collected between 1986 and 2009.

The Ministry is not able to determine when the backup hard drive went missing. To date, the drive has not been recovered.

The OIPC launched an investigation into this matter under s. 42(1)(a) of the *Freedom of Information and Protection of Privacy Act* (“FIPPA”).

The purpose of this investigation is to determine if:

- the Ministry had reasonable safeguards in place to protect the personal information on the backup hard drive;
- it took appropriate action to contain the breach; and
- it took appropriate steps to mitigate any potential harm to individuals affected by the breach.

The report makes recommendations for the purpose of reducing the risk of this type of breach from occurring and ensuring the Ministry meets the requirements of FIPPA to provide adequate security for all personal information in its custody or under its control.

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<sup>1</sup> For a description of the circumstances of this discovery see below p. 10.

## 1.2 APPLICATION OF FIPPA TO THE MINISTRY OF EDUCATION

A public body is defined in FIPPA as "...a ministry of the government of British Columbia". The Ministry of Education is therefore a "public body" and is subject to the provisions set out in FIPPA.

The Commissioner has a statutory mandate to monitor compliance of public bodies with FIPPA to ensure the purposes of the legislation are achieved. The purposes, as stated in s. (2)(1) of FIPPA, are to make public bodies more accountable to the public and to protect personal privacy by, among other things, preventing the unauthorized disclosure of personal information by public bodies.

"Personal information" is defined in FIPPA as recorded information about an identifiable individual, other than contact information. Examples of the personal information compromised in this incident include: names, addresses, dates of birth, gender, grades, schools, Personal Education Numbers ("PEN"), graduation status, financial aid data, type of school (including youth in custody), and select student characteristics (such as special needs, language at home, aboriginality and residency). A smaller number of records included more sensitive personal information (such as teacher retirement plans, education outcomes for cancer survivors, and health and behaviour issues of children in care).

## 1.3 INVESTIGATIVE PROCESS

Upon notification of this data breach, the OIPC initiated an investigation to examine the Ministry's general security safeguards in place prior to the breach and the Ministry's response to the data loss. The OIPC determined that this action was necessary due to the sensitivity of the information, the numbers of individuals affected by this breach, and the fact that most of the individuals affected were children or youth.

The OIPC interviewed past and present Ministry employees who were thought to have knowledge of the backup hard drive's creation, the storage site and the movement of this hard drive. The investigators interviewed 16 individuals between October 15, 2015 and December, 2015. These interviews explored the following issues:

- decision to place personal information on mobile drives;
- data protection protocols;
- storage considerations;
- timelines; and
- search for the backup hard drive.

### Documents and Policies

The OIPC reviewed the following documentation:

- BC Government Core Policy and Procedures manual (“CPPM”) and the Information Security Policy (“ISP”);
- information about the notification of affected individuals;
- Ministry communications; and
- other relevant documents the Ministry provided.

### Privacy Safeguards

This investigation examined whether the Ministry had in place a privacy management program that would ensure it had adequate safeguards and whether the safeguards were effective.

### Forensic Analysis

The OIPC contracted a forensic data consultant to analyze and verify the contents of the office-use hard drive.

One of the biggest challenges with this file is the lack of documentation surrounding the use and storage of the backup hard drive. The majority of the employees who worked in the relevant program area had either moved on to other positions, retired or could not recall the backup hard drive. The source of the information collected during the investigation was the recollection of employees who were present when the drives were created. Owing to the passage of time, the testimony was, understandably, often vague, incomplete or inconsistent.

## **2.0 BACKGROUND**

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In 2010, the Education Systems Information and Reporting Unit<sup>2</sup> (“Information Department”) was responsible for analyzing education data and producing ad hoc and public reports related to student performance and the performance of the education system in general. The Information Department produced the reports at the request of the Ministry, Boards of Education and others interested in educational research. Examples of Information Department research reports include: student completion rates, student performance, grade progression or District student enrolment.<sup>3</sup>

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<sup>2</sup> The Education Systems Information and Reporting Unit is now known as the Analysis and Reporting Unit.

<sup>3</sup> In addition to the project work, the Information Department is also responsible for managing research agreements with outside educational researchers. This includes, but is not limited to, university instructors and students who conduct research on various educational issues. Outside



The Information Department used the Education Data Warehouse, which contains the personal information of all students in the K-12 sector, as a source of data. It wrote program scripts to extract the necessary raw data from the Education Data Warehouse. It saved the raw data, the tools used to extract and analyze the data and with the final reports in a project folder. The Information Department disclosed reports on the results of its analysis. These reports normally contained aggregate data, but there are some cases where the Information Department provided personally identifiable data required to respond to a query from a Board of Education.

The Information Department retains the data extracts for the purpose of responding to potential questions related to its findings. In some cases, a Board of Education will ask the Information Department to update a previous report. The Information Department uses the stored program scripts to obtain current data. It uses the stored analytical tools to replicate the analysis completed for the original project. This ensures consistent results in response to follow up requests.

The Information Department completes approximately 600 project reports per year. Each project folder is saved in a master folder, which is labeled by the year in which the project was ordered.

The project folders stored on the hard drive contained personal information of approximately 3.4 million BC and Yukon students and BC teachers. The projects contained personal information of varying levels of sensitivity. More specifically, the types of personal information found in the project files included names, addresses, dates of birth, gender, grades, schools, PENs, graduation status, financial aid data, type of school including in custody, and select student characteristics (e.g., ESL, special needs, language at home, aboriginality, and residency). A smaller number of records included more sensitive personal information (teacher retirement plans, education outcomes for student cancer survivors, health and behaviour issues and children in care).

The Information Department project files had consumed a substantial volume of space on a government Shared Service BC ("SSBC") server.<sup>4</sup> The cost to store Information Department data was estimated to be approximately \$14,000 per year.<sup>5</sup> In 2010, the Knowledge Management Division decided to reduce the volume of all data stored on the SSBC's shared server to decrease electronic storage costs.<sup>6</sup> The Information Department believed that, because of this initiative, recommending to the Ministry executive to retain the data on the server

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researchers use data from several sources. From our review, it appears that there were only a few project folders relating to outside researchers that contained any Ministry data. Research agreements and corresponding data are saved in the same manner described above.

<sup>4</sup> Email string dated May 26, 2010 to June 6, 2010.

<sup>5</sup> OCIO obtained cost from SSBC.

<sup>6</sup> Email string dated May 26, 2010 to June 6, 2010. Interview December 2015.

was not a viable option. Therefore, it was necessary to develop an alternative storage solution.

In June of 2010, the Information Department unit decided to transfer the project data to mobile hard drives. It purchased two mobile hard drives and downloaded the data to both in March 2011.<sup>7</sup> The office-use hard drive was not encrypted and, as discussed later in this report, it is unlikely the backup hard drive was encrypted.

The office-use hard drive remained with the Information Department for access and updating of project files. The Information Department decided to place the backup hard drive at a government offsite location. An employee entered a note in the Total Records and Information Management ("TRIM")<sup>8</sup> system on May 19, 2011 indicating that the office-use hard drive was placed in a file cabinet located in the Information Department.

