Public Service Pension Plan

Annual Report 2019

Fair governance

Strong financials

Responsible investing

pspp.pensionsbc.ca

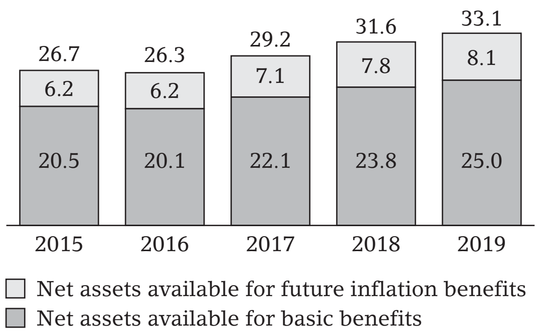
Contents

A message from your trustees

Providing value in retirement

It is our pleasure to share the Public Service Pension Plan's *2019 Annual Report*. As trustees, we know plan members count on us to deliver their lifetime pensions and govern their plan in a way that maximizes value and long-term sustainability. Members want to have absolute confidence their pensions will be there for them, and this annual report highlights many reasons they can have this confidence.

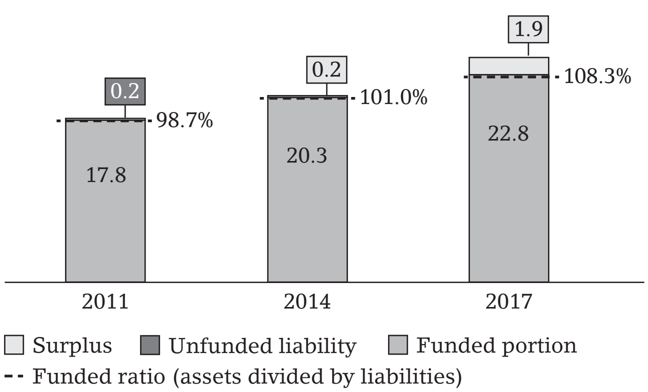
Net assets available for benefits ($ billions)
as at March 31



Value through investment

We strive to have well informed and strategic investment policies with British Columbia Investment Management Corporation (BCI) that rise to the challenge of today's investment climate. In 2019, this work paid off once again: the market value of the plan's investments increased from $31.6 billion to $33.1 billion. The plan remains fully funded and well-positioned to pay current and future pension obligations.

Funding of the total basic benefit liability ($ billions)
as at March 31



Funding ratios
2011 to 2017 (%)

Year	Ratio
2017	108.3
2014	101.0
2011	98.7

Value through design

The plan turned 84 years old in 2019. One key reason it continues to succeed is its ability to adapt to changing demographics, and legislative and economic conditions. Last year, the Public Service Pension Plan partners—the BC Government and Service Employees' Union and the Government of BC—agreed to a set of plan design changes that de-coupled the plan from Canada Pension Plan and improved equity among members. We implemented these changes for a majority of our plan members last spring. In 2019, design work continued for BC's ambulance paramedics. These changes are effective April 1, 2020, and will provide ambulance paramedics the same flat accrual rate on future service as general members. The plan design changes also provide for alternative early retirement options for ambulance paramedics in public safety occupations.

We also introduced a new temporary annuity option to provide future retirees with more flexibility for their retirement planning. Starting in November 2019, members can choose to take half of a full temporary annuity amount. Temporary annuities are based on the maximum monthly old age security payment—this new option is half that amount. We expect the new temporary annuity option to be a welcome addition for members considering retirement.

WHO WE ARE

Board of trustees

The plan is jointly managed by trustees appointed by the employer partner (Government of BC) and the member partner (BC Government and Service Employees' Union). The trustees themselves appoint a chair and vice-chair.

The board appoints trustees to serve as directors of BCI (the plan's investment manager) and BC Pension Corporation (the plan's administrative agent). During the fiscal year, Ron McEachern was a director of BCI, and David Vipond, John Mazure and Chan-Seng Lee were directors of BC Pension Corporation.

Learn about the trustees and their backgrounds and responsibilities at pspp.pensionsbc.ca/board-trustees

Left to right. Back row: Tom Vincent, Doug Dykens, Johanna Morrow, Harpinder Sandhu, Chan-Seng Lee, Lawrence Johnson, Kelly Wheeler, Paul Finch, Troy Clifford. Front row: Maria Middlemiss, David Vipond (chair), Ron McEachern (vice-chair), Angie Sorrell

Value through education

A vital part of plan membership is learning about the pension and other post-retirement benefits. To support member education further, we introduced a new video and new member content about retirement health coverage on the *Learning resources* section of our plan website. We have a full schedule of member workshops occurring throughout BC in 2019 and 2020, and we will continue looking for ways to enhance and improve our member educational offerings.

A special thank you for a job well done

Lastly, we would like to take a moment to thank Ron McEachern for his service to the board. Ron joined the board in 2002, and served as our chair and vice-chair over the past five years. Ron has provided valuable guidance, insight and leadership, and has steered the plan to its current state. He leaves the Public Service Pension Plan in good hands and great shape.

Investments

Performance over time

Plan investments matter

Investment income makes up about three of every four dollars a member of the Public Service Pension Plan (plan) receives in retirement. The rest comes from member contributions and employer contributions. Responsible for the plan's financial health, the Public Service Pension Board of Trustees (board) aims for sound long-term investment performance. It oversees the management of plan assets through British Columbia Investment Management Corporation, the plan's investment manager, which works as an agent of the board.

Investment highlights

Report on 2018/2019 investment results

The plan had a strong fiscal year despite the market challenges in December 2018.

- The plan's overall assets rose to $33.1 billion as at March 31, 2019—an increase of $1.5 billion
- The plan earned 6.2 per cent net of fees for the fiscal year ending March 31, 2019, outperforming the benchmark of 5.8 per cent
- The plan continues to exceed its long-term return objective, earning 8.5 per cent annually over the preceding five-year period relative to the actuarial return objective of 6.25 per cent
- The plan has benefited from rising public equity markets, consistent returns from private equity, and the relative stability of fixed income

Investment performance—market value rates of return
for the year ended March 31

(All values %)	Year	Investment returns	Performance benchmark[1]
Annual rates	**2019**	**6.2**	**5.8**
	2018	9.8	8.0
	2017	12.8	12.2
	2016	0.0	(0.1)
	2015	14.5	12.8
Five-year annualized rates	**2019**	**8.5**	**7.6**
	2018	10.2	9.0
Ten-year annualized rates	**2019**	**9.9**	**8.8**
	2018	7.6	7.0

1 Benchmarks are standards to compare against actual investment returns.

Five-year financial summary ($ millions)
for the year ended March 31

	2019	2018	2017	2016	2015
Increase in assets					
Investment income	**$ 1,993**	$ 2,906	$ 3,381	$ 45	$ 3,438
Contributions					
Employers	**401**	376	353	338	328
Members	**332**	318	308	285	275
Transfers from other plans	**10**	12	21	8	11
Total increase in assets	**2,736**	3,612	4,063	676	4,052
Decrease in assets					
Pension benefits	**1,062**	1,011	962	917	868
Termination benefits	**80**	82	76	84	87
Transfers to other plans	**14**	9	12	10	12
Retired member group benefits	**22**	21	21	22	19
Investment and administration costs[1]	**85**	95	68	64	54
Total decrease in assets	**1,263**	1,218	1,139	1,097	1,040
Increase in net assets	**1,473**	2,394	2,924	(421)	3,012
Net assets available for benefits at beginning of year	**31,599**	29,205	26,281	26,702	23,690
Net assets available for benefits at end of year	**$33,072**	$31,599	$29,205	$26,281	$23,690
Investment and administration costs as a percentage of net assets[1]					
Investment management[1,2]	**0.30**	0.36	0.25	0.23	0.21
Benefits administation	**0.08**	0.06	0.06	0.06	0.05

1 Investment costs as a percentage of net assets include external investment management costs totalling $37.4 million (2018—$31.8 million; 2017—$18.4 million; 2016—$11.7 million; 2015—$15.2 million) that are netted against investment income; they are not included in investment and administration costs in the financial statements. Included in the 2017 through 2019 external investment management costs are costs that were not captured in 2015 and 2016.

2 Investment and administration costs as a percentage of net assets exclude external indirect investment management costs netted against investment income. This is consistent with current industry practice; including these costs increases investment management costs as a percentage of net assets by 33 basis points in the 2019 fiscal year. External indirect investment management costs include limited partnership costs incurred within investments held in the private equity, infrastructure and global real estate asset classes.

Market outlook for 2018/19

The plan has a long-term investment horizon as the plan's liabilities are also long term in nature. The board and BCI remain focused on holding a diversified investment portfolio that follows a disciplined, long-term approach to managing the plan's investments.

Looking forward, geopolitical tensions and policy uncertainties are expected to remain high, with ongoing trade disputes, implications from Brexit and signs of slowing global growth. Concerns over slowing growth led the Bank of Canada and the U.S. Federal Reserve to pause interest rate hikes, resulting in a boost in fixed income returns. Income-generating assets may benefit from a stable rate policy, while a slowing economy may negatively impact growth-oriented assets.

The plan is continuing its transition toward an updated asset mix, which took effect January 1, 2019. As such, the plan has reduced its exposure to public equities and increased its exposure to fixed income, real estate, private equity, and infrastructure and renewable resources. BCI will continue to focus on risk management, expanding investment strategies and increasing efficiencies through initiatives such as managing more assets in-house. BCI believes these measures will continue to help the plan meet its return objectives and build long-term wealth for plan members.

Risk management

The board oversees the investment strategy and overall framework for the management of the plan's assets as outlined in the Statement of Investment Policies and Procedures. The board approves the strategic asset allocation policy, recognizing the importance of taking a long-term investment perspective.

Investments are held across a range of asset types (fixed income, mortgages, public and private equity, real estate, and infrastructure and renewable resources), industry sectors and global markets, as diversification is a key principle in managing risk.

Risk management is a fiduciary responsibility of the board and BCI. The actions of anticipating risk and taking appropriate steps to limit exposure or capitalize on opportunities are essential to BCI's business plan and risk-management activities.

Responsible investing

Responsible investing is an integral part of the plan's investment approach. The board and BCI believe that assessing and managing risk over the long term—the cornerstone of responsible investing—is a fundamental way to meet their mandate to grow and protect the value of the plan's fund. Taking environmental, social and governance (ESG) matters into account enables investors to understand, manage and mitigate risks associated with long-term investments. The board believes companies that employ robust ESG practices are better positioned to generate long-term value for investors than similar companies with less favourable practices.

ESG considerations are integrated into investment analysis, decisions and processes. As an asset manager, BCI takes an active approach in monitoring ESG factors and engaging with companies to raise awareness that good corporate governance is the overarching framework for effective management of risk. BCI uses its influence as a shareholder to encourage companies to manage and report on ESG risks.

Collaborating with like-minded investors and organizations to enhance governance practices and standards is important to the board. BCI is

ENVIRONMENTAL, SOCIAL AND GOVERNANCE MATTERS

ESG is the integration of environmental, social and governance factors in investment decision making.

Examples:

- Environmental: including greenhouse gas emissions, waste management or energy efficiency
- Social: including human rights, labour standards in the supply chain, or adherence to workplace health and safety
- Governance: including board structure, diversity, and compensation, or transparency and disclosure

a signatory to the Principles for Responsible Investment (PRI), an international network of investors, coordinated by the United Nations, that share the goal of incorporating ESG elements into the processes and activities of institutional investors. BCI's and the board's approach for responsible investing is aligned with the PRI, which provides a set of principles for institutional investors to consider as they integrate ESG factors into their investment processes and analysis, ownership activities, and interactions with long-term investors.

BCI collaborates with a number of other organizations, including the International Corporate Governance Network, CDP (formerly Carbon Disclosure Project) and Investor Network on Climate Risk.

In addition, the board supports BCI as a member of the steering committee for the 30% Club, which advocates for companies to enhance gender diversity, and the Sustainability Accounting Standards Board, which has a mandate to promote standards of sustainability reporting.

Climate change continues to be a growing concern for the board, plan members and global investors. To mitigate some potential challenges of investing with respect to climate risk, BCI introduced a four-part climate action plan to address investment issues related to climate change.

The climate action plan focuses on ways to

1. manage investment risks,
2. integrate climate considerations into investments,
3. seek low-carbon investment opportunities, and
4. engage and advocate with portfolio companies as part of the investment manager's overall investment strategy.

By measuring the exposure to climate-related risks, assessing market trends and managing investments, BCI is able to limit its climate change risk.

Learn more about responsible investing activities on the BCI website at BCI.ca.

Investment asset mix

Recognizing the importance of taking a long-term investment perspective, the board approves the plan's strategic asset allocation policy. The plan's asset mix policy reflects an increased focus on real assets, such as land, buildings, infrastructure, regulated utilities and renewable resources, and private market assets, such as private equity. These assets typically provide capital appreciation, income and inflation protection, and are ideally suited for the long-term financial objectives of the plan.

Investments consist primarily of ownership in units of pooled investment portfolios, which are reviewed based on the fair market value of the underlying assets. The remainder consists of directly held investments.

PRINCIPLES FOR RESPONSIBLE INVESTMENT

PRI is a United Nations–supported initiative to develop and promote best practices in the area of responsible investing. PRI provides a set of principles for institutional investors to consider as they integrate environmental, social and governance factors into their investment processes and analysis, ownership activities, and interactions with other long-term investors.

For more information, visit unpri.org.

POOLED INVESTMENT PORTFOLIOS

A pooled investment portfolio is a fund similar to a mutual fund; it enables participants to purchase and sell units in the fund and combine investment dollars to acquire securities and other investments. Investors in pooled funds benefit from economies of scale and diversification.

Investment asset mix
as at March 31, 2019

(All values %)	Approved range	Strategic asset mix	Actual asset mix	Rate of return	Performance benchmark
Short-term	0–10	2	3.6	2.3	1.5
Mortgages	0–11	6	3.9	5.1	4.2
Bonds	5–20	10	8.7	5.6	5.3
Fixed income	**12–28**	**18**	**16.2**	**4.6**	**4.4**
Canadian equities	3–15	7	7.0	6.5	8.1
Global equities	18–38	28	28.9	7.9	7.8
Emerging markets equities	5–15	10	10.0	(5.3)	(4.1)
Equity	**35–55**	**45**	**45.9**	**5.1**	**5.4**
Real estate	**10–25**	**16**	**15.7**	**8.3**	**5.9**
Private equity	**3–18**	**10**	**9.9**	**9.2**	**8.3**
IRR[1]	**5–20**	**11**	**10.7**	**7.2**	**7.0**
Other[2]	**0–5**	**0**	**1.6**	**6.2**	**1.6**
Total portfolio		**100**	**100.0**	**6.2**	**5.8**

1 Infrastructure and renewable resources.
2 The rate of return for "other" is for the period May 31, 2018 to March 31, 2019.