The same TRIM report indicates that someone transported the backup hard drive to the warehouse in Central Saanich for secure storage in late May 2011.<sup>9</sup> It notes that they placed the hard drive in a filing cabinet drawer. The filing cabinet was secured in a locked cage where the Ministry stored General Education Development ("GED") exams. One individual confirmed transporting the drive to the warehouse and locking it in the GED cage. However, none of the warehouse employees could remember the hard drive being placed in the warehouse. The warehouse has no record of receiving the backup hard drive. Nor are there any records indicating that this hard drive was ever moved.

In July 2015,<sup>10</sup> an employee in the Information Department suggested the unit purchase another mobile hard drive to back up additional project files. The Information Department re-examined the use of mobile hard drives to back up project data. Staff realized the risk associated with maintaining project data on these drives. It explored transferring the files located on the office-use hard drive back onto the SSBC server and destroying the drive. After consulting with the Ministry Chief Information Officer ("MCIO") the Information Department obtained approval to transfer the data from the office-use hard drive to the SSBC server.

During the course of these discussions, one of the Information Department employees recalled that there might have been a second backup drive and advised management about it. An employee went to the warehouse to retrieve the backup hard drive from the locked cage and could not locate it. The Ministry

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<sup>7</sup> Invoice dated June 24, 2010.

<sup>8</sup> TRIM is an integrated Enterprise Document and Records Management System. The government of British Columbia selected TRIM Context™ as the standard information management software program to be used across government.  
[www.gov.bc.ca/citz/iao/records\\_mgmt/guides/TRIM/Interactive\\_modules/doc\\_email/index.html](http://www.gov.bc.ca/citz/iao/records_mgmt/guides/TRIM/Interactive_modules/doc_email/index.html).

<sup>9</sup> Email dated October 6, 2015, provided by the OCIO. Email contains the TRIM report.

<sup>10</sup> Ministry timeline reports and emails.

conducted a series of comprehensive but unsuccessful searches throughout the warehouse, Ministry offices and other sites.<sup>11</sup>

### 3.0 ISSUES

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The issues in this investigation are:

1. Did the Ministry have reasonable security safeguards in place to protect personal information from unauthorized access, use or disclosure, as required under s. 30 of FIPPA?
2. Did the Ministry take reasonable steps in response to the privacy breach as required by s. 30 of FIPPA?

### 4.0 REASONABLE SAFEGUARDS

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**Issue 1: Did the Ministry have reasonable security safeguards in place to protect the personal information from unauthorized access, use or disclosure, as required under s. 30 of FIPPA?**

Section 30 of FIPPA requires public bodies to make reasonable security arrangements to protect personal information in their custody or under their control. Section 30 states:

**Protection of personal information**

- 30 A public body must protect personal information in its custody or under its control by making reasonable security arrangements against such risks as unauthorized access, collection, use, disclosure or disposal.

In the past five years the OIPC has investigated or reviewed over 500 privacy breaches, many of which involved the loss or theft of portable storage devices. We have published numerous investigation reports and two recent audit and compliance examinations that have considered the meaning of s. 30 of FIPPA. In the most recent investigation report examining a breach within the Ministry of Health, I summarized the meaning of “reasonable security arrangements” as follows:<sup>12</sup>

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<sup>11</sup> For a more detailed description of the search, see below p. 20.

<sup>12</sup> Investigation Report F13-02, [2013] B.C.I.P.C.D. No. 14.

The reasonableness standard in s. 30 is measured on an objective basis and, while it does not require perfection, depending on the situation, it may signify a high level of rigor. To meet the reasonableness standard for security arrangements, public bodies must ensure that they have appropriate administrative, physical and technical safeguards.

The measure of adequacy for these safeguards varies depending on the sensitivity of the personal information, the medium and format of the records, the estimated costs of security, the relationship between the public body and the affected individuals and how valuable the information might be for someone intending to misuse it.

FIPPA authorizes government ministries to collect personal information, including sensitive personal information of children and youth, for the purposes of managing their programs and activities. The portable hard drives at issue contain a very large volume of personal information about students, including information about students who had survived cancer, students who were wards of the province and students who had behavioural issues. Given the sensitivity of the personal information, strong safeguards were warranted. Throughout the course of the investigation, we identified a number of weaknesses in the safeguards the Ministry had in place.

#### **4.1 GENERAL SECURITY ARRANGEMENTS**

The Ministry was aware of its privacy obligations under FIPPA. The Office of the Chief Information Officer (“OCIO”) provided relevant policies surrounding the information technology procurement and the protection of personal information, including a set of guidelines on how to inventory and secure personal information and devices used to store personal information.

The CPPM and the ISP<sup>13</sup> provide direction on the procurement of information technology. They outline limitations with the use of mobile storage devices. They provide guidance on the authorization, use, management and security of personal information stored on mobile data storage devices.

Chapter 6 of the CPPM requires that “Prior to initiating procurement of all IM/IT-related products or services, ministries must discuss their IT requirements with Procurement Services Branch, SSBC and their IM requirements with the OCIO, which will determine whether a corporate solution will be implemented for the requirement.”(6.3.5)

These policies are reasonable and adequate to achieve the objectives of providing adequate security for personal information.

<sup>13</sup> BC Government Core Policy and Procedure Manual (CCPM) and the Information Security Policy (ISP).

When the Information Department decided to purchase the portable hard drives, the Ministry had in place a Ministry CIO responsible for ensuring the Ministry was in compliance with government policy and procedures.

From the interviews and available documentation, it appears that there was a discussion between a member of the Ministry's technical support services and SSBC prior to the purchase of the two hard drives. However, none of the witnesses could recall who was involved or the details of the discussion. One of the witnesses from the Ministry's technical support services stated that they believed based on the documentation that a conversation took place with SSBC regarding security considerations surrounding use of the drives and that SSBC agreed with the plan to purchase them.<sup>14</sup> There is no other evidence to corroborate this conclusion.

There is no evidence that anyone spoke to the OCIO about the suitability of hard drives as an alternative solution to their data storage problem, as required by the CPPM 6.3.5. Therefore, while the policies are sound, the employees did not follow them.

**RECOMMENDATION 1:**

Ministry staff should be reminded that they must store personal information securely. Complying with the requirement to consult with their MCIO on relevant policy and procedures before making decisions regarding the secure storage of personal information and with CPPM 6.3.5 when purchasing portable storage devices will assist in meeting the Ministry's statutory obligation under FIPPA.

**4.2 PERSONAL INFORMATION INVENTORY**

The CPPM contains a number of policies that require ministries to classify, inventory and identify an owner of information and technology assets. The owner of the assets is responsible for implementing and maintaining proper safeguards to protect the asset.

Ministries must implement safeguards commensurate with identified risks and security requirements. They must routinely review the security of its information systems (CPPM 12.3.6). Ministries must also maintain and update an inventory of Personal Information Banks, which includes any collection of personal information that can be searched by name or any other unique identifier (CPPM 12.3.3).

<sup>14</sup> Ibid.

In Investigation Report F13-02, I recognized that personal information inventories are essential for the purpose of protecting privacy. I stated:

In order for a public body to provide adequate security for personal information in its databases, the public body must have a clear idea of where data is collected and stored. A thorough personal information inventory is a fundamental, critically important aspect of privacy compliance. ... It would be beneficial for the Ministry to develop an inventory of personal information databases and data flows, with the objective of creating a regularly updated repository for the Ministry. There would be further benefits in periodically reviewing this inventory to identify those dataset extracts and other sensitive information assets that can be archived or deleted.