Managing costs

BCI operates on a cost-recovery, not-for-profit basis. Its large asset size provides access to substantial economies of scale. Managing investment costs is important to the board, and BCI's fees continue to be lower than those available in the private sector. The board focuses on overall net returns, as these returns contribute to the plan's long-term sustainability.

Investment holdings

During the fiscal year, markets were impacted by global trade tensions, falling energy prices and a deterioration in global economic indicators, including a pronounced slowing in the Chinese domestic economy. The plan's combined public equities portfolio earned 5.1 per cent. Emerging markets was the most impacted by market uncertainty and the weakest performer within public equities, returning -5.3 per cent. Canadian equities delivered the strongest returns within public equities, earning 6.5 per cent as Canadian markets rebounded in the final quarter of the fiscal year.

Investment portfolio
as at March 31, 2019

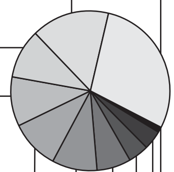
	Market value ($ millions)	Asset mix market value (%)
Short-term		
Money market	$ 990	3.0
Short-term bonds (1–5 years)	211	0.6
	1,201	3.6
Bonds		
Canadian bond universe	2,378	7.2
Corporate bonds	492	1.5
Real return and segregated bonds	3	0.0
	2,873	8.7
Mortgages	1,294	3.9
Canadian equities	2,330	7.0
Global equities[1]		
U.S.	1,275	3.9
Global	7,028	21.2
Europe	455	1.4
Asia	319	1.0
Thematic equities	476	1.4
	9,553	28.9
Emerging markets[1]	3,296	10.0
Real estate	5,203	15.7
Private equity, infrastructure and renewable resources		
Private equity	3,285	9.9
Infrastructure and renewable resources	3,523	10.7
	6,808	20.6
Other	538	1.6
Total investments	**$33,096**	**100.0**
2018 comparison	$ 31,273	

1 Asset classifications vary from the financial statements for the purpose of performance reporting.

Investments: Performance over time

Investment holdings—market value
($ billions)
as at March 31, 2019

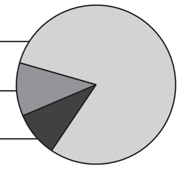
Global equities	$9.6	29%
Real estate	$5.2	16%
IRR[1]	$3.5	10%
Private equity	$3.3	10%
Emerging markets equities	$3.3	10%
Bonds	$2.9	9%
Canadian equities	$2.3	7%
Mortgages	$1.3	4%
Short-term	$1.2	4%
Other	$0.5	1%



1 Infrastructure and renewable resources.

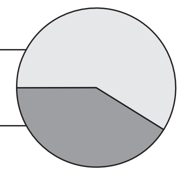
Infrastructure and renewable resources (%)
as at March 31, 2019

Infrastructure	80
Timber	11
Agriculture	9



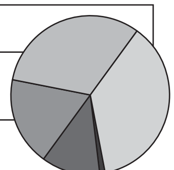
Bonds—market value (%)
as at March 31, 2019

Government	59
Corporate	41



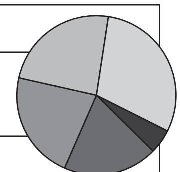
Domestic real estate, by type (%)
as at March 31, 2019

Office	37
Residential	32
Industrial	18
Retail	12
Other	1



Real estate, by location (%)
as at March 31, 2019

Ontario	30
International	24
British Columbia	22
Alberta	19
Rest of Canada	5



The combined fixed income portfolio, which includes money market, bonds and mortgages, earned 4.6 per cent in an environment of rising interest rates with three Bank of Canada rate increases over the year. In the final quarters of the fiscal year, returns benefited from declining long-term interest rates as the Bank of Canada shifted to a more neutral stance, and markets adjusted for stable inflation and a slower growth outlook.

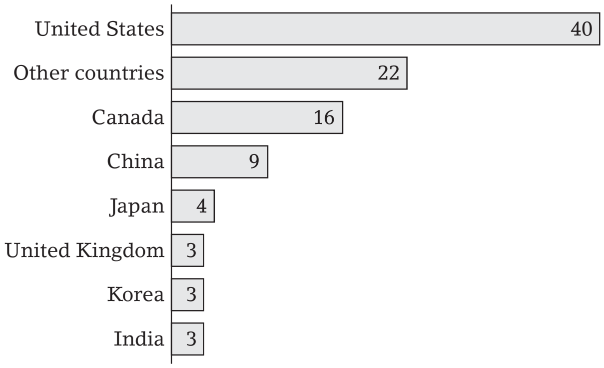
Private markets delivered strong performance during the year, earning 7.8 per cent. The combined real estate portfolio returned 8.5 per cent, with domestic real estate earning 7.6 per cent and global real estate earning 10.7 per cent. In the Canadian portfolio, vacancy rates in the office, industrial and residential markets continued to fall as demand in these sectors outpaced new supply.

Top 25 company holdings
as at March 31, 2019

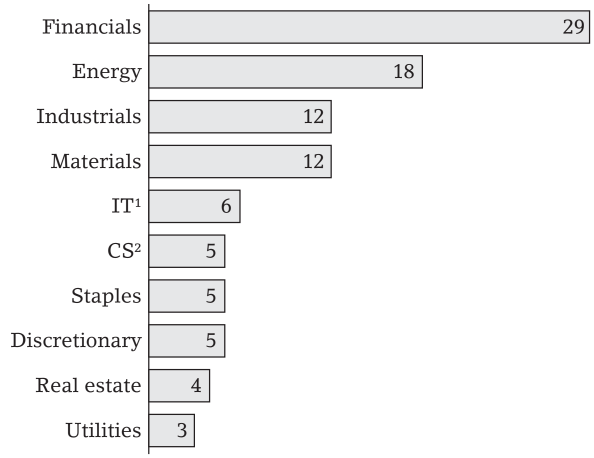
Company	% of portfolio	% of public equity	Total exposure ($ millions)
Chinese state–controlled companies[1]	1.1	2.3	$ 351
Microsoft Corp.	0.7	1.4	214
Tencent Holdings Ltd.	0.6	1.2	184
Alphabet Inc.	0.5	1.2	179
Apple Inc.	0.5	1.1	171
Alibaba Group Holding Ltd.	0.5	1.0	156
Samsung Electronics Co. Ltd.	0.5	1.0	153
Amazon.com Inc.	0.5	1.0	153
Royal Bank of Canada	0.5	1.0	146
The Toronto-Dominion Bank	0.4	1.0	143
Taiwan Semiconductor Manufacturing	0.4	0.9	137
Enbridge Inc.	0.3	0.6	95
Johnson and Johnson	0.3	0.6	93
Canadian National Railway Co.	0.2	0.5	79
Suncor Energy Inc.	0.2	0.5	78
Exxon Mobil Corp.	0.2	0.5	77
Facebook Inc.	0.2	0.5	76
Brookfield Asset Management Inc.	0.2	0.5	76
Mastercard Inc.	0.2	0.5	76
Bank of Nova Scotia	0.2	0.5	75
Royal Dutch Shell Plc	0.2	0.5	69
UnitedHealth Group Inc.	0.2	0.5	66
Roche Holding AG	0.2	0.4	64
Procter and Gamble Co.	0.2	0.4	64
JPMorgan Chase and Co.	0.2	0.4	63
Total top 25	9.2	20.0	3,038
Total public equity			15,179
Total portfolio			**$33,096**

1 Company exposures are based on the ultimate parent company exposure regardless of where the security is listed or traded. As a result, the above exposure report shows Chinese state–controlled companies as one of the top exposures because the ultimate parent company for many companies in China is the Chinese government.

Equities, by country (% of public equity)
as at March 31, 2019

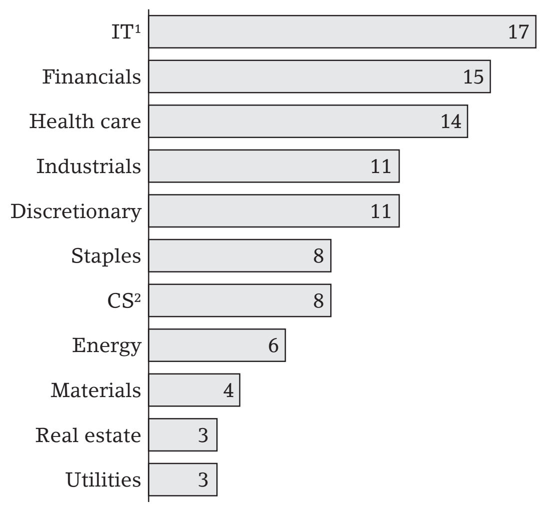


Canadian equities, by sector (%)
as at March 31, 2019



1 Information technologies.
2 Communication services.

Global equities, by sector (%)
as at March 31, 2019



1 Information technologies.
2 Communication services.

Benefits and contributions

Lifetime pension

How is the pension calculated?

The lifetime pension is based on a calculation that uses a member's age, their years of pensionable service and the average of the best five years of their salary (not necessarily the last five years).

The plan provides a safe and effective way to save for retirement. It's a pre-funded pension plan, which means enough money is set aside through contributions and investments to pay lifetime pensions now and into the future. Once members make their first contribution, they are entitled to a pension at their earliest retirement age. The plan also provides survivor and disability benefits.

Contributions

Active members contribute to the plan through automatic payroll deductions. Employers and members make pension contributions to the basic account and inflation adjustment account (IAA). If members end employment, retire, reach 35 years of pensionable service, or are in receipt of benefits from an approved group disability plan, they no longer contribute to the plan.

Contributions[1] (% of salary)

Rates effective April 1, 2018

	Account	Member	Employer
	Basic[2]	7.10	7.10
	IAA[3]	1.25	2.75
	Total	8.35	9.85

Rates effective from April 1, 2012 to March 31, 2018

	Account	Member	Employer
Below YMPE[4]	Basic[2]	6.68	6.68
	IAA[3]	1.25	2.75
	Total	7.93	9.43
Above YMPE[2]	Basic[2]	8.18	8.18
	IAA[3]	1.25	2.75
	Total	9.43	10.93

1 Rates apply to most members, excluding groups with higher contribution rates (correctional employees, emergency health workers, some statutory officers, judges, members of the legislative assembly and masters of the court).

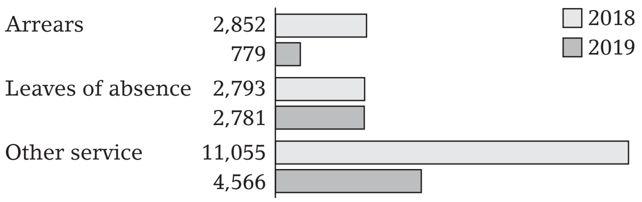
2 Members and employers both contribute to the basic account to provide for member pensions.

3 Inflation adjustment account. Members and employers also contribute to the IAA to provide for inflation adjustments, which are not guaranteed. Retirement group health benefits are partially funded from a portion of employer contributions, which would otherwise go to the IAA, and partially funded from benefit premiums paid by plan members.

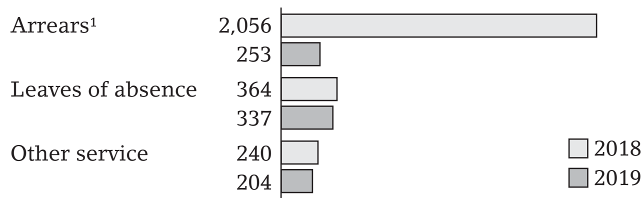
4 Year's maximum pensionable earnings. YMPE is a salary limit set each year by the federal government; Canada Pension Plan contributions cannot be made on earnings above YMPE. YMPE for 2018 is $55,900.

Benefits and contributions: Lifetime pension

Contributions for purchases ($ thousands)
for the year ended March 31



Number of purchases
for the year ended March 31



1 The majority of 2018 arrears relate to one employer.

As at March 31, 2019, the average annual pension in pay is $22,111, and the median is $18,328. Figures are gross amounts; they indicate all pensions in pay and include bridge and temporary annuities.

Pensions
for the year ended March 31

	Public Service			($ millions)		
	New pensions during year	Pension terminations	In force at end of year	Basic pensions paid	Inflation supplements paid	Total pensions paid
2019	**2,575**	**921**	**49,546**	**$893.9**	**$167.8**	**$1,061.7**
2018	2,510	900	47,892	852.3	158.2	1,010.5
2017	2,466	1,050	46,282	809.6	152.3	961.9
2016	2,385	907	44,866	768.6	147.9	916.5
2015	2,359	839	43,388	$727.3	$141.0	$ 868.3

New pensions by type
for the year ended March 31

	Regular	Pre-retirement (limited member)	Post-retirement (limited member)	Death	Disability	Deferred	Total
2019	**1,896**	**56**	**23**	**31**	**196**	**373**	**2,575**
2018	1,869	48	16	46	190	341	2,510
2017	1,829	64	20	35	185	333	2,466
2016	1,740	56	18	47	200	324	2,385
2015	1,759	66	15	27	185	307	2,359

Average amount of new pensions
for the year ended March 31, 2019

Years of service[1]	Number of new pensions	Average amount: Annual salary base	Average amount: Annual lifetime pension[2]	Median annual lifetime pension[2]
< 10 Years	445	$70,700	$ 5,500	$ 4,000
10 < 15	350	69,700	11,200	9,400
15 < 20	324	73,200	16,600	14,100
20 < 25	349	71,900	21,300	17,900
25 < 30	572	71,600	26,000	22,200
30 < 35	331	70,700	30,300	27,300
≥ 35 Years	204	72,700	35,000	29,200
Total	**2,575**	**n/a**	**n/a**	**n/a**
Average				
All lifetime pensions		$71,400	$19,900	$16,900
Age	61			
Years of service	21			

1 Years of service includes service transferred from other plans.
2 Does not include value of bridge benefits. Members receive the bridge benefit until they turn 65, or die, whichever comes first. For service accrued on or after April 1, 2018, the bridge benefit will not apply.

Additional components and service options

Beyond the lifetime pension, several non-guaranteed components and service options are available to members.

Inflation adjustments (non-guaranteed)

Inflation adjustments help our retired members keep pace with increases in the cost of living over time. Future inflation adjustments are not guaranteed and are granted only when enough funds are available in the IAA.

Both active members and employers contribute to the IAA. Part of employers' contributions, up to a fixed proportion, helps pay for retirement group health benefits. The remainder is deposited to the IAA; together with active members' contributions and investment returns, it pays for inflation adjustments. Once an inflation adjustment is granted to retired members, it becomes part of their lifetime pension. For members receiving the bridge benefit, previous indexing of the bridge benefit ends at the same time as the bridge benefit itself, at age 65 or death (whichever happens first). For service accrued on or after April 1, 2018 (April 1, 2020, for ambulance paramedics), the bridge benefit does not apply.