The two hard drives did not appear in the directory of Personal Information Banks of the Ministry as CPPM 12.3.3 requires. Nor were they included in an inventory of information assets as CPPM 12.3.6 requires. The only documentation of the existence of the backup hard drive was in a TRIM record. Again, the policies were sound, but employees did not follow them.

It is not certain that, even if the Ministry had documented the two hard drives as the policies required, it would have ensured that the backup hard drive could be located. Nevertheless, accurate documentation might have assisted in the search. It also might have alerted someone to the existence of the drive at an earlier stage. It was only when the Ministry was reviewing the storage of project files on the SSBC servers in July 2015 that some employees remembered the existence of the backup portable hard drive.

#### **RECOMMENDATION 2:**

The Ministry should comply with the requirement in s. 69 of FIPPA to maintain an accurate inventory of personal information assets in the directory of Personal Information Banks, including all personal information stored on portable storage devices.

### **4.3 STORAGE POLICIES**

The CPPM requires ministries to account for, protect and safeguard equipment from unauthorized access.<sup>15</sup> In 2006, in response to a privacy breach that resulted from the sale of computer tapes that included personal information, the OCIO issued a directive (44692) that related to portable storage devices:

<sup>15</sup> CPPM, 12.3.3 and 12.3.6.

Information temporarily stored on a portable storage device should be transferred to the government network as soon as practicable and then deleted from the portable storage device. Government information should be stored on the government network whenever possible to ensure the protection and long term availability of the information.

The decision to transfer the project files from the SSBC servers to portable hard drives contradicted this directive.<sup>16</sup> This clear contravention of a sound policy was the root cause of the privacy breach. The fact that there was a financial imperative to reduce information stored on the server does not justify the contravention of this policy.

Ministries may only store records at approved records centres.<sup>17</sup> Storage sites must contain a level of security proportionate to the sensitivity of the information being stored at the facility, and maintain a detailed inventory of the records stored and their location within the facilities.

The warehouse in question is not a government approved records storage facility. That the building is locked and alarmed, and has never been broken into, does not compensate for the fact that it is not an approved records storage facility and does not have the capability to manage records securely. Storing the drive at that location was a contravention of a fundamental records management policy.

The TRIM entry on May 19, 2011, indicates that the backup hard drive was in the locked GED cage at the warehouse. There is no record at the warehouse of the backup hard drive being received into the custody of the warehouse and none of the warehouse employees even remember the hard drive. Based on the lack of documentation and the recollection of employees, it is clear there were no reasonable inventory controls in place to account for, protect or safeguard the backup hard drive. Without inventory controls it is not possible to corroborate testimony that the hard drive was, in fact, taken to and stored at the warehouse.

**RECOMMENDATION 3:**

To assist with meeting the statutory requirement to store personal information securely, the Ministry should comply with CPPM policy and the OCIO directive 44692 and transfer all personal information from portable storage devices on to the government network as soon as practicable and delete the personal information from the devices.

<sup>16</sup> See also ISP 6.7.1.

<sup>17</sup> CPPM 12.3.3, Part III: Managing Information: Policy.

**RECOMMENDATION 4:**

To assist with meeting the statutory requirement to store personal information securely, the Ministry should comply with the requirement that when securing mobile devices off-site, they store them in a government approved storage facility, which would document the handling of the device.

**4.4 ENCRYPTION OF PERSONAL INFORMATION ON PORTABLE DEVICES**

Information Security Policy 7.3.2 requires that information owners and information custodians must prevent unauthorized access by “Enabling password protection on mobile devices including portable storage devices”. ISP 7.7.1 requires that sensitive personal information stored on mobile devices placed at off-site locations must be encrypted to protect the information from unauthorized access.

Without being able to examine the backup hard drive, it is not possible to confirm whether the information was encrypted. The office-use hard drive was capable of encryption, but was not encrypted. One witness stated that they were aware that SSBC required sensitive personal information to be encrypted but this was not SSBC’s general practice at the time. Since the data was intended to be stored at what they felt was a secure off-site location, they were not concerned whether the backup hard drive was encrypted.

One witness thought the backup hard drive was encrypted because that was best practice. Another mentioned that encryption was considered but there were concerns about password retention. Employees were not allowed to write down passwords, and some feared that they might forget their passwords and, therefore, would lose access to the data.

In Investigation Report F12-02, I made it clear that encryption was the best practice for storing personal information on mobile storage devices:

Given the amount and sensitive nature of personal information contained on the University mobile storage device, coupled with the ease of encrypting the information, there is simply no rationale for failing to encrypt this information. Without doubt, encryption is the standard when storing personal information on a laptop or any mobile storage device. The use of encryption must be combined with a strong encryption key.

Encryption in this case would have been a simple and effective method to ensure the security of the personal information on the backup hard drive.



**RECOMMENDATION 5:**

To assist with meeting the statutory requirement to store personal information securely, the Ministry should ensure that it complies with ISP and CPPM policies regarding encryption. If it stores personal information on mobile data storage devices, it must encrypt those devices.

**4.5 RETENTION**

The Information Department currently retains the data sets from research projects indefinitely. The Information Department states that it needs to keep this data to reduce the time required to respond to questions or replicate results for future updates. The Information Department has also raised concerns that, because the information in the Data Warehouse may change over time, future data extractions may result in minor differences that would affect the consistency of the reports. Another concern was that extracted data sometimes requires correction. If the Information Department did not retain the corrected data, they would have to replicate the corrections for future reports.

The information technology contractor who analyzed the office-use drive reported that project folders were accessed 140 times over the four year period. On many of these occasions, it was merely updating research agreements, which did not require access to any data. Therefore, on average, the Information Department was only required to access the data fewer than 30 times per year.

While I understand the utility of retaining the data for a limited period of time for operational purposes, these concerns do not justify the risks posed by keeping the project data indefinitely. I am not convinced that the Information Department needs to keep these raw data extracts (which contain the personal information of identifiable students) in the project folder in perpetuity. Clearly, the risk associated with retaining this data indefinitely is not justified by the few times the data is accessed. Moreover, the Information Department already retains the original program scripts used to extract the data from the Data Warehouse, which could be used to replicate the original data sets. While admittedly this would be more time consuming, it would reduce the associated privacy and data security risks.

As with all government records, there should be a legislatively approved schedule to govern the retention of these records. The Legislature approved the Ministry of Education Operational Records Classification System ("ORCS") in

1989. Unfortunately, the ORCS does not have a schedule that clearly applies to the records at issue, which were created after the ORCS was approved. There clearly is a need to develop a schedule to govern the retention of these records.

**RECOMMENDATION 6:**

The Ministry should apply to amend its ORCS to include a new schedule that governs data extracted from its Educational Data Warehouse. The designated retention period should be the minimum amount of time required for operational purposes.

**4.6 TRAINING**

The CPPM and ISP provide a robust set of guidelines on how to inventory and secure personal information and devices used to store personal information.