Group benefits (non-guaranteed)

Group coverage, including extended health care (EHC) and group life insurance, is not guaranteed. This means the board may change coverage and subsidies at any time. The plan subsidizes a portion of the premiums for retired members' EHC; the subsidy depends on the member's pensionable service. These subsidies are funded by a small portion of employers' contributions to the IAA. The plan may also pay group life insurance subsidies for retired members under age 65 who had access to the group life insurance plan through their employer when they were active employees.

The plan does not subsidize dental premiums. Each retired member choosing to participate must pay their full premium for dental coverage. The plan does not subsidize EHC premiums for spouses and dependants of retired members. Each retired member must pay the full premium for any EHC and/or dental coverage they choose for their spouse or dependants.

Termination and refund benefits

Members who leave the plan but have not yet reached the earliest retirement age may choose one of the following:

› Defer their pension
› Transfer the commuted value of their pension (the minimum value is their contributions plus interest) to a locked-in retirement account or similar tax-deferred plan

If members leave the plan and have reached the earliest retirement age, they may choose one of the following:

› Defer their pension
› Take an immediate pension (which may be reduced)

Service transfers

When moving to an employer with a different pension plan, members may be able to transfer their service if a transfer agreement is in place between the pension plans. However, it may be in the best interest of members in this situation to leave their benefit in the Public Service Pension Plan, as they may be eligible to receive a lifetime pension when they reach their earliest retirement age.

Service purchases

Members may be able to increase their future pension by buying service—paying for periods of employment not already counted as service with the plan—which may include the following:

- Leaves of absence (such as pregnancy, parental, compassionate care and general leaves)
- Arrears contributions (occurring if a member was not enrolled properly or if their contributions were not deducted and remitted)
- Time worked for an employer before the employer joined the plan
- Non-contributory service (employment service with a plan employer from before an employee became a member)

Depending on the type of service they choose to buy, members may be responsible for paying both the employee and employer portions, or just the employee portion. For more information on buying service, visit the plan website.

For the fiscal year ended March 31, 2019, there were 794 purchases of service with a total contribution of about 8.1 million.

Temporary annuities

Members can buy an optional temporary annuity (additional monthly payment) to increase their monthly income until age 65 or death, whichever happens first. If members buy a temporary annuity, their basic lifetime pension income after age 65 will be lower than it would be if they did not buy the annuity. Members who retire at an earlier age will pay a higher amount for the temporary annuity.

In 2019, the board created a new half temporary annuity option. Members may choose this new option because the temporary monthly payments are half the size of full temporary annuity payments, but with a smaller decrease in their lifetime pension income. This option will be based on half of the maximum old age security pension and is payable to age 65 or death.

Services and communications

Plan website and My Account

The plan website is an excellent source of pension plan information, providing the resources and tools members need to make the most of their plan. On the plan website, members can sign in to My Account for instant access to their personal pension information. Here they will find personalized pension and purchase cost estimators to help with their planning, and when they are ready to retire, they can apply for their pension online. New in My Account is Message Centre, a secure channel for sending and receiving messages and attachments online. It’s a convenient and safe way for members to keep track of all their pension interactions online.

Communications

New information is regularly published and online products and services are continually being developed to meet members' needs. Communications products, such as the *Member's Benefit Statement* and the annual report, keep members informed about their plan and up to date on plan rule changes.

Member services

The plan has skilled staff ready to assist members who need support or information about key life events, such as retirement planning, marital breakdown or death of a spouse.

For all other needs, such as updating an address or banking information, naming a beneficiary, reviewing future pension estimates and applying to retire online, My Account is available on the plan website, anytime, anywhere.

Member workshops

Educational resources for plan members include the online introduction *Getting to Know Your Pension* and two workshops: *Making the Most of Your Pension* and *Approaching Retirement*. Designed to help educate members at all career stages, these online workshops make important information available to members at their convenience.

Participants

The people and organizations in the plan

Members

Membership in the plan is open to all eligible employees of the provincial public service or other employers approved by the board. Once an employee begins contributing to the plan, contributions will continue as long as the member remains with a plan employer or until they have completed 35 years of pensionable service.

MEMBER CATEGORIES

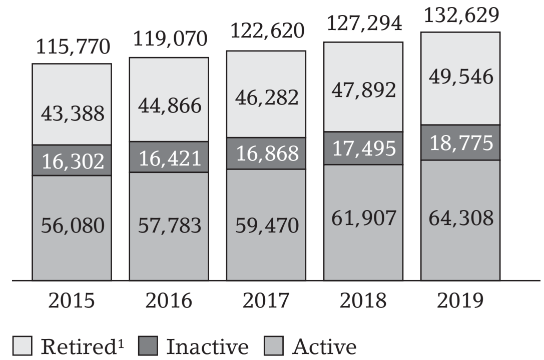
Active
Currently contributing (or no longer contributing because they have earned 35 or more years of pensionable service), receiving benefits from an approved group disability plan or on an approved leave of absence

Limited
Spouse or ex-spouse who applied to the plan following separation or divorce from a member and who is entitled to a portion of the member's benefit

Inactive
Ended employment but left their benefit in the plan

Retired
Receiving a pension, including a disability benefit

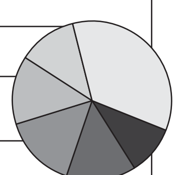
Total membership profile
as at March 31



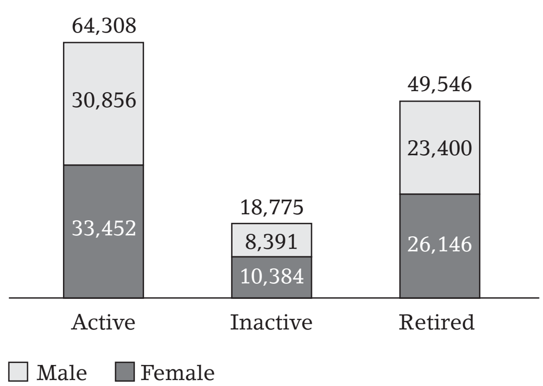
1 Limited members are included within the retired member category when they retire and claim a portion of an active or inactive member's pension benefit.

Age profile of active members
as at March 31, 2019

< 40 years	22,149	35%
40 < 45 years	7,785	12%
45 < 50 years	9,078	14%
50 < 55 years	9,839	15%
55 < 60 years	8,891	14%
≥ 60 years	6,566	10%



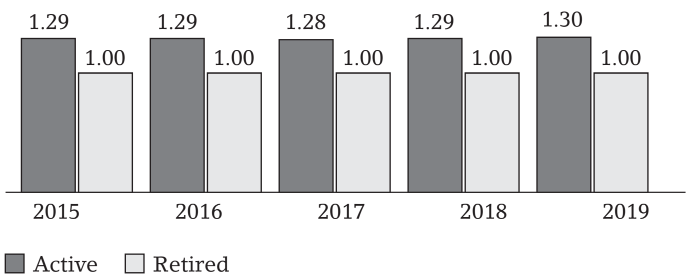
Gender profile of members
as at March 31, 2019



Participants: The people and organizations in the plan

As at March 31, 2019, the number of active plan members had increased by 14.7 per cent over the previous four years, while the number of retired members increased by 14.2 per cent.

Ratio of active to retired members
as at March 31



Employers

As at March 31, 2019, the plan has more than 90 employers. For a complete list, see Appendix on page 67.

Governance

Board activities and responsibilities

Trustee activities

During the fiscal year ended March 31, 2019, the board and its committees undertook several significant initiatives to position the plan for the future while continuing to govern effectively in the present. The board implemented a plan partners' agreement and distributed a portion of the 2017 actuarial surplus. The board welcomed three new plan employers and their eligible employees to the plan, made submissions to consultations on non-traditional pension plans and solvency funding to promote greater pension coverage for workers, and continued to consider the challenges of providing valuable post-retirement group benefits in the rapidly changing health care landscape. The board and its committees devoted significant attention to investment issues in 2018/19, including new investment products, governance arrangements and responsible investing.

Trustee attendance[1]

		Committees										
	Board meeting	Benefits	Communications	Governance	IP[2] audit	IP exec	IP investment	IP trustee education	Exec forum	Attended	Eligible	(%)
Days	9.5	3.5	2.5	2	3	5	4	1.5	2		33	
A. Blackstock[3]	6	—	—	—	—	—	—	—	—	6	7.5	80
T. Clifford	6.5	3.5	—	—	—	—	—	—	—	10	13	77
J. Davison[4]	0	0	—	—	—	—	—	—	—	0	3	0
D. Dykens[5]	3.5	0		—	—	—	—	—	—	3.5	4.5	78
P. Finch	5.5	2	0.5	—	—	—	—	—	—	8	15.5	52
L. Johnson	9.5	2.5	1.5	2	—	—	3	—	—	18.5	21.5	86
C. Lee	7.5	3	—	—	—	—	3	—	—	13.5	17	79
J. Mazure[6]	2	1	—	—	0	—	—	—	—	3	3.5	86
R. McEachern	9.5	3.5	2.5	2	—	5	—	—	2	24.5	24.5	100
M. Middlemiss	9.5	3.5	—	1	—	—	—	—	—	14	15	93
J. Morrow	9.5	3.5	—	2	3	—	—	—	—	18	18	100
H. Sandhu	9	2.5	—	—	—	—	—	—	—	11.5	13	88
B. Schramm[7]	4	2.5	1	1.5	—	—	—	—	—	9	9	100
A. Sorrell[8]	5.5	2	—	0.5	—	—	—	—	—	8	10	80
T. Vincent	9.5	3.5	2.5	2	—	—	4	1.5	—	23	23	100
D. Vipond	7.5	3.5	—	—	—	4.5	—	—	2	17.5	20	88
K. Wheeler	8.5	0.5	—	—	2	—	—	—	—	11	15	73

1 Attendance statistics are for regular board and committee meetings; they do not include education sessions, orientation sessions, meetings attended as a guest, sub-committees, conferences (including BC Public Sector Pension Conference) or special meetings of the chair with service providers.
2 Interplan.
3 Start date July 4, 2018.
4 End date July 4, 2018.
5 Start date January 14, 2019.
6 End date July 4, 2018.
7 End date Sept 21, 2018.
8 Start date July 5, 2018.

Trustee remuneration

Trustees are compensated by the plan for their time spent on board business. Remuneration guidelines and rates are set out in the Public Service Pension Board of Trustees Remuneration Policy. Trustees receive remuneration directly if they are not paid for time spent on board duties from any other organization. If they are reimbursed from another organization, they may request the remuneration be paid to the other organization. Trustee remuneration may be adjusted annually under board policy by an amount equal to the inflation adjustment made to pension payments.

Expenses related to trustee attendance at educational events and at meetings to conduct board business are reimbursed within board policy limits.

Trustee remuneration rates[1]

	April 1, 2018 to December 31, 2018	January 1, 2019 to March 31, 2019
Annual retainers ($ per year)		
Board member	$ 5,208	$ 5,328
Board chair	15,624	15,984
Vice-chair	10,416	10,656
Committee chair	5,208 + 2,084	5,328 + 2,132
per committee to a maximum of[2]	9,376	9,592
Travel retainer[3]	1,044	1,068
Meeting fee ($ per meeting)	412	421

1 Trustees are remunerated by the plan for time spent on board business; remuneration rates are set out in the Public Service Pension Board of Trustees Remuneration Policy effective January each year.

2 For committees scheduled to meet at least three times per year.

3 For trustees who regularly travel four or more hours (one way) to attend meetings.

Board member remuneration
for the year ended March 31, 2019

Board member	Meeting fee	Retainer	Payment	Remuneration paid to
Alyson Blackstock	$ 3,323.00	$ 3,936.00	$ 7,259.00	BC Public Service Agency
Troy Clifford	6,628.00	6,288.00	12,916.00	Board member
Douglas Dykens	1,473.50	1,332.00	2,805.50	BCGEU
Paul Finch	4,975.50	5,238.00	10,213.50	BCGEU
Lawrence Johnson	8,477.50	6,292.00	14,769.50	Board member
Chan-Seng Lee	6,435.50	5,238.00	11,673.50	Board member ($5,238) Partnerships BC Inc. ($6,435)
John Mazure	1,236.00	1,302.00	2,538.00	Ministry of Attorney General
Ron McEachern (vice-chair)	12,221.50	10,476.00	22,697.50	Board member
Maria Middlemiss	5,602.50	5,238.00	10,840.50	BCGEU
Johanna Morrow	9,543.50	7,334.00	16,877.50	Board member ($5,022) Emergency Management BC ($11,855)
Harpinder Sandhu	7,246.00	5,238.00	12,484.00	Board member
Brian Schramm	4,738.00	3,646.00	8,384.00	BCGEU
Angie Sorrell	3,336.50	2,634.00	5,970.50	Public Sector Employer's Council Secretariat
Thomas Vincent	10,573.50	9,430.00	20,003.50	Board member
David Vipond (chair)	10,582.50	16,764.00	27,346.50	Board member
Kelly Wheeler	6,637.00	5,238.00	11,875.00	BC Ferry Services Inc.
Total	$103,030.00	$95,624.00	$198,654.00	

Committees

There are a number of standing committees of the board, which meet on a regular basis to deal with specific areas of pension plan administration. The board also strikes ad hoc committees as required.

Benefits committee

Chair: Tom Vincent

The benefits committee reviews both plan rules affecting benefit entitlements and pension plan policies related to benefit administration; it recommends changes as required. The committee also reviews post-retirement group benefit rules and recommends changes to plan design, coverage levels and cost structure.

Communications committee

Chair: Lawrence Johnson

The communications committee approves the board's strategic communications plan and issue-specific communications plans. It oversees the communication of plan rule changes, and the development of annual reports.

Governance committee

Chair: Kelly Wheeler

The governance committee develops and reviews board operational policies, tools and processes related to risk management, strategic planning and other matters. The committee prepares reports on the board's governance structures and activities as required by pension legislation.

Interplan audit committee

Chair: Wayne Jefferson, Teachers' Pension Board of Trustees

The interplan audit committee is composed of two nominees from each of the College, Municipal, Public Service and Teachers' pension boards of trustees. The committee prepares each plan's annual financial statements and provides mandated financial oversight by

- monitoring and reporting to the boards on the integrity of reporting, internal controls and compliance of financial statements with generally accepted accounting principles;
- monitoring and reporting on the independence and performance of external auditors;
- monitoring and reporting on risk management as it affects financial reporting; and
- recommending the selection and compensation of external auditors.

Interplan investment committee

Chair: Tom Vincent, Public Service Pension Board of Trustees

The interplan investment committee provides a forum for considering investment issues common to the College, Public Service and Teachers' pension boards of trustees. The committee considers trends in the investment industry, new investment approaches and vehicles, and economic and market updates.

Interplan executive committee

Chair: David Vipond, Public Service Pension Board of Trustees

The interplan executive committee facilitates communication to ensure that the College, Public Service and Teachers' pension boards of trustees meet their common governance and operational requirements, and oversees the operation of Pension Board Secretariat.