In 2011, government initiated mandatory privacy training for all government employees. My office's *An Examination of BC Government's Privacy Breach Management* report notes that training was intended to inform "employees about [their role] and responsibility in handling personal information and preventing information incidents."<sup>18</sup> At the time I issued this report in 2015, only 70.9% of government employees had received privacy training. As of December 2015, 90% of Ministry of Education employees had completed mandatory privacy and information sharing awareness training.

Based on the interviews, the employees involved did have some basic knowledge of the policy set out in the CPPM and the ISP. They were aware that encryption of mobile storage devices was required by policy. One witness raised concerns about storing the backup hard drive off-site.

Nevertheless, the overriding concern here is that the employees did not follow the policies. Whether the reason was lack of awareness or the belief that they could contravene the policies as long as they provided alternative security arrangements, the result was the contravention of policies led directly to the privacy breach. In this case, the widespread violation of policy by staff and managers indicates that the training at the time was not effective in ensuring compliance with policies necessary to protect the personal information.

<sup>18</sup> [2015] B.C.I.P.C.D. No. 65.

**RECOMMENDATION 7:**

To ensure that Ministry employees follow the policies and procedures necessary to comply with s. 30 of FIPPA, they should receive mandatory training with periodic refresher courses on the collection, use, disclosure, security and retention of personal information and why it is essential that they comply with government policy.

**4.7 AUDIT**

This report demonstrates that government must do more than just develop sound policy. It must enforce these policies more effectively. After issuing policies and training employees on how to comply with them, it is necessary to follow up to measure compliance.

Periodic internal audits are an integral component of managing privacy. Internal audit processes ensure employee compliance with CPPM, ISP and FIPPA.

Audits based on pre-arranged schedules may include, for example,

- interviews with employees;
- review of files;
- review of data dictionaries; and
- examination of technical and physical security measures.

Internal audits are an effective mechanism for early identification of potential threats to the security of personal information. In this case, a timely audit may have helped to avoid the breach. However, the lack of an inventory may have hampered the effectiveness of such an audit. This reinforces the need for an accurate and up to date inventory.

In my report *An Examination of BC Government's Privacy Breach Management*, I noted that an internal audit program that monitors compliance is essential for an effective privacy breach management program.<sup>19</sup> While the government has indicated an intention to implement such a program, one was not in place at the time of the events outlined in this report.

<sup>19</sup> [2015] B.C.I.P.C. D. No. 65, p. 35.

**RECOMMENDATION 8:**

The Ministry should implement an audit program that includes risk assessments to evaluate the security of personal information, audits against policy, and reviews the effectiveness of staff training.

**SUMMARY**

The government had a reasonable and adequate policy framework in place to assist it in meeting the requirements of s. 30 of FIPPA, but the Ministry failed to ensure that it was effective in protecting the personal information at issue. Ministry employees contravened these policies several times.

Ministry employees made a series of statutory and policy contraventions that resulted in the breach. The decision to retain the personal information in the project files indefinitely created a privacy liability. The placing of the personal information on the portable hard drives was a contravention of policy that put the personal information of millions of children at risk. The failure to ensure the drives were encrypted compounded that risk. Moreover, the decision to store one of the drives off site at a warehouse that was not an approved storage facility was a further contravention that led to the backup hard drive going missing. I also find that the Ministry failed to inventory the information on the drives as required by FIPPA. Had the employees followed the appropriate policy at just one of these stages, they likely would have been able to avoid the breach.

**FINDING**

**I find that, at the time of the events outlined in this report, the Ministry did not have reasonable security arrangements in place, as required by s. 30 of FIPPA, to protect the personal information in the project files stored on the portable hard drives.**

**The Ministry also failed to meet its obligation under s. 69(3) of FIPPA to keep a summary of all the personal information banks located on the portable hard drives.**

## 5.0 RESPONSE TO THE PRIVACY BREACH

### Issue 2: Did the Ministry take reasonable steps in response to the privacy breach as required by s. 30 of FIPPA?

#### 5.1 WHAT IS A PRIVACY BREACH?

A privacy breach includes loss of, unauthorized access to or unauthorized collection, use, disclosure or disposal of personal information. Such activity is “unauthorized” in British Columbia, if it occurs in contravention of FIPPA. Privacy breach management is a key component of a public body or organization’s overall privacy management program.

A public body’s obligations under s. 30 include the actions it takes when there has been a privacy breach. Managing breaches forms part of the duty to protect personal information.<sup>20</sup> OIPC investigation reports and guidance documents highlight a need for appropriate and effective privacy breach management;<sup>21</sup> timely notification of affected individuals;<sup>22</sup> and due consideration for reporting breaches to the OIPC in order for entities to meet their legislative obligations.<sup>23i</sup>

In his report into a breach involving browsing by an employee of a service provider to the Ministry of Small Business and Revenue, former Commissioner Loukidelis outlined what a public body must do when responding to a privacy breach:

In order to assist public bodies, the OIPC has published a key steps document for managing privacy breaches. When a privacy breach occurs, public bodies and service providers need to make every reasonable effort to recover the personal information, minimize the harm resulting from the breach and prevent future breaches from occurring. The OIPC’s key steps document has been useful in our review and evaluation of the Ministry’s

<sup>20</sup> Office of the Information and Privacy Commissioner. *Accountable Privacy Management in BC’s Public Sector*, pp. 14, 15. (<https://www.oipc.bc.ca/guidance-documents/1545>).

<sup>21</sup> Office of the Information and Privacy Commissioner. Investigation Report F06-02, para. 81. ([www.oipc.bc.ca/investigation-reports/1233](http://www.oipc.bc.ca/investigation-reports/1233)).

<sup>22</sup> Office of the Information and Privacy Commissioner. Investigation Report F06-02, para. 55. ([www.oipc.bc.ca/investigation-reports/1233](http://www.oipc.bc.ca/investigation-reports/1233)).

<sup>23</sup> Office of the Information and Privacy Commissioner. *Accountable Privacy Management in BC’s Public Sector*, pp. 14-15. (<https://www.oipc.bc.ca/guidance-documents/1545>). Office of the Information and Privacy Commissioner. 2012. *Privacy Breaches: Tools and Resources*, pp. 7-9. (<http://www.oipc.bc.ca/guidance-documents/1428>).

Office of the Information and Privacy Commissioner. 2013. *Accountable Privacy Management in BC’s Public Sector*. <https://www.oipc.bc.ca/guidance-documents/1545>.

Office of the Privacy Commissioner of Canada, Office of the Information and Privacy Commissioners of Alberta and Office of the Information and Privacy Commissioners of British Columbia. 2012. *Getting Accountability Right with a Privacy Management Program*. <https://www.oipc.bc.ca/guidance-documents/1435>.

actions in this case. The four key steps public bodies must undertake in managing a privacy breach are:

1. Contain the breach;
2. Evaluate the risks;
3. Determine whether notification of affected individuals is required; and
4. Develop prevention strategies to reduce risks in the future.

The first three steps should occur as soon as possible following the breach, either simultaneously or in quick succession.<sup>24</sup>

This report structures its assessment of the Ministry's response around these four key steps.