Interplan trustee education committee

Chair: Weldon Cowan, College Pension Board of Trustees

The interplan trustee education committee provides advice on developing the trustees' knowledge and skills required to govern the plans' complex trust arrangements. This committee organizes the annual BC Public Sector Pension Conference.

Interplan executive forum

Chairs: executive staff of the plan boards

The interplan executive forum is a venue for the chairs and vice-chairs of the College, Municipal, Public Service and Teachers' pension boards of trustees to discuss issues of mutual interest, including pension reform, research, governance and risk.

Partners, agents and service providers

Plan governance arrangements contribute to the overall fairness of the plan and are laid out in the Public Service Pension Plan Joint Trust Agreement. The agreement is available on the plan website.

The plan partners (BC Government and Service Employees' Union and the Government of BC) and other organizations representing plan employers and members are responsible for nominating and appointing trustees.

The board is responsible for the governance of the plan. Its obligation by law is to act even-handedly in the best financial interest of a diverse membership and consider the interests of all members when making decisions. Trustees are drawn from a cross-section of employer and member groups participating in the plan. Though trustees bring unique perspectives to the board table, they must act together for all members.

The board can change plan rules if directed to do so by the plan partners and if certain conditions are met. It can also amend plan rules as long as the changes are cost-neutral to the plan. The joint trust agreement sets out conditions for implementing certain changes.

British Columbia Investment Management Corporation

BCI is one of Canada's largest investment managers, with a portfolio of $145.6 billion as at March 31, 2019. It offers investment options across a range of asset classes, including infrastructure, renewable resources and long-term strategic themes. BCI provides investment management services as an agent of the board.

BC Pension Corporation

BC Pension Corporation is one of the largest pension benefit administrators in Canada, serving the largest public sector pension plans in British Columbia. It provides benefit administration services as an agent of the boards of trustees for College, Municipal, Public Service and Teachers' pension plans, and of the WorkSafeBC Pension Plan Pension Committee. It provides plan information to members and employers, manages contributions and member records, and pays pension benefits; it also provides policy, financial and communication services to the board.

Eckler Ltd.
Eckler Ltd. is a Canada-based actuarial and consulting firm specializing in financial services, pensions and benefits, and global consulting solutions. It provides consulting and actuarial services to the plan.

KPMG LLP
KPMG LLP was appointed to perform the audit of the plan's financial statements for the year ended March 31, 2019.

Green Shield Canada
Green Shield Canada provides retired plan members access to optional extended health care and dental coverage.

Plan rules

The following plan rule changes were approved between April 1, 2018 and March 31, 2019:

Public safety and statutory officers purchase of service cost clarification
Amendment 42—effective June 13, 2018
The amendment clarifies that public safety members (i.e., ambulance paramedics and correctional employees) and statutory officers pay a higher cost when they buy certain types of service and pay both the member and employer portions of the purchase. The higher cost reflects the additional contributions that employers pay for these groups to fund an earlier retirement age. Examples of eligible service include certain general leaves over 30 days and non-contributory periods where an employer–employee relationship did not exist.

New employee category for paramedics
Amendment 43—retroactively effective April 1, 2015
The board added a new employee category—regular part-time paramedics—to the categories eligible for an enhanced early retirement benefit.

Commuted value payment eligibility
Amendment 44—effective June 13, 2018
The amendment allows members who turn 55 between April 1, 2018 and October 1, 2019, a one-time opportunity to request an updated termination estimate. Members who turn 55 within this time frame can request the updated estimate anytime between October 1 and 31, 2019, to take advantage of the plan changes effective October 1, 2019.

Public safety contribution rate adjustments

Amendment 45—effective August 1, 2018

Following the 2017 valuation results, member and employer contribution rates for public safety members were adjusted.

Employment Standards Act leave of absence updates

Amendment 46—effective May 17, 2018

British Columbia's *Employment Standards Act* (ESA) was amended regarding leaves that are considered ESA protected. The board adopted plan rule amendments because of these changes.

Pension Benefits Standards Act terminology update for "pension"

Amendment 47—effective December 14, 2018

The new *Pension Benefits Standards Act* (PBSA) came into effect September 30, 2015. The board approved plan rule amendments to implement administrative compliance with the new legislation. The plan rules have been updated with terminology to ensure "pension" is used only in reference to a lifetime benefit, in accordance with the PBSA.

Past-service pension improvement

Amendment 48—effective October 1, 2019

In March 2018, the board announced a past-service pension improvement. Changes are effective October 1, 2019, and apply to members who have service between April 1, 2006 and March 31, 2018, inclusive. These changes also apply to public safety employees, including correctional employees and full-time and permanent part-time BC Ambulance Service paramedics in the Canadian Union of Public Employees Local 873.

While researching the impacts of the past-service pension improvement, the board identified a small segment of members whose pensions would be reduced slightly if they were in a very specific retirement situation. The board has taken steps to ensure these members won't be negatively affected.

The specific retirement situation has three elements; members in this situation

- are under age 65,
- retired before October 1, 2019, and
- chose a single life 15-year guarantee or a joint life pension option at retirement.

The reduction has to do with an element of the pension calculation called the optional form factor, which is used to convert the normal form of pension into a monthly pension option. To ensure members in this situation are not negatively affected by the past-service pension improvement, the board will maintain current retirement benefit amounts for affected retired members until age 65. After age 65, these members will see an increase in their monthly pension; however, the increase will be reduced to recover the amount they received before age 65 to mitigate the negative impact.

New half temporary annuity option
Amendment 49—effective November 10, 2019
In December 2018, the board approved a decision to offer members the option of adding a temporary annuity at retirement that is half the full temporary annuity amount.

Removal of Canada Pension Plan–exempt pension provisions
Amendment 50—effective June 13, 2019
The board removed the historical Canada Pension Plan–exempt pension provisions as none of the plan's current members are exempt.

Financial statements

BC PENSION
CORPORATION

September 23, 2019

Re: Public Service Pension Plan
Administrative Agent's Responsibility for Financial Reporting

The financial statements of the Public Service Pension Plan (Plan) were prepared by the British Columbia Pension Corporation (Pension Corporation), the administrative agent for the Public Service Pension Board of Trustees (Board), in accordance with Canadian accounting standards for pension plans. The Board is responsible for approving the Plan's financial statements. The Board is assisted by the Interplan Audit Committee (Committee), which is made up of representatives from the Public Service, Municipal, Teachers' and College pension boards of trustees. As part of their responsibility, the committee reviews the financial statements, and performs steps and procedures as necessary, prior to recommending them to the Board for approval.

Pension Corporation prepares the financial statements and is responsible for the integrity and fairness of the data presented, including significant accounting judgments and estimates. This responsibility includes selecting appropriate accounting policies consistent with accounting standards for pension plans. In discharging its responsibility, Pension Corporation maintains a system of internal controls designed to provide reasonable assurance that transactions are properly authorized, reliable financial records are maintained, and assets are adequately safeguarded, ensuring the fair presentation of the financial statements. Pension Corporation has assessed that the Plan will continue as a going concern, and ensured that other financial information contained in the *Public Service Pension Plan Annual Report* is consistent with these financial statements.

The Board appointed KPMG LLP as the independent auditor to the Plan. The role of the auditor is to perform an independent audit of the financial statements of the Plan in accordance with Canadian generally accepted auditing standards. The resulting audit opinion is set out in the independent auditors' report attached to these financial statements.

Trevor Fedyna, CPA, CGA, C. Dir. Vice-president, Corporate Services and Chief Financial Officer British Columbia Pension Corporation	**Allan Chen, CPA, CA** Controller, Financial Services British Columbia Pension Corporation

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KPMG

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INDEPENDENT AUDITORS' REPORT

To the Members of the Public Service Pension Plan

Opinion

We have audited the financial statements of the Public Service Pension Plan (the "Plan"), which comprise:

- the statement of financial position as at March 31, 2019
- the statement of changes in net assets available for benefits for the year then ended
- the statement of changes in accrued pension obligations for the year then ended
- and notes to the financial statements, including a summary of significant accounting policies and other explanatory information.

(Hereinafter referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Plan as at March 31, 2019, and the changes in its net assets available for benefits and the changes in its accrued pension obligations for the year then ended in accordance with Canadian accounting standards for pension plans.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the "***Auditors' Responsibilities for the Audit of the Financial Statements***" section of our auditors' report.

We are independent of the Plan in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Public Service Pension Plan
Page 2

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian Standards for pension plans, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Plan's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Plan or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Plan's financial reporting process.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

  The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

KPMG

Public Service Pension Plan
Page 3

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Plan's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Plan to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

KPMG LLP

Chartered Professional Accountants

Vancouver, Canada
September 23, 2019

PUBLIC SERVICE PENSION PLAN
STATEMENT OF FINANCIAL POSITION
($ millions)

As at March 31	Note		2019		2018
Assets					
Investments	3a	$	33,096	$	31,273
Directly held derivatives	3b		15		22
Receivables					
Due from sale of investments			21		909
Members' contributions			13		12
Employers' contributions			16		14
			50		935
Cash			5		-
Prepaid expenses			5		5
Total assets			33,171		32,235
Liabilities					
Payable for purchase of investments			26		566
Directly held derivatives	3b		45		47
Accounts payable and accrued expenses			16		12
Taxes payable			12		11
Total liabilities			99		636
Net assets available for benefits		**$**	**33,072**	**$**	**31,599**
Accrued pension obligations					
Accrued basic pension obligations	4a	$	20,511	$	19,563
Non-guaranteed pension obligations	4b		8,103		7,781
Accrued pension obligations			28,614		27,344
Surplus					
Funding surplus	5a		2,676		1,995
Measurement differences between funding and accounting positions	5a		1,782		2,260
Surplus			4,458		4,255
Accrued pension obligations and surplus		**$**	**33,072**	**$**	**31,599**

The accompanying notes are an integral part of the financial statements including:
Commitments (note 14)

Approved by the Public Service Pension Board of Trustees:

David Vipond, Chair
Public Service Pension Board of Trustees

Wanda Boden, Trustee
Public Service Pension Board of Trustees

Kelly Wheeler, Trustee
Public Service Pension Board of Trustees

Public Service Pension Plan

PUBLIC SERVICE PENSION PLAN
STATEMENT OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
($ millions)

For the year ended March 31	Note	Basic account	Inflation adjustment account	Supplemental benefits account	Totals 2019	Totals 2018
Increase in assets						
Investment income	8	$ 1,506	$ 487	$ -	$ 1,993	$ 2,906
Contributions	9					
Employer						
Province of British Columbia		144	49	27	220	206
Other		129	40	12	181	169
		273	89	39	401	375
Member		281	50	1	332	318
		554	139	40	733	693
Transfers from other plans		8	2	-	10	12
Total increase in assets		2,068	628	40	2,736	3,611
Decrease in assets						
Benefits	10	1,084	40	18	1,142	1,092
Transfers to other plans		7	7	-	14	9
Retired member group benefits	11	-	-	22	22	21
Investment and administration costs	12b	70	15	-	85	95
Total decrease in assets		1,161	62	40	1,263	1,217
Increase in net assets before transfers		907	566	-	1,473	2,394
Account transfers	13	244	(244)	-	-	-
Increase in net assets		**1,151**	**322**	**-**	**1,473**	**2,394**
Net assets available for benefits at beginning of year		23,818	7,781	-	31,599	29,205
Net assets available for benefits at end of year		**$ 24,969**	**$ 8,103**	**$ -**	**$ 33,072**	**$ 31,599**

The accompanying notes are an integral part of these financial statements.

PUBLIC SERVICE PENSION PLAN
STATEMENT OF CHANGES IN ACCRUED PENSION OBLIGATIONS
($ millions)

For the year ended March 31	Note	2019	2018
Increase in accrued pension obligations			
Interest on accrued pension obligations		$ 1,211	$ 1,109
Benefits accrued		627	578
Change in actuarial assumptions		-	262
Benefit improvement		-	851
Account transfers		244	153
Increase in accrued pension obligations		2,082	2,953
Decrease in accrued pension obligations			
Experience gains		-	527
Benefits paid		1,134	1,075
Decrease in accrued pension obligations		1,134	1,602
Net increase in accrued pension obligations		**948**	**1,351**
Accrued basic pension obligations, beginning of year		19,563	18,212
Accrued basic pension obligations, end of year	4a	20,511	19,563
Non-guaranteed pension obligations			
Increase in non-guaranteed pension obligations	4b	322	641
Non-guaranteed pension obligations, beginning of year		7,781	7,140
Non-guaranteed pension obligations, end of year	4b	8,103	7,781
Total accrued pension obligations		**$ 28,614**	**$ 27,344**

The accompanying notes are an integral part of these financial statements.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

1. DESCRIPTION OF THE PUBLIC SERVICE PENSION PLAN

The following description of the Public Service Pension Plan (Plan) is a summary provided for general information only. For more information, please refer to the Joint Trust Agreement (Agreement) and the Public Service Pension Plan Rules (pension plan rules).

a) General

The Plan is a jointly trusteed pension plan continued under a joint trust agreement authorized by the *Public Sector Pension Plans Act*, SBC 1999, c.44 (Act). The Act enabled the establishment of the Agreement. Joint trusteeship was established effective January 1, 2001. The partners to the Agreement are the Provincial Government and the British Columbia Government and Service Employees' Union (Partners). The Agreement describes the composition, appointment, powers, functions and duties of the Public Service Pension Board of Trustees (Board) and provides the authority for the Board to make the pension plan rules.

The Plan is registered with the Superintendent of Pensions, who administers and enforces the *Pension Benefits Standards Act* (PBSA). The PBSA governs employment pension plans registered in British Columbia that have active, inactive and retired members.

Membership in the Plan is open to eligible employees of the Province of British Columbia and certain crown corporations, agencies, institutions, and other employers approved by the Board, and eligible Members of the Legislative Assembly.

b) Roles and responsibilities

Partners

The Partners and other organizations representing the plan members and employers are responsible for appointing the 14 trustees to the Board. The Partners have responsibility for resolving trustee disputes and, if certain conditions are met, may direct amendments to the pension plan rules.

Board

The Board is responsible for the management of the Plan, including investment of assets and administration of the Plan. The Board may amend the pension plan rules as long as changes can be funded by the Plan's surpluses or are cost-neutral to the Plan. Unless required to ensure compliance with regulatory enactments applicable to the Plan, only the Partners can initiate pension plan rule changes that result in contribution rate increases. The Agreement allows the Board to either appoint a chair from among the 14 trustees or appoint a person not appointed by the Partners. The vice-chair is appointed by the other trustees, from among the 14 trustees.

British Columbia Pension Corporation (Pension Corporation)

Pension Corporation provides benefit administration services as an agent of the Board. The Board appoints two members to the eight-member board of directors of Pension Corporation.

British Columbia Investment Management Corporation (BCI)

BCI provides investment management services, including the valuation of investments, as an agent of the Board. The Board appoints one member to the seven-member board of directors of BCI.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

1. DESCRIPTION OF THE PUBLIC SERVICE PENSION PLAN (continued)

c) Funding

Contributions and investment earnings fund plan benefits. Contributions are made by active members and employers of the Plan. The determination of the value of the benefits and required contributions is based on a triennial actuarial valuation for funding purposes.

The Board's funding policy is intended to secure the pension benefit obligation and achieve long-term stability in contribution rates for both employers and members.

d) Contributions

The following member and employer contributions apply to the majority of members, excluding corrections, ambulance paramedics, statutory officers, provincial court judges, masters of supreme court, and Members of the Legislative Assembly (certain limited groups) with higher contribution rates required to fund the cost of their benefits.

<u>Basic Account</u>

Effective April 1, 2018, a single contribution rate for the Basic Account replaced the two-tiered contribution rates for members and employers. Members contributed 7.10% of salaries and employers contributed 7.10% of members' salaries (excluding certain limited groups with higher contribution rates required to fund the cost of their benefits), less amounts allocated to the Supplemental Benefits Account.

Prior to April 1, 2018, members contributed to the Basic Account 6.68% of salaries up to and including the Canada Pension Plan year's maximum pensionable earnings (YMPE) (2018: $55,900 dollars) and 8.18% of salaries over YMPE, less amounts allocated to the Supplemental Benefits Account. Employer contributions to the Basic Account generally matched those for members, less amounts allocated to the Supplemental Benefits Account.

<u>Inflation Adjustment Account and Supplemental Benefits Account</u>

Members contributed 1.25% of salaries to the Inflation Adjustment Account (IAA). Employers contributed 2.75% of salaries to the IAA, less amounts allocated to the Supplemental Benefits Account.

e) Pension benefits

The following pension benefits apply to the majority of members, excluding certain limited groups, such as public safety occupations, that may be eligible for a benefit earlier than indicated.

All active members are eligible for a pension benefit.

For service on or after April 1, 2018, members are eligible for unreduced pension benefits

- at age 65;
- at age 60, with at least two years contributory service; or
- at age 55 or older, with at least 35 years of contributory service.

Other retiring members have a reduction factor applied to their pensions.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

1. DESCRIPTION OF THE PUBLIC SERVICE PENSION PLAN (continued)

e) Pension benefits (continued)

For service on or after April 1, 2018, the Plan provides a defined plan benefit of 1.85% of the member's highest five-year average annual salary (HAS) to a maximum of 35 years. The early retirement reduction applicable for service accrued after this date is 6.2% for each year below age 65 or age 60 with two years or more of contributory service.

For service up to March 31, 2018, the defined basic plan benefit was integrated with the Canada Pension Plan. As a result, the Plan provides a benefit of 1.35% (1.3% for members who terminated prior to March 1, 2002) of pensionable earnings up to YMPE and 2.0% of pensionable earnings over YMPE for each year of pensionable service (to a maximum of 35 years). For the pension calculation, pensionable earnings are based on the member's HAS.

For service up to March 31, 2018, the Plan also provides a bridge benefit payable to age 65 (or the date of death, if earlier). The bridge benefit is 0.65% (0.7% for members who terminated prior to March 1, 2002) of the lesser of YMPE or HAS for each year of pensionable service.

Effective October 1, 2019, service earned between April 1, 2006 and March 31, 2018, inclusive, will be adjusted. For service earned during this period, the Plan will provide an integrated defined basic plan benefit of 1.65% of pensionable earnings up to YMPE, and 2.0% of pensionable earnings over YMPE, for each year of pensionable service. Pensionable earnings are based on the member's HAS. The Plan will provide a bridge benefit payable to age 65 (or the date of death, if earlier). The bridge benefit will be 0.35% of the lesser of YMPE or HAS for each year of pensionable service.

For service up to March 31, 2018, members are eligible for unreduced pension benefits

- at age 65;
- at age 60, with at least two years contributory service; or
- at age 55 or older, with age plus years of contributory service totalling 85 or more.

Increases to pension payments related to inflation adjustments are not guaranteed but may be provided each January 1 in accordance with the inflation adjustment provisions of the Plan. These inflation adjustments are based on the annual average increase in the Canada consumer price index (CPI) over the preceding 12-month period ending the previous October 31, reduced for the CPI decrease, if any, in prior years and subject to the availability of funds in the IAA.

The Board annually considers all relevant factors and its IAA funding policy to determine if an inflation adjustment will be granted on pensions in pay and the amount of the inflation adjustment, if any.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

1. DESCRIPTION OF THE PUBLIC SERVICE PENSION PLAN (continued)

f) Termination and portability benefits

A terminating member, who is eligible for a pension but has not reached the earliest retirement age may choose

- a deferred pension, or
- a transfer of the commuted value of the pension benefit (the minimum value is the member's contributions with interest) to a locked-in retirement vehicle or similar tax-sheltered plan.

A terminating member may also choose to leave monies on deposit in anticipation of future re-employment with a plan employer.

Where there are portability arrangements between the Plan and other pension plans, members may be able to transfer certain pension rights.

g) Other benefits

Disability and survivor benefits are also available under the Plan. A disability benefit is available to a member under age 60 (under age 55 for certain limited groups) who has terminated employment, becomes totally and permanently disabled as defined by the Plan, has at least two years of contributory service, is not eligible to receive benefits from an approved long-term group disability plan and meets other eligibility requirements. The disability benefit is calculated using the greater of the member's years of pensionable service to the date of termination of employment and HAS, or an increased pension calculation as specified under the Income Tax Regulations. Disability benefits continue for the member's lifetime unless the member is no longer totally and permanently disabled before age 60 (age 55 for certain limited groups) or returns to work.

A death benefit may be available to a surviving spouse or designated beneficiary upon the death of an active member. Depending on eligibility requirements, the benefit may be paid in the form of a survivor pension or lump-sum payment.

Supplemental benefits are funded from the Supplemental Benefits Account.

h) Tax registration

The Plan is a Registered Pension Plan (RPP) as defined in the *Income Tax Act* (Canada) (Tax Act) (registration number 0345702), except for any supplemental benefits, which are funded in addition to the RPP. The Plan is not subject to income taxes but is subject to indirect taxes, including British Columbia provincial sales tax (PST) and Canadian federal goods and services tax (GST). The Plan receives a 33% rebate of GST paid.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

2. SIGNIFICANT ACCOUNTING POLICIES

a) Basis of presentation

These financial statements are prepared on the going-concern basis in accordance with Canadian accounting standards for pension plans, Part IV of the *Chartered Professional Accountants of Canada Handbook* (CPA Canada Handbook), and present the Plan as a separate financial reporting entity, independent of the Plan's contributing employers and members and independent of any associated retired member group benefit plans.

Accounting standards for private enterprises in Part II of the CPA Canada Handbook have been chosen for accounting policies that do not relate to the Plan's investment portfolio or accrued pension obligations.

b) Investments

Investments are stated at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Investment purchases and sales are recorded on the trade date (the date upon which the substantial risks and rewards of ownership have been transferred).

c) Accrued pension obligations

Accrued pension obligations are determined based on an actuarial valuation prepared by an independent actuarial consulting firm. The Plan actuary is Eckler Ltd. The valuation of accrued pension obligations is based on data extrapolated to the financial statement date. The valuation uses the projected benefit method pro-rated on service that incorporates the independent actuary's estimate of various economic and demographic assumptions. These assumptions are the same as those used in the determination of the actuarial position of the Plan for funding purposes.

d) Investment income

Income from investments is recorded on the accrual basis and represents pooled investment portfolio income attributable to the Plan as a unit holder and income from directly held investments. The current period change in fair value includes realized and unrealized gains and losses that are included in investment income.

Within the pools, dividends are accrued on the ex-dividend date and interest is recognized on an accrual basis. Gains and losses on derivative contracts are recognized concurrently with changes in their fair values.

e) Foreign currency translation

Assets and liabilities denominated in foreign currencies are translated into Canadian dollars at the prevailing exchange rates on the year-end date. Income and expenses are translated into Canadian dollars at the prevailing exchange rates on the dates of the transactions. The realized and unrealized gains and losses arising from these translations are included within the current period change in fair value in investment income.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

f) Use of estimates

The preparation of financial statements, in conformity with Canadian accounting standards for pension plans, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of increases and decreases in assets and liabilities during the period. Significant areas requiring the use of management estimates relate to the valuation of investments based on unobservable inputs, as further described in note 7, and the calculation of the accrued pension obligations for the Basic Account for accounting and funding purposes, as further described in notes 4 and 5. Actual results could differ materially from these estimates.

3. INVESTMENTS

a) Investments

Fair value of investment holdings	2019			2018		
	Basic account	Inflation adjustment account	Total	Basic account	Inflation adjustment account	Total
Short-term	$ 909	$ 292	$ 1,201	$ 697	$ 225	$ 922
Bonds	2,583	828	3,411	2,937	949	3,886
Canadian equities	1,764	566	2,330	1,718	555	2,273
U.S. equities	966	309	1,275	827	267	1,094
International equities	8,763	2,811	11,574	8,988	2,904	11,892
Mortgages	980	314	1,294	648	209	857
Real estate	3,939	1,264	5,203	3,396	1,097	4,493
Private equity	2,487	798	3,285	1,990	643	2,633
IRR*	2,667	856	3,523	2,436	787	3,223
	$ 25,058	**$ 8,038**	**$ 33,096**	**$ 23,637**	**$ 7,636**	**$ 31,273**

* Infrastructure and renewable resources

Plan investments consist primarily of direct ownership in units of pooled investment portfolios. Each unit gives its holder a proportionate share in the value of the net assets of the pooled investment fund. The Basic and IAA accounts are combined for investment management purposes.

One or more pooled investment portfolios exist for different types of investments, such as short-term investments; bonds; Canadian, U.S. and international equities; mortgages; real estate; private equity; and infrastructure and renewable resources. While the purpose of each fund is to invest in a particular type of investment, at any time, given the timing of trading activities, the fund may hold a certain amount of cash, short-term investments, accrued interest income and net accounts receivable or payable from outstanding sales and purchases of investments.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

3. INVESTMENTS (continued)

a) Investments (continued)

Short-term investments consist of Canadian and U.S. money market securities, such as treasury bills with maturities of 15 months or less, and short-term bonds with one to five-year terms. Short-term investments are valued using current market yields.

Bonds consist of government bonds, investment grade and non-investment grade corporate bonds, and debentures. Bonds are valued based on current market yields and, in some cases, quoted market prices. Equities consist primarily of publicly traded shares and, are valued based on quoted market prices on the primary exchanges on which they are traded.

Mortgages consist mainly of Canadian construction, commercial and multi-family residential mortgages. The mortgages are secured by real estate and valued using current market yields. Real estate investments consist mainly of diversified Canadian and U.S. income-producing properties. Real estate investments are valued quarterly by external investment managers and, at least once every 10 to 18 months, by accredited independent appraisers to establish current market values.

Private equity consists mainly of long-term debt or equity investments made outside the structure of public markets. Private equity is valued annually based on audited financial statements from external investment managers using a market-based approach or net asset value method.

Infrastructure and renewable resources consist of privately owned and managed infrastructure assets, as well as timber, agriculture and other renewable assets. Infrastructure and renewable resource investments are valued annually using a market-based approach or net asset value method.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

3. INVESTMENTS (continued)

b) Derivatives

Derivative contracts are directly held and indirectly held by the Plan. The details of these contracts are as follows:

Fair value of derivative contracts	**2019**		**2018**	
	Positive fair value	**Negative fair value**	**Positive fair value**	**Negative fair value**
Directly held				
Foreign currency forwards	$ 15	$ (45)	$ 22	$ (47)
	$ 15	**$ (45)**	**$ 22**	**$ (47)**
Indirectly held in pooled investment portfolios				
Foreign currency forwards	$ 1	$ (3)	$ -	$ (3)
Options	-	-	27	(27)
Futures	1	-	-	-
Interest rate swaps	-	(28)	-	-
Total return swaps	258	(7)	10	(42)
	$ 260	**$ (38)**	**$ 37**	**$ (72)**
Total derivatives	**$ 275**	**$ (83)**	**$ 59**	**$ (119)**
Derivatives by investment asset classification				
Bonds	$ 3	$ (5)	$ -	$ (8)
Canadian equities	29	(3)	-	(4)
U.S. equities	42	(5)	-	(1)
International equities	186	(27)	10	(38)
Mortgages	-	(4)	-	(1)
Private equity	-	-	27	(27)
Real estate	3	(10)	1	(15)
IRR*	12	(29)	21	(25)
Total derivatives	**$ 275**	**$ (83)**	**$ 59**	**$ (119)**

*Infrastructure and renewable resources

Derivative contracts consist of foreign currency forward contracts, options, futures, interest rate swaps, and total return swaps held directly by the Plan or indirectly through various pooled investment portfolios. Directly held and indirectly held derivative contracts are reflected at fair value based on expected settlement amounts at the date of the Statement of Financial Position. Directly held derivatives are disclosed on the face of the Statement of Financial Position while indirectly held derivatives are included in investments.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

3. INVESTMENTS (continued)

b) Derivatives (continued)

A foreign currency forward contract is a privately negotiated contractual obligation to exchange one currency for another at a specified price for settlement on a predetermined date in the future. Foreign currency forward contracts are held by the Plan to manage exposure to foreign currency risk.

Options are contracts that give the buyer the right, but not the obligation, to buy or sell a certain security or index at an agreed-upon price on or before a specified date. Futures contracts are exchange-traded contractual obligations to take or make delivery of an asset at a predefined price and date in the future. Options and futures are held for synthetic indexing, a modern technique used to replicate the performance of a security or index without directly purchasing or selling the underlying assets.

An interest rate swap is an agreement between two counterparties in which one stream of future interest payments is exchanged for another based on a specified principal amount. Interest rate swaps usually involve the exchange of a fixed interest rate for a floating interest rate, or vice versa, to reduce or increase exposure to fluctuations in interest rates or to obtain a marginally lower interest rate than would have been possible without the swap.

A total return swap is a swap agreement in which one party makes payments based on a set rate, either fixed or variable, while the other party makes payments based on the return of an underlying asset, including both the income it generates and any capital gains. In total return swaps, the underlying asset (referred to as the reference asset) is usually an equity index or basket of equity securities. Interest rate swaps and total return swaps are held indirectly through various pooled investment portfolios for synthetic indexing purposes.

Derivative transactions are supported with collateral to mitigate counterparty credit risk. A single net fair value amount is used to determine the value of collateral with each counterparty. Collateral approximately equal to the positive fair value of each derivative contract is provided by counterparties, and collateral approximately equal to the negative fair value of each derivative contract is delivered to counterparties. Acceptable forms of collateral include Canadian federal or provincial bonds, and U.S. federal government treasury bills and bonds.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

3. INVESTMENTS (continued)

b) Derivatives (continued)

The notional value of derivatives is the total value of a position, how much value a position controls, or an agreed-upon amount in a contract.