## 5.2 CONTAINMENT

Once the Ministry discovered that the backup hard drive was not in the locked cage at the warehouse, it commenced an extensive search. By the time the incident had been reported to the OIPC, a team of employees had searched several possible locations for the backup hard drive multiple times:

- **Warehouse**: the Ministry searched the warehouse cage before and after reporting the missing backup hard drive to OCIO. It conducted successive searches including all Ministry materials held at the warehouse. There were four unsuccessful searches of the warehouse, with the final search being a complete search of every room and storage area located in the entire facility.
- **Workplace**: the Ministry searched the work unit offices at 620 Superior including common spaces, staff lockers, locked drawers and cabinets, and remaining private spaces.
- **Ministry of Advanced Education, St. Ann's Academy**: the Ministry searched three safes and other storage areas at St. Ann's.
- **Records Management Files**: Ministry staff conducted a review of disposal records since 2009 and off-site storage records to determine whether the backup hard drive had been disposed of or sent to another facility.
- **General Education Development (GED)**: There was a concern that the backup hard drive may have moved with the GED exams to the GED office in Washington, D.C. The Ministry contact confirmed that the backup hard drive was not sent with the GED material.

<sup>24</sup> Investigation Report F07-01, [2007] B.C.I.P.C.D. No. 13, p.8.

The Ministry spoke to past and present employees who may have had some knowledge of the location of the drive.

The Ministry created a timeline report, which thoroughly documented their efforts to locate the drive. This was of great assistance in the conduct of this investigation.

The backup hard drive has not been recovered.

### **FINDING**

**I find that the Ministry took all reasonable steps to contain the breach following the discovery that the backup hard drive was missing.**

## **5.3 RISK EVALUATION**

The hard drives contained varying levels of personal information for 3.4 million students and teachers from 1986 through 2009. The detail and sensitivity of personal information varied depending on the group to which the individual belonged.

The following personal information for 3,166,388 BC and Yukon students and all applicants to public post-secondary institutions from 1991 to 2009 was stored on the backup hard drive:

- full name, date of birth;
- home postal code that year;
- PEN;
- home address for Grade 12 students being mailed their transcript; and
- the name of the community of the student's latest home address.

There were a number of subgroups who had additional personal information on the backup hard drive. The groups are described as:

- 1991-2009: K-12 students (1,850,044)
- 1990: Middle school students in Grades 6, 7, 8 (3,457)
- 1986-1989: Grade 12 students (188,322)
- 1991-2008: All student exams and course information
- 1991-2008: All Yukon student exams and course information
- 1999-2008: Foundation Skills Assessment for students Grades 4, 7 & 10
- 2008: tracked students who withdrew from Grade 12 (200)
- 1993-2008: Yukon exam results – (1,300)
- 2007: Yukon distributed learning – selected individuals (162)

- 2007-2008: Yukon student graduation files (370)
- 2003: Teachers' retirement survey (825)
- No date: Teachers correspondence that is sometimes of a personal nature (169)
- 2006: Teacher and school staff attending the 2006 Annual Teacher Congress (342)
- 2002-2009: Individuals enrolled in public Post-Secondary institutions (511,945)
- K-12 achievements – background for K-12 graduates who did not attend Post-Secondary institutions
- 2000-2008: Students applying for and receiving financial aid (252,000)
- 2008: Public Post-Secondary cancer survivors involved Post-Secondary research trial (1,052)
- 2005-2008: Students enrolled in industry training program (6,700)
- 2006-2007: Children receiving Ministry of Children and Family Development ("MCFD") services (9,273)
- 2001-2007: MCFD Children under custody orders (8,170)
- 2000: MCFD children in care (10,125)

The personal information found within each group varies in level of sensitivity. The most sensitive information was in the MCFD files and files containing information about students with special needs. Examples of personal information from these subgroups include:

- Special needs type
- Intervention specifics
- Reasons for school withdrawal (e.g., drug use, mental health, family problems)
- Names of students receiving financial aid
- Supervision status for MCFD supported students

There was no financial, banking or pension information on either hard drive.

The Ministry, with the advice and assistance from the OCIO, identified a number of privacy risks depending on the types of personal information associated to each group. The primary risks for the majority of individuals were identity theft and fraud. Given the limited nature of the information on the drive and the lack of any financial information or the SIN, the Ministry considered these risks to be low. The Ministry identified the following possible additional harms: emotional hurt, humiliation or damage to reputation, particularly with reference to those students from the listed subgroups.

While the Ministry correctly identified these additional harms for the subgroups, I believe that it is important to appreciate that the privacy risks in this case go



even further. I think it essential to emphasize that the affected individuals are some of the most vulnerable in our society. They include children in care, children in custody, children with special needs, and children with health conditions. These are all circumstances that can lead to stigmatization by society in general and instances of individual discrimination. I conclude that the risk assessment meets the minimum standard but was not as thorough as possible.

### **FINDING**

**I find that the privacy risk evaluation performed by the Ministry was adequate.**

## **5.4 NOTIFICATION**

The Ministry concluded that the risks of emotional hurt, humiliation and damage to reputation warranted direct notification where possible.

The Ministry first considered directly notifying all individuals. However, there were 2.75 million individuals for whom it did not have either reliable address information or any address information. Therefore, the Ministry decided to conduct indirect notification for all affected individuals. On September 22, 2015, the Ministry issued a notice through the media in an attempt to alert individuals whose personal information may have been contained on the backup hard drive.<sup>25</sup>

The news release described the types of information that was on the backup hard drive. It identified individuals who may be affected by the breach. It advised readers that the Ministry was investigating the loss of the backup hard drive. It provided government contact information and a web link for affected individuals who might have further questions. It recommended affected individuals scrutinize their financial records for indicators of identity theft. The notification also provided contact information for credit monitoring services.

In addition, the Ministry decided to directly notify as many as possible of the individuals whose personal information contained additional details that were sensitive.

The Ministry identified the following groups as warranting direct notification:

- Children who withdrew from school;
- Teachers who completed the retirement survey;
- Youth with special needs;

<sup>25</sup> [http://www2.news.gov.bc.ca/news\\_releases\\_2013-2017/2015MTICS0026-001575.htm](http://www2.news.gov.bc.ca/news_releases_2013-2017/2015MTICS0026-001575.htm).

- Students receiving financial loans; and
- Students who had survived cancer.

The Ministry only has address information for 146,310 individuals in the above listed groups. The Ministry identified 25,550 individuals whose addresses have a reasonable chance of being accurate. The remainder were rejected as non-valid addresses. On January 22, 2016, the Ministry sent generic notification letters to those individuals. The letters informed them that their information was included in the breach and provided a website link with further details.<sup>26</sup>

The Ministry also plans to directly notify those approximately 3,000 individuals identified as receiving MCFD support or supervision. The Ministry is working with MCFD to obtain reasonably current addresses. In collaboration with MCFD, it is conducting a balance of harms assessment. Once this is complete, the Ministry will directly notify appropriate individuals. The Ministry believes that this process will take several more months to complete.

I note that there has been a considerable delay in carrying out the direct notifications. Normally, a delay of five months from the discovery of the breach would be unacceptable and would compromise the ability of the affected individuals to mitigate any potential harm. Nevertheless, in this case, as the breach occurred sometime during the last five years, it is unlikely that earlier notification would have improved the situation that the affected individuals face. Moreover, the Ministry did provide indirect notification in a timely manner.