Notional value of derivatives			2019	2018
Term to maturity	Within 1 year	1 to 5 years	Total	Total
Derivatives by type of contract				
Foreign currency forwards	$ 4,488	$ -	$ 4,488	$ 3,372
Options	5	-	5	2,945
Futures	31	-	31	20
Interest rate swaps	644	2,685	3,329	19
Total return swaps	5,556	104	5,660	1,645
	$ 10,724	**$ 2,789**	**$ 13,513**	**$ 8,001**
Derivatives by investment asset classification				
Bonds	$ 865	$ -	$ 865	$ 459
Canadian equities	537	176	713	88
U.S. equities	791	505	1,296	392
International equities	4,881	2,108	6,989	1,540
Mortgages	442	-	442	89
Real estate	1,471	-	1,471	1,040
Private equity	8	-	8	2,949
IRR*	1,729	-	1,729	1,444
	$ 10,724	**$ 2,789**	**$ 13,513**	**$ 8,001**

* Infrastructure and renewable resources

4. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR ACCOUNTING PURPOSES

a) Basic Account

In accordance with the Agreement and PBSA, an actuarial valuation is performed at least every three years. Its primary objective is to assess the financial position and adequacy of funding for the Basic Account of the Plan as described in note 5a. As part of the actuarial valuation, the Plan actuary also calculates values, for accounting purposes, of the basic account assets as at, and pension liabilities accrued to, the financial statement date. For this purpose, contributions and benefits for future service are not included, in contrast to their inclusion in the valuation for funding purposes as described in note 5a. Also for accounting purposes, the full impact of investment fair value changes is reflected in the financial statements as at the financial statement date compared with the deferral and amortization of fair value gains or losses in the valuation for funding purposes. The liability for accrued basic pension obligations at the valuation date is determined using the projected benefit method pro-rated on service.

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

4. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR ACCOUNTING PURPOSES (continued)

a) Basic Account (continued)

The latest full actuarial valuation for accounting purposes was prepared as at March 31, 2017, by Eckler Ltd. This valuation calculated the liability for accrued basic pension obligations for financial statement purposes to be $17,947.

Between valuations, an estimate of the actuarial position is required. This estimate, an extrapolation, has been made to March 31, 2019, using the following long-term actuarial assumptions:

- Annual investment return 6.25%
- Annual salary escalation rate 3.50%

The extrapolation calculated the liability for accrued basic pension obligations to be $20,511 (2018: $19,563).

Extrapolations may not be reliable indicators of the next valuation results, nor do they necessarily reflect the overall trend of results. Between valuations, actual wage increases, investment earnings, and the incidence of retirements, withdrawals and changes in other factors may vary significantly from the long-term assumptions used in the extrapolation. In the event of a major change to the Plan, a new valuation or review of assumptions may be required.

The next full actuarial valuation will be carried out as at March 31, 2020, and the results will be included in the March 31, 2021, financial statements.

Actuarial liabilities are also affected by changes in the assumed investment return. Based on the actuarial valuation completed as at March 31, 2017, a reduction in the investment return assumption from 6.25% to 6.00% would have increased the March 31, 2019, liability for accrued basic pension obligations of $20,511 by $591 or 2.88%. Changes to assumptions included in the actuarial valuation are interrelated, and the cumulative impact of changed assumptions may be offsetting.

b) Inflation Adjustment Account (IAA), non-guaranteed pension obligations

No unfunded liability exists for the IAA since the obligation for future cost-of-living adjustments is limited to the amount of the available assets in the account. There is no minimum level of inflation adjustment required to be paid under the pension plan rules, nor is there any plan provision to fund the IAA to any minimum level of future potential inflation adjustments (note 5b). The non-guaranteed pension obligations is therefore equal to the net assets available for benefits in the IAA, 2019: $8,103 (2018: $7,781). The net increase of $322 (2018: $641 increase) in the IAA balance consists of employee and employer contributions, investment income and net transfers reduced by payments out of the account (see note 13 for details on amounts transferred).

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

5. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR FUNDING PURPOSES

a) Basic Account

The Basic Account is the account from which the defined basic benefits of the Plan are paid. In accordance with the Agreement and PBSA, an actuarial valuation of the Plan's assets and pension obligations is performed at least every three years by an independent actuary to determine an appropriate combined employer and member contribution rate to fund the Basic Account. For this purpose, the Plan's actuary values both accrued assets and accrued pension obligations to the financial statement date, and contributions and benefits for future service. The contribution requirements are calculated by the actuary using the entry-age normal cost method (entry-age method).

This method produces the long-term rate of member and employer contributions sufficient to provide benefits for the average future new entrants to the Plan. This rate may be adjusted for the amortization of any actuarial funding surplus, and this rate will be adjusted for the amortization of any unfunded actuarial liability.

The Basic Account is also the account from which any inflation adjustments granted to retired members are paid. Future inflation adjustments are not guaranteed within the plan provisions and are granted to retired members only to the extent that sufficient assets are available from the IAA to fund those benefits (note 5b). As inflation adjustments are granted, the Basic Account receives from the IAA the present value funding necessary for the inflation adjustments granted. Therefore, accrued basic pension obligations for valuation purposes include the liability for all inflation adjustments granted to the date of the valuation, but not for as-yet-unknown future inflation adjustments.

<u>Actuarial valuation</u>

The latest full actuarial valuation for funding purposes was prepared as at March 31, 2017, by the independent actuary based on the entry-age method; the valuation indicated an actuarial surplus of $1,896 prior to plan benefit changes.

The Agreement specifies that, if an actuarial valuation indicates increased basic contribution rates are required, the increase must be shared equally by members and employers. The Agreement also describes the manner in which the Board can elect to apply surplus assets. As a result of the March 31, 2017, basic account actuarial funding valuation surplus, plan benefit changes were approved by the Board on January 30, 2018. After plan benefits changes, the actuarial surplus was $1,166.

An estimate of the actuarial position of the Plan for funding purposes has been made to March 31, 2019, using the following long-term actuarial assumptions:

• Annual investment return	6.25%
• Annual salary escalation rate	3.50%

PUBLIC SERVICE PENSION PLAN
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2019

$ millions except as otherwise noted

5. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR FUNDING PURPOSES (continued)

a) Basic Account (continued)

This estimate, called an extrapolation, produced an estimated funding surplus of $2,676 as at March 31, 2019 (2018: $1,995), as follows:

Funding extrapolation	**2019**	**2018**
Net assets available for basic pension benefits	$ 24,969	$ 23,818
Actuarial asset value adjustment	(1,075)	(1,557)
Smoothed assets for basic pension benefits	23,894	22,261
Present value of future contributions at entry-age rate	4,955	4,662
Present value of temporary rate reduction below entry-age rate	(104)	(121)
Net actuarial assets for basic pension benefits	28,745	26,802
Actuarial liability for accrued and future basic pension benefits	(26,069)	(24,807)
Entry-age method actuarial surplus	**$ 2,676**	**$ 1,995**

Change in the extrapolated entry-age method funded status	**2019**	**2018**
Extrapolated entry-age method actuarial surplus, beginning of year	$ 1,995	$ 1,569
Extraoplated change in actuarial liability for accrued and future basic pension benefits	(1,262)	(1,897)
Extrapolated change in actuarial assets for basic pension benefits	1,943	2,323
Extrapolated entry-age method actuarial surplus, end of year	**$ 2,676**	**$ 1,995**

Extrapolations may not be reliable indicators of the next valuation results, nor do they necessarily reflect the overall trend of results. Between valuations, various factors, including actual wage increases, investment earnings, and the incidence of retirements and withdrawals, may vary significantly from the long-term assumptions used in the extrapolation.

Measurement difference between funding and accounting positions

The primary components of the measurement differences between the extrapolated entry-age method funding surplus and the financial statement accounting surplus are as follows:

Measurement difference between funding and accounting positions	**2019**	**2018**
Entry-age method actuarial surplus	$ 2,676	$ 1,995
Actuarial asset value adjustment	1,075	1,557
Difference in actuarial methods – present value of future contributions	(4,955)	(4,662)
Difference in actuarial methods – present value of rate reduction	104	121
Difference in actuarial methods – present value of future liabilities	5,558	5,244
Measurement differences between funding and accounting positions	1,782	2,260
Surplus for financial statement purposes	**$ 4,458**	**$ 4,255**

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5. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR FUNDING PURPOSES (continued)

a) Basic Account (continued)

Actuarial asset value adjustment

For the purposes of determining the entry-age method surplus for funding purposes, the actuarial value of net assets available for benefits is determined on an adjusted value basis that smooths the difference between the actual investment return and the expected return based on a long-term real return rate over a five-year period.

The funding policy requires that the value of the assets be smoothed within a certain corridor. In the 2017 valuation, the corridor required that the smoothed value be no more than 108% and no less than 92% of the market value of the assets. The smoothed value of the assets at March 31, 2019 was 95.7% of the market value of the assets (2018: 93.5%).

The following schedule indicates the year the components of the actuarial asset value adjustment will be recognized in the entry-age method actuarial surplus. The amounts are based on that proportion of the total fund related to the basic account assets.

Actuarial asset value adjustment	2019	2018
2019	$ -	$ 628
2020	319	282
2021	511	474
2022	209	173
2023	36	-
Total adjustment	**$ 1,075**	**$ 1,557**

Difference in actuarial methods

While the accrued pension obligations liability for financial statement purposes uses the projected benefit method prorated on service, the pension liability for funding purposes uses an entry-age funding method, where the present value of future normal cost contributions, basic pension benefits for future service and future amortization amounts are included in the determination of the funded status of the Plan.

b) Inflation Adjustment Account (IAA)

No unfunded liability exists for the IAA, since the obligation for future inflation adjustments is limited to the amount of the available assets in the account. As inflation adjustments are granted to retired members, full funding for the granted inflation adjustment, on a net present value basis, is transferred from the IAA to the Basic Account, from which the pensions are paid. There is no minimum level of inflation adjustment required to be paid under the pension plan rules, nor is there any plan provision to fund the IAA to any minimum level for future potential inflation adjustments.

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5. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR FUNDING PURPOSES (continued)

b) Inflation Adjustment Account (IAA) (continued)

The Board annually considers all relevant factors and its IAA funding policy to determine if an inflation adjustment will be granted on pensions in pay and the amount of the inflation adjustment, if any.

The Board monitors the performance of the IAA and, at least annually, reviews a sensitivity analysis of the projected impact on the IAA of possible differing future economic trends. Such factors include inflation rates, real wage growth rates, real investment rates of return and group health benefits costs. This sensitivity analysis assists the Board to identify scenarios, some years in advance of their possible occurrence, in which the IAA assets may cease to grow and the Plan may not be able to grant full CPI increases.

6. FINANCIAL RISK MANAGEMENT

The Board approves the long-term asset mix policy for investment assets through its Statement of Investment Policies and Procedures (SIPP) and oversees the management of these assets through the Board's investment management agent, BCI. The SIPP requires diversification of investments among asset classes, sets guidelines on investment categories and limits the exposure to individual investments and counterparties.

Significant risks are regularly monitored and managed by BCI, and actions are taken when appropriate, according to the Plan's SIPP. In addition, these risks are reviewed periodically with the Board. Such risks include liquidity risk, as well as other financial risks, which comprise currency risk, interest rate risk, other price risk and credit risk.

Financial risks are disclosed on a unit-of-account basis (note 6b), which represents the legal ownership of securities held, and at the underlying securities level (note 6c), which provides additional insight to other risks that may impact the financial instruments of the Plan. Both forms of disclosure provide valuable perspectives into financial risks that may directly or indirectly impact the financial statements and the funded status of the Plan. These two forms of risk disclosure are not additive to each other.

a) Liquidity risk

Liquidity risk is the risk of not being able to meet the Plan's cash requirements in a timely and cost-effective manner. Expenditures relate primarily to pensions, termination and refund benefits, investment and administration costs, and retired member group benefits. The Plan's approach to mitigating liquidity risk is to forecast its cash requirements over the near and long term to determine whether sufficient funds are available. The Plan's primary source of liquidity is income generated from the Plan's investments, and employer and employee contributions. Investments are primarily held in pooled funds, and the securities held are traded in active markets and can be readily sold, and where the pooled fund units can thereby be redeemed to fund cash requirements. Accounts payable and taxes payable of $28 (2018: $23) and payable for purchase of investments of $26 (2018: $566) are generally due within one month. Derivatives payable of $45 (2018: $47) are due within the next fiscal year.

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6. FINANCIAL RISK MANAGEMENT (continued)

b) Financial risks on a unit-of-account basis

Plan investments consist primarily of direct ownership in units of pooled investment portfolios. Each unit gives its holder a proportionate interest in the value of the net assets of the respective pooled investment fund. The unit-of-account for the majority of the Plan's investments is the units of the pooled investment funds.

Investments by unit-of-account	2019	%	2018	%
Pooled investment fund units	$ 32,461	98.1	$ 30,673	98.1
Directly held equity	539	1.6	478	1.5
Directly held bonds and debt	96	0.3	122	0.4
Investments	**$ 33,096**	**100.0**	**$ 31,273**	**100.0**

Market risk is the risk that the fair values of an investment will fluctuate as a result of changes in market conditions, whether those changes are caused by factors specific to the individual investment or factors affecting all securities traded in the market. Market risk consists of currency risk, interest rate risk, and other price risk.

Currency risk

Currency risk is the risk that the value of financial instruments denominated in currencies other than the functional currency of the fund will fluctuate due to changes in foreign exchange rates. The Plan holds primarily Canadian dollar denominated investment pooled fund units and is exposed to currency risk through holdings of small amounts of foreign currency denominated private equity, agricultural, bonds and debt investments. See note 6c for currency exposure related to underlying securities.

Foreign denominated investments held as a percentage of the fund

	2019	%	2018	%
United States	$ 501	1.5	$ 588	1.9
Australia	92	0.3	103	0.3
	$ 593	**1.8**	**$ 691**	**2.2**

As at March 31, 2019, if the Canadian dollar strengthened or weakened by 10% in relation to all foreign currencies, with all other factors remaining constant, net assets available for benefits would have decreased or increased by approximately $59 (2018: $69).

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flow of plan investments will change as a result of future fluctuations in market interest rates. The majority of the Plan's investment assets are non-interest bearing and not subject to interest rate risk. See note 6c for interest rate risk related to underlying securities.

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6. FINANCIAL RISK MANAGEMENT (continued)

b) Financial risks on a unit-of-account basis

Other price risk

Other price risk is the risk that the fair value of a financial instrument will fluctuate because of changes in market prices (other than those arising from currency risk or interest rate risk), whether those changes are caused by factors specific to the individual financial instrument, its issuer, or factors affecting all similar financial instruments traded in the market. The Plan's investments are subject to other price risk through its public equity investments and private market investments, including equity in real estate companies, held directly and through pooled investment portfolios. This risk is managed by diversifying investments across asset classes based on criteria established in the SIPP.