With respect to direct notification, it is my view that, while the speed with which it is undertaken should be accelerated, the process itself meets the requirements of s. 30 of FIPPA.

#### **RECOMMENDATION 9:**

Ministries should ensure that they conduct direct notification of affected individuals without delay, even in cases where there is not compelling urgency for immediate notification.

#### **FINDING**

**I find that the indirect notification through the media release combined with the completed and proposed direct notifications will meet the requirements of s. 30 of FIPPA with respect to notification.**

<sup>26</sup> [http://www.cio.gov.bc.ca/local/cio/priv\\_leg/documents/reports/Education\\_Data\\_Breach.pdf](http://www.cio.gov.bc.ca/local/cio/priv_leg/documents/reports/Education_Data_Breach.pdf).

## 6.0 PREVENTION STRATEGIES

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The Ministry has taken a number of steps to reduce the risk of a similar breach occurring. First, it has transferred the data from the office-use hard drive to the SSBC server. The office-use hard drive was handed over to the OCIO for the purpose of the breach investigation. Once the Ministry of Finance is satisfied there is no further need to retain the hard drive, it will be securely destroyed.

Second, on December 14, 2015, the Ministry implemented a policy requiring that all portable storage devices, which include external hard drives and USB flash drives, are hardware encrypted to government standards, regardless of the content.

Third, it is inventorying and documenting the types of information stored on all mobile storage devices. The purpose of this process is to ensure that mobile storage device use is consistent with government policy.

Fourth, government is in the process of implementing its Privacy Management and Accountability Policy (“PMAP”). The Ministry is adopting PMAP, including appointing a Ministry Privacy Officer. The Privacy Officer will initiate personal information inventories, compliance policies, conduct internal audits and provide continuous privacy training to employees.

### **FINDING**

**I find that, on balance, the Ministry took reasonable steps in response to the privacy breach that met its requirement to provide adequate security to personal information under s. 30 of FIPPA.**

### **FINDING**

**The Ministry has taken reasonable steps to reduce the risk of similar breaches from occurring.**

## 7.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS

### 7.1 SUMMARY OF FINDINGS

1. I find that, at the time of the events outlined in this report, the Ministry did not have reasonable security arrangements in place, as required by s. 30 of FIPPA, to protect the personal information in the project files that were stored on the portable hard drives.

The Ministry also failed to meet its obligation under s. 69(3) of FIPPA to keep a summary of all the personal information banks located on the portable hard drives.

2. I find that the Ministry took all reasonable steps to contain the breach following the discovery that the backup hard drive was missing.
3. I find that the risk evaluation performed by the Ministry was adequate.
4. I find that the indirect notification through the media release combined with the completed and proposed direct notifications will meet the requirements of s. 30 of FIPPA with respect to notification.
5. I find that, on balance, the Ministry took reasonable steps in response to the privacy breach that met its requirement to provide adequate security to personal information under s. 30 of FIPPA.
6. The Ministry has taken reasonable steps to reduce the risk of similar breaches from occurring.

### 7.2 SUMMARY OF RECOMMENDATIONS

1. Ministry staff should be reminded that they must store personal information securely. Complying with the requirement to consult with their MCIO on relevant policy and procedures before making decisions regarding the secure storage of personal information and with CPPM 6.3.5 when purchasing portable storage devices will assist in meeting the Ministry's statutory obligation under FIPPA.

2. **The Ministry should comply with the requirement in s. 69 of FIPPA to maintain an accurate inventory of personal information assets in the directory of Personal Information Banks, including all personal information stored on portable storage devices.**
3. **To assist with meeting the statutory requirement to store personal information securely, the Ministry should comply with CPPM policy and the OCIO directive 44692 and transfer all personal information from portable storage devices on to the government network as soon as practicable and delete the personal information from the devices.**
4. **To assist with meeting the statutory requirement to store personal information securely, the Ministry should comply with the requirement that when securing mobile devices off-site, they store them in a government approved storage facility, which would document the handling of the device.**
5. **To assist with meeting the statutory requirement to store personal information securely, the Ministry should ensure that it complies with ISP and CPPM policies regarding encryption. If it stores personal information on mobile data storage devices, it must encrypt those devices.**
6. **The Ministry should apply to amend its ORCS to include a new schedule that governs data extracted from its Educational Data Warehouse. The designated retention period should be the minimum amount of time required for operational purposes.**
7. **To ensure that Ministry employees follow the policies and procedures necessary to comply with s. 30 of FIPPA, they should receive mandatory training with periodic refresher courses on the collection, use, disclosure, security and retention of personal information and why it is essential that they comply with government policy.**
8. **The Ministry should implement an audit program that includes risk assessments to evaluate the security of personal information, audits against policy, and reviews the effectiveness of staff training.**
9. **Ministries should ensure that they conduct direct notification of affected individuals without delay, even in cases where there is not compelling urgency for immediate notification.**

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## 8.0 CONCLUSIONS

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The key message in this report is that, while it is essential to have strong privacy and security policies, these policies alone are not sufficient to constitute reasonable security measures. The government had clear and appropriate policies in place that would have prevented the breach, if Ministry employees had followed them. These employees had received privacy training and appeared to be aware of the policies, but they did not abide by them.

Public bodies need to take appropriate steps to verify that employees are complying with these policies. They must ensure that their employees are aware of these policies, understand them, and appreciate the consequences of contravening them. I have previously noted the essential role of audit and compliance monitoring as part of an effective privacy management program. Public bodies must have a comprehensive training plan supported by audits and spot checks.

Identifying prevention strategies is a key component of the four step process of responding to privacy breaches. Again, the formulation of these strategies is not enough. Public bodies must ensure that the strategies are implemented and followed. The data breach involving the sale of computer tapes containing personal information led to an OCIO directive with respect to mobile storage devices. However, no one at the Ministry made sure that its employees were complying with this directive. Had they been in compliance, they would have avoided this breach because they would not have stored the data on portable hard drives in the first place.

This is another example of the importance of executive leadership. The Ministry executive should communicate clearly to employees that corporate information policies are mandatory, not optional. Information assets are as important as financial assets. They should support effective training and compliance monitoring programs. There is a suggestion that the decision to transfer the data to the portable hard drives was the result of a financial imperative to divest the SSBC servers of as much data as possible. Both Ministry executive and employees need to be clear that financial imperatives are not an acceptable justification for blatant contraventions of corporate policy that put personal information at risk.

The OIPC will be following up with the Ministry in three months for an update on how it is implementing the recommendations in this report.

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## 9.0 ACKNOWLEDGEMENTS

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The Ministry of Education cooperated fully with our investigation.

I would also like to thank Jay Fedorak, Deputy Registrar/Assistant Commissioner, Tim Mots, Investigator and Tanya Allen, Senior Investigator, Audit and Compliance, who conducted this investigation and contributed to this report.