As at March 31, 2019, if the pooled investment fund unit and directly held equity prices increased or decreased by 10%, with all other factors remaining constant, net assets available for benefits would have increased or decreased by approximately $3,300 (2018: $3,115).

Credit risk

Credit risk is the risk that the counterparty to a financial instrument will fail to discharge an obligation or commitment it has entered into, resulting in a financial loss to the Plan. The majority of the Plan's investments are held in securities that are not subject to credit risk. See note 6c for credit risk related to underlying securities.

Credit exposure exists for members' and employers' contributions receivable directly held by the Plan totalling $29 (2018: $26), for the derivatives $15 (2018: $22) and for the due from the sale of investments $21 (2018: $909).

c) Financial risks of underlying securities held through pooled investment funds

Pooled investment funds exist for different types of investments, such as short-term investments; bonds; Canadian, U.S. and international equities; mortgages; real estate; private equity; and infrastructure and renewable resources. Examining the risks of the underlying securities contained in pooled investment funds provides additional disclosure to assess the overall financial risks of the plan investments. Viewing the financial risks of underlying securities is an alternative way of disclosing financial risks from the unit-of-account basis in note 6b. These risks are not considered additive to the financial risks already disclosed in note 6b.

Market risks are reduced through asset class diversification, diversification within each asset class and credit quality requirements on investments.

Currency risk

Currency exposure also arises from foreign currency denominated investments held directly and from underlying investments held indirectly in pooled investment funds. BCI has currency exposure management programs under which it enters into economic hedges of foreign currency exposure through the use of forward foreign currency contracts.

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6. FINANCIAL RISK MANAGEMENT (continued)

c) Financial risks of underlying securities held through pooled investment funds (continued)

Currency risk (continued)

The Plan's total direct and indirect currency exposure, the impact of economic hedging activities, and its net exposure as at March 31 are as follows:

Fair value of foreign denominated investment holdings

(Cdn dollar equivalent)	Total exposure	Economic hedging	Net exposure	% of total
		2019		
United States	$ 10,004	$ 3,524	$ 6,480	50%
Asia-Pacific, excluding Japan	2,756	310	2,446	19%
Euro countries	2,012	285	1,727	13%
Other	1,020	-	1,020	8%
Japan	629	9	620	5%
Other Europe	545	-	545	4%
United Kingdom	486	360	126	1%
	$ 17,452	**$ 4,488**	**$ 12,964**	**100%**
		2018		
United States	$ 9,652	$ 2,537	$ 7,115	53%
Asia-Pacific, excluding Japan	2,285	278	2,007	15%
Euro countries	2,154	266	1,888	14%
Other	825	-	825	6%
Japan	742	54	688	5%
Other Europe	544	3	541	4%
United Kingdom	593	234	359	3%
	$ 16,795	**$ 3,372**	**$ 13,423**	**100%**

The net foreign currency exposure of its underlying investment represents 39% (2018: 43%) of the Plan's total investments.

Interest rate risk

The Plan's pooled investment funds hold interest-bearing financial instruments in short-term investments, bonds and mortgages. The risk of adverse changes in interest rates is reduced within the underlying investment pools through management of duration in exposure to fixed income securities, the use of floating rate notes and interest rate swaps, and general diversification by security type and geographic region.

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6. FINANCIAL RISK MANAGEMENT (continued)

c) Financial risks of underlying securities held through pooled investment funds (continued)

Interest rate risk (continued)

The terms to contractual maturity of interest-bearing financial instruments held directly and through pooled investment portfolios as at March 31, are as follows:

Terms to maturity of interest-bearing financial instruments

	Within 1 year	1 to 5 years	6 to 10 years	Over 10 years	Total	Effective yield to maturity
			2019			
Short-term	$ 990	$ 211	$ -	$ -	$ 1,201	1.72%
Bonds	364	1,081	1,087	875	3,407	2.73%
Real return bonds*	-	-	-	4	4	1.20%
Mortgages	415	700	179	-	1,294	3.10%
Debt	-	-	92	-	92	6.23%
	$ 1,769	**$ 1,992**	**$ 1,358**	**$ 879**	**$ 5,998**	
			2018			
Short-term	$ 873	$ 49	$ -	$ -	$ 922	1.65%
Bonds	93	1,685	976	1,113	3,867	2.70%
Real return bonds*	-	-	-	19	19	1.27%
Mortgages	302	476	79	-	857	2.98%
Debt	-	-	103	-	103	6.44%
	$ 1,268	**$ 2,210**	**$ 1,158**	**$ 1,132**	**$ 5,768**	

*Effective yield to maturity percentages are only the interest return; inflation has not been considered.

As at March 31, 2019, if the prevailing interest rates had increased or decreased by 1%, assuming a parallel shift in the yield curve with all other variables remaining constant, the fair value of interest-bearing financial instruments and net assets available for benefits would have decreased or increased by approximately $242 (2018: $304).

Other price risk

Other price risk associated with the underlying investments held in pooled investment funds is consistent with that described earlier in note 6b, which describes financial risks on a unit-of-account basis.

Credit risk

The Plan's underlying investment assets held in pooled investment funds attract credit risk. This is the risk that a loss may occur from the failure of another party to perform according to the terms of a contract. It's also the risk of losses when issuers and debtors are downgraded by credit rating agencies, usually leading to a fall in the market value of the debtors' obligations. Credit risk is managed by establishing specific investment criteria, such as minimum credit ratings for investees and counterparties and maximum concentration limits with given counterparties.

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6. FINANCIAL RISK MANAGEMENT (continued)

c) Financial risks of underlying securities held through pooled investment funds (continued)

Credit risk (continued)

Credit risk ratings on financial instruments (short-term investments, bonds, mortgages and debt) held directly and through pooled investment portfolios are as follows:

Credit rating of financial instruments	2019		2018	
AAA/AA	$ 2,196	37%	$ 2,726	47%
A	1,277	21%	1,470	25%
BBB	339	6%	455	8%
Non-investment grade	456	7%	156	3%
	4,268	71%	4,807	83%
Unrated	1,730	29%	961	17%
	$ 5,998	**100%**	**$ 5,768**	**100%**

The ratings used are defined by Standard & Poor's rating agency. Obligations rated AAA/AA have the highest rating assigned. The lender's capacity to meet its financial commitment on the obligation is very strong. Bonds rated A, BBB or non-investment grade are weaker, with the BBB rating denoting an obligation with adequate protection parameters and a non-investment grade rating denoting major ongoing uncertainties or exposure to adverse business, financial or economic conditions that could lead to the debtor's inadequate capacity to meet its financial commitment on the obligation. Unrated financial instruments consist mainly of mortgages secured by real estate, debt, and corporate bonds.

7. FAIR VALUE OF FINANCIAL INSTRUMENTS

a) Fair value hierarchy

Fair value measurements of the investment assets and liabilities are based on inputs from one or more levels of a fair value hierarchy. Each level is based on the transparency of the inputs used to measure the fair values of assets and liabilities. The three levels of the fair value hierarchy are as follows:

Level 1

Inputs are unadjusted quoted prices in active markets for identical assets or liabilities

Level 2

Inputs other than quoted prices that are observable for the asset or liability either directly or indirectly

Level 3

Inputs that are not based on observable market data

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7. FAIR VALUE OF FINANCIAL INSTRUMENTS

a) Fair value hierarchy (continued)

Plan investments are carried at fair value in the financial statements. The following table details the classification of the Plan's investments based on the fair value hierarchy as at March 31:

Fair value hierarchy	Level 1	Level 2	Level 3	Total
		2019		
Pooled fund units	$ 990	$ 22,752	$ 8,719	$ 32,461
Directly held equity	-	-	539	539
Directly held bonds and debt	-	4	92	96
Investments	**$ 990**	**$ 22,756**	**$ 9,350**	**33,096**
Derivatives	**$ -**	**$ (30)**	**$ -**	**$ (30)**
		2018		
Pooled fund units	$ 871	$ 23,295	$ 6,507	$ 30,673
Directly held equity	-	-	478	478
Directly held bonds and debt	-	19	103	122
Investments	**$ 871**	**$ 23,314**	**$ 7,088**	**$ 31,273**
Derivatives	**$ -**	**$ (25)**	**$ -**	**$ (25)**

During 2019 and 2018, there were no significant transfers of investments between levels.

The following table reconciles the Plan's level 3 fair value measurements:

Level 3 fair value hierarchy	Pooled fund units	Direct equity	Direct debt	Total
		2019		
Balance, beginning of year	$ 6,507	$ 478	$ 103	$ 7,088
Net gain (loss) included in investment income	537	54	(4)	587
Purchases	2,582	31	2	2,615
Sales	(907)	(24)	(9)	(940)
Balance, end of year	**$ 8,719**	**$ 539**	**$ 92**	**$ 9,350**
Total unrealized gain (loss) included in investment income	$ 135	$ 45	$ (4)	$ 176
		2018		
Balance, beginning of year	$ 5,191	$ 387	$ 101	$ 5,679
Net gain (loss) included in investment income	670	60	(3)	727
Purchases	1,675	38	5	1,718
Sales	(1,029)	(7)	-	(1,036)
Balance, end of year	**$ 6,507**	**$ 478**	**$ 103**	**$ 7,088**
Total unrealized gain (loss) included in investment income	$ 207	$ 50	$ (3)	$ 254

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7. FAIR VALUE OF FINANCIAL INSTRUMENTS (continued)

b) Valuation models

The objective of valuation techniques is to arrive at a fair value measurement that reflects the price that would be received to sell the asset or paid to transfer the liability in an orderly transaction between market participants at the measurement date.

BCI uses widely recognized valuation methods for determining the fair value of common and less complex financial instruments such as investments in pooled funds, where fair value is based on the underlying net asset value of the respective pooled fund as determined by the underlying fund manager. Observable prices and model inputs are usually available in the market for listed equity and debt securities, simple derivatives such as forward or future currency contracts and pooled funds. The availability of observable market prices and model inputs reduces the need for management judgment and estimation, and reduces the uncertainty associated with the determination of fair values. The availability of observable market prices and inputs varies depending on the financial instrument and is subject to change based on specific events and general conditions in the financial markets.

For more complex financial instruments, such as direct private equity investments held by the Plan, BCI uses proprietary valuation models, which are usually developed from recognized valuation models. Some or all of the significant inputs into these models may not be observable in the market and are derived from market prices or rates, or estimated based on assumptions. Valuation models that employ significant unobservable inputs require a higher degree of judgment and estimation in the determination of fair value. BCI's judgment and estimation are usually required for the selection of the appropriate valuation model to be used, determination of expected future cash flows of the financial instrument being valued, determination of the probability of counterparty default and prepayments, and selection of appropriate discount rates.

Fair value estimates obtained from models are adjusted for any other factors, such as liquidity risk or model uncertainties, to the extent that BCI believes that a third-party market participant would take them into account in pricing a transaction. Fair values reflect the credit risk of the instrument and include adjustments to take account of the credit risk of the Plan and the counterparties where appropriate.

c) Valuation framework

BCI has an established framework with respect to the measurement of fair values of financial instruments. Where possible, for direct private equity investments held by the Plan, external, independent valuation specialists are engaged annually to assist in the determination of fair value. In those circumstances where BCI is reliant on the third-party manager for the determination of fair value, BCI reviews the appropriateness of such valuations using audited financial statements of the underlying investments, where available, and other information from the underlying third-party manager or other sources.

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7. FAIR VALUE OF FINANCIAL INSTRUMENTS (continued)

c) Valuation framework (continued)

In addition, BCI applies the following specific controls in relation to the determination of fair values:

- Verification of observable pricing inputs
- Appraisal of domestic real estate properties once every 10 to 18 months by accredited independent appraisers
- Analysis and investigation of significant valuation movements
- Review of unobservable inputs and valuation adjustments

When third-party information such as broker quotes or pricing services is used to measure fair value, BCI assesses and documents the evidence obtained from the third parties to support the conclusion that such valuations are appropriate. This includes:

- Verifying that the broker or pricing service is approved by BCI for use in pricing the relevant type of financial instrument
- Understanding how the fair value has been arrived at and the extent to which it represents actual market transactions
- Understanding how fair value has been determined when a number of quotes for similar financial instruments have been obtained
- Understanding how prices for similar financial instruments used to measure fair value have been adjusted to reflect the characteristics of the financial instrument subject to measurement

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7. FAIR VALUE OF FINANCIAL INSTRUMENTS (continued)

d) Significant unobservable inputs used in measuring fair value

The following table sets out information about significant unobservable inputs used at year-end in measuring financial instruments categorized as level 3 in the fair value hierarchy.

Significant unobservable inputs used in measuring fair value

Description	Fair value	Valuation technique	Unobservable input	Amount / range	Sensitivity to change in significant unobservable input
			2019		
					The estimated fair value would increase if:
Pooled fund units	$ 8,719	Net asset value	Net asset value	$ 8,719	The net asset value increased
Direct private equity	$ 396	Market approach	Multiple of EBITDA*	11.5x	The multiple of EBITDA increased
Direct private agriculture investments	$ 143	Net asset value	Net asset value	$ 143	The net asset value increased
Direct debt	$ 92	Discounted cash flow	Discount rate	12.0% - 17.5%	The discount rate decreased
			2018		
Pooled fund units	$ 6,507	Net asset value	Net asset value	$ 6,507	The net asset value increased
Direct private equity	$ 346	Discounted cash flows	Discount rate	7.5%	The discount rate decreased
Direct private agriculture investments	$ 132	Net asset value	Net asset value	$ 132	The net asset value increased
Direct debt	$ 103	Discounted cash flows	Discount rate	12.0% - 17.0%	The discount rate decreased

*Earnings before interest, tax, depreciation and amortization

Net asset value

Net asset value is determined by BCI based on the fair value of assets less liabilities. Such investments are closed funds with significant restrictions on redemptions and accordingly, BCI is unable to dispose of the pooled fund investment until the maturity or wind-up and liquidation of the respective pooled fund. In such cases, it is the Plan’s policy to categorize the pooled fund investment as level 3 within the fair value hierarchy.

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7. FAIR VALUE OF FINANCIAL INSTRUMENTS (continued)

d) Significant unobservable inputs used in measuring fair value (continued)

Multiple of EBITDA

Enterprise value (EV) represent amounts market participants would use when pricing direct equity investments and direct private debt. Earnings before interest, tax, depreciation and amortization (EBITDA) multiples are selected from comparable public companies based on geographic location, industry, size, target markets and other factors that BCI management considers to be reasonable. The traded multiples for the comparable companies are determined by dividing the EV of the company by its EBITDA and further discounted for considerations such as the lack of marketability and other differences between the comparable peer group and specific company.