January 28, 2016

### ORIGINAL SIGNED BY

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Elizabeth Denham  
Information and Privacy Commissioner  
for British Columbia

## APPENDIX A – Cited Policies and Directive

### Core Policy and Procedure Manual

#### 6.3.5 Information Management and Information Technology (IM/IT) Procurement

##### a. General

1. Previous approval requirements are superseded by Treasury Board Directive 5/04 (February 4, 2004).
2. All IM/IT goods and services must be procured in accordance with the business requirements of the ministry as identified in the Ministry Service Plan.
3. Prior to initiating procurement of all IM/IT-related products or services, ministries must discuss their IT requirements with Procurement Services Branch, SSBC and their IM requirements with the Chief Information Office (CIO), which will determine whether a corporate solution will be implemented for the requirement.
4. Large projects frequently include smaller IM/IT-related component projects. These component projects must be considered at the same time as the larger project.
5. All IM/IT goods and services must be procured in accordance with government financial and procurement policies, including the Core Policy and Procedures Manual, and must be consistent with the ministry Information Resource Management Plan, the Agreement on Internal Trade, and the Chief Information Office (CIO) policies, strategies and standards, and all legislative requirements.
6. All ministry IM/IT hardware and software requirements, including shared devices (e.g., desktop, laptop, server, and printer devices) must be ordered through SSBC. Where available, CSAs, pre-established by SSBC, will be utilized for the supply of these items. Any exceptions to this policy must be approved by CIO, or SSBC, as appropriate. This policy applies to purchases of any volume or dollar value.

#### 12.3.3 Information Management

#### Part II: Personal Information Protection Policy

##### a) Privacy Impact Assessments

1. A Privacy Impact Assessment (PIA) must be conducted to determine if a project, program, application, system or new enactment collects, uses, retains or discloses or secures personal information.
2. A preliminary PIA must be completed during the feasibility or initiation stage of any project, program, application, system or enactment. A formal PIA must be finalized, including the sections on security and retention of personal information, before implementation of any project, program, application, system or enactment.



3. Ministries must review existing summaries in the government Personal Information Directory, PIA section, at least once a year, and submit new summaries as needed within 30 days of the final signing off of a PIA.

b) Information Sharing Agreements

1. Ministries must develop Information Sharing Agreements to cover personal information exchanges outside of the immediate program area, as required. These agreements must include a compliance review requirement and schedule of planned reviews.
2. Ministries must review existing sharing agreement summaries in the government Personal Information Directory, Information Sharing Agreement section, at least annually, and submit new summaries as needed within 30 days after approval of an Information Sharing Agreement.

c) Personal Information Banks

1. Ministries must maintain a directory of Personal Information Banks and review the existing Personal Information Banks summaries in the government Personal Information Directory at least annually.

New Personal Information Bank summaries must be submitted to the government Personal Information Directory within 30 days of implementation.

### **Part III: Managing Information**

a) Governance of Recorded Information

1. government must manage all records created and received during the conduct of its business activities.
2. Ministries must establish and maintain a recorded information management program.
3. Ministries must establish and maintain a forms management program.
4. government records must be managed and preserved to remain authentic, reliable, trustworthy, secure, complete and accessible over time and location regardless of media or format.

Ministries transferring records to off-site storage must use approved records centres.

### **12.3.6 Information and Technology Security**

a) Security

1. A formal management framework will be established to initiate, implement, monitor and enforce information and technology security within the government of British Columbia.
2. Security requirements must be assessed, identified and documented to determine security implications and control requirements when there is a requirement for third parties to access government assets. Security controls must be documented and agreed to with the third party.
3. Information and technology assets must be classified, inventoried and recorded with an identified owner who is responsible for achieving and maintaining appropriate protection of those assets.
4. Users of government assets must continue to be aware of, and understand, their role in reducing the risk of theft, fraud or misuse of government assets. Changes in responsibilities, roles, contracts or employments must be managed.
5. Operating procedures must be documented and monitored to ensure the correct and secure operation of information and communication technologies.

6. Third party service delivery agreements must be monitored for compliance, and changes managed to ensure that the services delivered meet or exceed specified requirements.
7. Operational requirements for new systems must be established, documented and tested prior to acceptance and use. Future capacity requirements should be made to reduce the risk of system overload or failure.
8. Documents, computer media, data and system documentation must be protected from unauthorized disclosure, modification, removal or destruction.
9. Data and information exchanges within government, or with an external entity, must be secure and managed through a documented process.
10. government information and technology assets will be monitored regularly and logs maintained to identify inappropriate access, use, or other security events.
11. Access to information, systems, and business processes must be managed and controlled on the basis of business and security requirements.
12. Access to, or from, internal and external networks and network services must be managed and controlled.
13. Security requirements must be assessed, identified, documented, and agreed to during all stages of development.
14. The security controls of new or modified information systems and services must be reviewed prior to implementation.
15. Information and technology assets will be protected commensurate with the identified risks and security requirements.
16. Information security incidents, events and weaknesses must be managed and communicated to the government Chief Information Officer for corrective action, if appropriate.
17. Information security management requirements must be integrated into the business continuity planning process to protect information systems and communication technologies from disasters, loss of service or information security failures.
18. The security of information systems and communications technologies must be regularly reviewed to ensure compliance with applicable legislation, policies, standards and documented security controls.

## Information Security Policy

### **6.7.1 All removable computer media must be managed with controls appropriate for the sensitivity of the data contained on the media.**

- a) Management of government records
- b) Use of portable storage devices
- c) Human factors
- d) Risk assessment factors and controls
- e) Mandatory controls

**Purpose: To ensure that *risks* to information introduced by *portable storage devices* are sufficiently managed.**

**6.7.1 a) Management of government records**

Information Access Operations, Shared Services BC is responsible for the management and disposal of government records through the *Document Disposal Act*.

**6.7.1 b) Use of portable storage devices**

The use of portable storage devices to store or transport information increases the risk of information compromise. Portable storage devices are typically small, portable and are easily lost, stolen or damaged, particularly when transported in public environments. *Information Owners, Information Custodians and Managers* must:

- Ensure that use of portable storage devices is managed and controlled to mitigate risks;
- Document processes for authorizing use of portable storage devices; and,
- Ensure personnel using portable storage devices protect information and information technology assets in their custody or control.

To ensure that sufficient safeguards are implemented to protect information commensurate with its sensitivity, a *Security Threat and Risk Assessment* must be performed prior to permitting the use of a class of portable storage devices.

Technical standards for each class of media must be documented including product name, mandatory controls, permitted information classifications and strength of controls such as encryption key length.

Media handling procedures should include instructions to minimize the amount of information stored on portable storage devices.

**6.7.1 c) Human factors**

*Information Owners, Information Custodians and Managers* must ensure personnel using portable storage devices are:

- Aware of the additional risks and responsibilities inherent with portable storage devices;
- Familiar with operation of the required protection technologies and when they must be used; and,
- Familiar with security event and loss reporting procedures.

**6.7.1 d) Risk assessment factors**

The Security Threat and Risk Assessment must consider the impact of disclosure or loss of information stored on portable media from threats such as:

- Loss or physical theft;
- Limited ability to control and log access to stored data;
- Accidental media destruction;
- Improper long term storage environment;
- Exposure to malicious and mobile code; and
- Incomplete erasure of data prior to device disposal.

Information classification and sensitivity levels must be considered in the risk assessment.

#### **6.7.1 e) Mandatory controls**

Minimum information protection safeguards for the use of portable storage devices include:

- Disabling portable storage devices, media drives or connection ports where no business reason exists for their use;
- Documented definition of information classifications or sensitivities permitted to exist on specific media types;
- Not storing the only version of a document on portable storage devices;
- Documented authorization processes for use of portable storage devices;
- Encryption of stored data;
- Contractual requirements for external parties that transport, handle or store portable storage devices;
- Adherence to manufacturer specifications for media storage environment; and,
- Documented portable storage devices handling procedures including:
  - Off-site storage,
  - Third party transportation,
  - Information backup,
  - Prevention of mobile and malicious software,
  - Logging of media custody and location to allow for accounting and audit,
  - Media labelling to indicate owner, classification and special handling restrictions,
  - Maintenance of information where the information storage requirement exceeds the expected media lifetime, and,
  - Secure erasure and disposal.

...

Only approved media devices appropriate for the classification of the information being stored may be used.

#### **7.7.1 Appropriate controls must be implemented to mitigate security risks associated with the use of portable storage devices.**

- a) Information protection paramount
- b) Service-specific risks and practices
- c) Protection of credentials
- d) Protection of network endpoint and physical device
- e) Human factors
- f) Risk assessment factors

**Purpose: To protect information stored on *portable storage devices* from loss or unauthorized access.**

### **7.7.1 a) Information protection paramount**

Information Owners and Information Custodians must ensure that use of portable storage devices is managed and controlled to mitigate the inherent *risks* of portable storage devices.

The use of portable storage devices such as laptops or other mobile devices to access, store, or process information increases the risk of information compromise. Portable storage devices are typically small, portable, used in uncontrolled public environments and are easily lost, stolen or damaged.

To ensure that sufficient safeguards are implemented to protect information commensurate with its sensitivity a *Security Threat and Risk Assessment (STRA)* must be performed prior to permitting subscription or use of *mobile computing services*.

Users of mobile computing services must ensure that information and information technology assets in their custody or control are protected.

### **7.7.1 b) Service-specific risks and practices**

Providers of mobile computing services must perform annual risk assessments to identify service-specific risks. Policies, standards, practices and guidelines that treat these risks must be developed, documented and maintained by the service provider.

### **7.7.1 c) Protection of credentials**

*User identifiers* and user credentials must be protected to reduce the risk of unauthorized access to information and information technology assets.

In particular, users must protect against visual eavesdropping of passwords, PINs and other credentials, especially when in public places. See ISP 7.3.1

### **7.7.1 d) Protection of network endpoint and physical devices**

Portable storage devices are typically used to store information or remotely access *government networks* and services. The policies and procedures governing *remote access* apply to mobile devices. See ISP ss. 6.6.1, ISP 7.4.1, ISP 7.4.2, ISP 7.4.5 and ISP 7.4.6. Where Remote Access services are used, the portable storage device must be configured to prevent its use as a conduit between the non-government and government networks (e.g., VPN split tunnelling must be disabled).

Network access to portable storage devices from non-government networks must be blocked by implementation of firewall or filtering technologies to protect against attack (e.g., to prevent network attacks against the mobile device).

Portable storage devices must be protected against *mobile* and *malicious code*.

Portable storage devices must be locked and/or secured when unattended to prevent unauthorized use or theft (e.g., use device locks, cable locks, physical container locks, PINs or screensaver locks).

### 7.7.1 e) Human factors

Information Owners and Information Custodians must provide users of mobile computing services with security awareness training, to ensure that Users are:

- Aware of the additional risks and responsibilities inherent in mobile computing and when using portable storage devices;
- Familiar with operation of the protection technologies in use; and,
- Familiar with the Information Incident Management Process.

### 7.7.1 f) Risk assessment factors

The Security Threat and Risk Assessment must consider threats to information and information technology assets, such as:

- Physical theft;
- Use of the portable devices to remotely access government networks and systems;
- Data interception;
- Credential theft;
- Unauthorized device use;
- Device destruction;
- Information destruction;
- Covert key logging or password harvester programs; and,
- Malicious and mobile code.

Information classification and sensitivity levels must be considered in the risk assessment.

Minimum information protection safeguards for the use of portable storage devices include:

- **Encryption of stored data** to prevent information loss resulting from the theft of the mobile or remote device;
- **Encryption of data transmitted** via public network;
- **Access control permissions on a portable storage device** must be applied to prevent unauthorised access to information by system users, particularly for multi-user mobile systems;
- **Regularly maintained data backups** of information stored on portable storage devices using government backup facilities to protect against information loss;
- To provide **information availability** portable storage devices must not be used to store the only copy of a government record;
- **Physical security of the device** must be maintained to protect against asset and information loss; and,
- **User authentication** to the portable storage device and **user authentication** for remote

**Portable Storage Directive****Memorandum 44692 – Use of Portable Storage Devices**

Ref: 44692  
Date: June 2, 2006  
To: Assistant Deputy Minister of Corporate Services  
Re: **Use of Portable Storage Devices**

**VIA e-MAIL**

In regards to the "Investigation Report 2006 – 048 – Loss of custody of 41 computer data tapes containing personal and sensitive information", recommendation number 7 (attached) describes the need to store sensitive or personal information on the government network and not on "non-encrypted" portable storage devices (e.g., disks, memory sticks, MP3 players, CDs/DVDs) or local hard drives. In support of this recommendation:

- management, employees and contractors are to be reminded that they are responsible for the information and storage devices under their care;
- information temporarily stored on a portable storage device should be transferred to the government network as soon as practicable and then deleted from the portable storage device. government information should be stored on the government network whenever possible to ensure the protection and long term availability of the information;
- sensitive or personal information must be encrypted when stored on portable storage devices to ensure protection from loss, compromise or unauthorized disclosure. Staff should ensure that information in their care is protected commensurate with its value and sensitivity; and
- government policy (Core Policy and Procedures Manual 6.3.5(a) 6)) requires that all information technology hardware purchases be handled by Shared Services BC (CITS). I have asked Shared Services BC to temporarily stop issuing memory sticks until a suitable encryption mechanism can be identified and implemented. Ministries can contact their Client Business Analyst for advice on short term alternatives to the use of memory sticks and exception processes.

As part of recommendation number 5 (attached), Mr. Bruce Cuthbert and Mr. Brent Grover from my office are conducting a feasibility study on the encryption of portable storage devices and backup storage devices to protect government data. Results of this study will be used to select encryption products and processes to ensure the protection of government's information assets.

[Office-use Signed By:]

Dave Nikolejsin  
Chief Information Officer

Attachment

cc: Mr. Gordon Macatee, Deputy Minister  
Ms. Elaine McKnight, Assistant Deputy Minister

Assistant Deputy Ministers of Corporate Services, Advisory Council  
Information Management  
Mr. Bruce Cuthbert, Director, ICT Architecture & Standards  
Mr. Brent Grover, Manager, IT/IM Policy

**Attachment**

Excerpt from “Investigation Report 2006 – 048 – Loss of custody of 41 computer data tapes containing personal and sensitive information”

**Recommendation number 5**

It is recommended that government consider the feasibility of encrypting government data on portable storage devices (e.g., Blackberries, laptops, etc.) and on backup storage devices.

**Recommendation number 7**

It is recommended that government issue policy that all computer files containing personal information be stored on the government network and not on “non-encrypted” personal computing devices or data storage media (e.g., personal computer hard drives, laptops, PDAs, etc.).

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