Discount rate

This represents the discount rate applied to the expected future cash flows of the direct private equity investment. For the discount rates used, the underlying investment manager assesses both the risk premium and the appropriate risk-free rate based on the economic environment in which the investee entity operates. The discount rate is adjusted for such matters as liquidity differences, credit and market factors. The estimated future cash flows are then discounted using the discount rate determined. Cash flows used in the discounted cash flow model are based on projected cash flows or earnings of the respective investee entity.

e) Effects of unobservable input on fair value measurement

The use of different methodologies or assumptions could lead to different measurements of fair value. For fair value measurements in level 3, changing one or more of the assumptions used for a reasonable alternative assumption could have the following effects on net assets attributable to holders of redeemable units.

Effects of unobservable input on level 3 fair value measurement

	2019		2018	
	Favourable	**Unfavourable**	**Favourable**	**Unfavourable**
Pooled fund units	$ 872	$ (872)	$ 651	$ (651)
Direct private equity	25	(25)	21	(21)
Direct private agriculture investments	14	(14)	13	(13)
Direct debt	9	(9)	10	(10)
	$ 920	**$ (920)**	**$ 695**	**$ (695)**

The pooled fund units, direct private agriculture investments and direct debt investment were valued based on information received from BCI, the manager of the respective investments. The fair value of these investments fluctuates in response to changes to specific assumptions for these particular investments, as determined by BCI. The favourable and unfavourable effects of reasonable alternative assumptions for the valuation of pooled fund units, direct private agriculture investments and direct debt investments have been calculated by adjusting the respective underlying net asset value by 10%.

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7. FAIR VALUE OF FINANCIAL INSTRUMENTS (continued)

e) Effects of unobservable input on fair value measurement (continued)

For direct private equity investments, BCI engages third-party independent valuators to estimate the fair market value. The valuators produce comprehensive reports for each applicable investment. The favourable and unfavourable effects of reasonable alternative assumptions for the valuation of direct investments have been calculated by recalibrating the model values using unobservable inputs based on the upper and lower threshold of the respective investment's range of possible estimates.

f) Financial instruments not measured at fair value

The carrying value of members' contributions receivable, employers' contributions receivable, due from sale of investments, prepaid expenses, accounts payable and accrued expenses, taxes payable and payable for purchase of investments approximate their fair value given their short-term nature. These financial instruments are classified as level 2 in the fair value hierarchy because, while prices are available, there is no active market for these instruments.

8. INVESTMENT INCOME

			2019			2018
	Income allocation	**Change in fair value**	**Total**	**Income allocation**	**Change in fair value**	**Total**
Short-term	$ 20	$ 3	$ 23	$ 10	$ (3)	$ 7
Bonds	105	81	186	91	(27)	64
Canadian equities	53	124	177	87	14	101
U.S. equities	21	123	144	45	166	211
International equities	271	237	508	203	1,122	1,325
Mortgages	41	29	70	22	7	29
Real estate	101	323	424	181	85	266
Private equity	245	20	265	270	199	469
IRR*	157	98	255	253	163	416
	1,014	1,038	2,052	1,162	1,726	2,888
Directly held derivatives	-	(59)	(59)	-	18	18
	$ 1,014	**$ 979**	**$ 1,993**	**$ 1,162**	**$ 1,744**	**$ 2,906**

* Infrastructure and renewable resources

Investment income represents realized and unrealized pooled investment portfolio income attributable to the Plan, as a unitholder, and income from directly held investments. Income allocation is composed of interest, dividends and other investment payments. Change in fair value is composed of realized gains and losses on the disposal of investments and derivatives, and unrealized gains and losses on investments and derivatives held at year-end. All income earned within a pooled investment portfolio is reinvested within the portfolio.

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9. CONTRIBUTIONS

	Basic account	Inflation adjustment account	Supplemental benefits account	Total
		2019		
Member contributions				
Regular	$ 276	$ 49	$ 1	$ 326
Past service purchases	5	1	-	6
	281	50	1	332
Employer contributions				
Province of British Columbia				
Regular	143	49	15	207
Past service purchases	1	-	-	1
Retired member group benefits	-	-	12	12
	144	49	27	220
Other employers				
Regular	129	40	1	170
Past service purchases	-	-	-	-
Retired member group benefits	-	-	11	11
	129	40	12	181
Total employer contributions	273	89	39	401
	$ 554	**$ 139**	**$ 40**	**$ 733**
		2018		
Member contributions				
Regular	$ 257	$ 46	$ 1	$ 304
Past service purchases	11	3	-	14
	268	49	1	318
Employer contributions				
Province of British Columbia				
Regular	134	45	14	193
Past service purchases	1	-	-	1
Retired member group benefits	-	-	12	12
	135	45	26	206
Other employers				
Regular	120	37	1	158
Past service purchases	1	1	-	2
Retired member group benefits	-	-	9	9
	121	38	10	169
Total employer contributions	256	83	36	375
	$ 524	**$ 132**	**$ 37**	**$ 693**

Member and employer contributions are as defined under the pension plan rules. Members' past service purchases are voluntary contributions.

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10. BENEFITS

	Basic account	Inflation adjustment account	Supplemental benefits account	Total
		2019		
Regular pension benefits	$ 878	$ -	$ 16	$ 894
Indexing—regular pension benefits	166	-	2	168
Termination and refund benefits	17	40	-	57
Death benefit payments	23	-	-	23
	$ 1,084	**$ 40**	**$ 18**	**$ 1,142**
		2018		
Regular pension benefits	$ 838	$ -	$ 14	$ 852
Indexing—regular pension benefits	156	-	2	158
Termination and refund benefits	20	40	-	60
Death benefit payments	22	-	-	22
	$ 1,036	**$ 40**	**$ 16**	**$ 1,092**

11. SUPPLEMENTAL BENEFITS ACCOUNT

The Supplemental Benefits Account funds certain supplemental benefits, for example, pension benefits which exceed the Income Tax Act limits for registered pension plans are paid through this account. Certain group benefit coverage has been provided for retired members through this account. The availability, type and level of retired member group benefit coverage are contingent upon the availability of funding for such benefits.

To the extent retired member group benefits are funded from the Supplemental Benefits Account (2019: $22; 2018: $21), they are funded from current contributions that would otherwise be employer contributions to the IAA and are capped at 1% of pensionable salaries, which equates to 25% of total current member and employer IAA contributions. Retired member group benefit costs (shown on the Statement of Changes in Net Assets Available for Benefits) represent group benefit costs paid by the Plan less any premiums paid by retired members.

12. RELATED PARTY TRANSACTIONS

a) Transfers from Members of the Legislative Assembly (MLA) Superannuation Account

The Members of the Legislative Assembly Superannuation Account (MLA Account) was established under Part 2 of the *Members' Remuneration and Pensions Act* (Act). The Act was amended in July 1995 to discontinue the accrual of benefit entitlements under Part 2 after June 19, 1996. As at March 31, 2019, four members remain (2018: five members) with eligibility for a benefit from the MLA Account.

When an eligible MLA is granted a pension, the present value of the pension is transferred from the MLA Account to the Plan, from which monthly benefits are paid. During the year ended March 31, 2019, one pension was granted (2018: no pension granted).

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12. RELATED PARTY TRANSACTIONS (continued)

a) Transfers from Members of the Legislative Assembly (MLA) Superannuation Account (continued)

Transfers from MLA Account ($ thousands)	**2019**	**2018**
Present value of MLA pension granted	$ 297	$ -
Present value transfer for indexing supplements	78	-
	$ 375	$ -

b) Investment and administration costs

	2019	**2018**
Investment management	$ 59.9	$ 77.7
Benefit administration	23.5	16.1
Board secretariat costs	0.3	0.3
Board remuneration and expenses	0.4	0.3
Other professional services	0.3	0.3
Actuarial and audit	0.4	0.4
	$ 84.8	**$ 95.1**

Investment and administration costs include audit fees of $59 thousand (2018: $51 thousand) and actuary fees of $301 thousand (2018: $314 thousand).

BCI and Pension Corporation are related parties to the Plan. The Board appoints members to each of the respective corporate boards. BCI and Pension Corporation are participating employers in the Plan. Investment management and benefit administration costs are approved by the Board.

Investment management costs represent amounts charged to recover internal and external management costs incurred by BCI, except those external management fees related to investments managed by an underlying external manager, where management fees are embedded in the net assets of the respective investment. Underlying external investment management fees of $37 (2018: $32) were netted againsted investment income.

Benefit administration costs represent amounts charged to recover benefit administration costs incurred by Pension Corporation. These transactions are in the normal course of operations and are measured at the exchange amount of consideration established and agreed to by the related parties.

Board secretariat costs represent amounts directly incurred by the Board for costs associated with supporting the Board.

Other professional services costs include insurance and legal fees incurred directly by the Plan.

Board remuneration and expenses represent amounts for trustee compensation and direct expenses.

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13. ACCOUNT TRANSFERS

	2019		2018	
	Basic account	Inflation adjustment account	Basic account	Inflation adjustment account
Indexing supplements	$ 237	$ (237)	$ 147	$ (147)
Indexing of deferred pensions	7	(7)	6	(6)
	$ 244	**$ (244)**	**$ 153**	**$ (153)**

The IAA is a separate account maintained for funding current and future inflation adjustments. The IAA is funded through a portion of ongoing contributions from employers and members, investment income earned and excess investment return earned in the Basic Account.

Inflation adjusted pension payments are made from the Basic Account. Each year, if members' pension payments are adjusted for the current inflation adjustment, monies are transferred from the IAA to the Basic Account to cover the present value of all future payments arising from the current inflation adjustment. The Board annually considers all relevant factors and its IAA funding policy to determine if an inflation adjustment will be granted on pensions in pay and the amount of the inflation adjustment, if any. As at January 1, 2019, retired members received a cost-of-living adjustment of 2.3% (2018: 1.5%) and indexing supplements were transferred.

When a deferred pension commences, the present value of the inflation adjustment during the deferral period is transferred from the IAA to the Basic Account. Approximately $87 (2018: $76) of the current IAA balance is for inflation adjustments already granted for deferred pensions but not yet transferred to the Basic Account.

Prior to March 31, 2018, when investment earnings in the Basic Account were in excess of the actuarial assumption regarding investment rates of return, the excess investment return was transferred from the Basic Account to the IAA. In March 2018, the Board revised the plan rules to allow the positive excess investment return transfer to occur at the discretion of the Board, effective April 1, 2017.

Excess investment return is based on investment income earned on those assets in the Basic Account required for pensions currently being paid: approximately $10.8 billion of assets for 2019 (2018: $10.2 billion). The excess investment return rate is determined by taking the difference between the actual five-year annualized market rate of return (8.50%) and the rate of return used by the Plan actuary (6.25%) in valuing the Plan's liabilities. The calculated excess investment return rate for 2019 was 2.25% (2018: 3.95%), resulting in an excess investment return amount of $242 (2018: $404). The Board did not elect to transfer this excess investment return in the Basic Account to the IAA.

Should the excess investment return calculation ever result in a non-zero balance, it will be carried forward cumulatively with interest and offset against future excess return. The cumulative excess investment interest is an amount determined by applying the five-year annualized market rate of return to the fiscal year opening balance. This component of the calculation is the opportunity cost related to the opening cumulative return balance.

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13. ACCOUNT TRANSFERS (continued)

Excess investment return	**2019**	**2018**
Cumulative excess investment return, beginning of year	$ 404	$ -
Interest applied to beginning of year amount	34	-
Excess investment return	242	404
Cumulative excess investment return, end of year	**$ 680**	**$ 404**

14. COMMITMENTS

The Plan participates in private equity, international real estate, mortgages, and infrastructure and renewable resource pools. As at March 31, 2019, the Plan's share of commitments for future investment contracts in these pools over the next several years is approximately $5,288 (2018: $4,050).

15. CAPITAL DISCLOSURES

Capital is defined as the funded status (surplus or deficit) of the Plan as determined by the actuary. The Plan's objective for managing capital is to ensure that the assets of the Plan are invested prudently and effectively, and with contributions adequate to meet the obligations of the Plan. Management of the Plan's funded status is achieved by adjusting member and employer contribution rates; through implementation of the SIPP, which affects the earnings of the Plan; and, in the case of the IAA, by changing the benefits paid. The Board has a funding policy that outlines the principles that provide guidance in managing this process. The investment performance of the Plan's assets is reviewed by the Board on a regular basis and compared to relevant industry benchmarks. Benefit entitlement is based on the provisions of the Agreement and the pension plan rules. Funding deficits must be funded over a period not to exceed 15 years.

An actuarial valuation must be prepared at least once every three years. The latest actuarial valuation for funding purposes was prepared as at March 31, 2017, and has two components, the Basic Account non-indexed benefits and, by considering the valuation of the entire Plan, the non-guaranteed inflation adjustment account benefits. The next full actuarial valuation will be carried out as at March 31, 2020.

The Act and the Board's funding policy require that contribution rates comply with the going-concern requirements of PBSA.

Appendix

Employer list

A	Architectural Institute of British Columbia
B	B.C. Government and Service Employees' Union BC Pavilion Corporation BC Ferry and Marine Workers' Union BC Oil and Gas Commission BC Public Service Agency British Columbia Assessment Authority British Columbia Centre for Disease Control (an operation of Provincial Health Services Authority) British Columbia College of Social Workers British Columbia Excluded Employees' Association British Columbia Ferry Services Inc. British Columbia Housing Management Commission British Columbia Innovation Council British Columbia Institute of Technology British Columbia Investment Management Corporation British Columbia Medical Association (Canadian Medical Association—B.C. Division) British Columbia Mental Health Society (Riverview Hospital is an operation of Provincial Health Services Authority) British Columbia Milk Marketing Board British Columbia Pension Corporation British Columbia Rapid Transit Company Ltd. British Columbia Safety Authority British Columbia Securities Commission British Columbia Transit Authority British Columbia Treaty Commission British Columbia Utilities Commission Broadmead Care Society Brookfield GIS Workplace Solutions Inc. Building Officials' Association of British Columbia
C	Canada British Columbia Business Services Society Canadian Office and Professional Employees' Union, Local 378 Canadian Road Builders Inc. dba Lafrentz Road Marking Division Coast Mountain Bus Company Ltd. Cobra Electric (South Coast) Ltd. College of Physicians and Surgeons of British Columbia Columbia Basin Trust Columbia Power Corporation Community Living British Columbia Creative BC Society
E	E-Comm Emergency Communications of British Columbia Inc. Elections British Columbia Emergency Health Services Commission ESIT Advanced Solutions Inc.
F	First Peoples' Heritage—Language and Culture Council Forensic Psychiatric Services Commission Forestry Innovation Investment Ltd. Fraser Health Authority Fraser River Marine Transportation Ltd. Fraser Valley Aboriginal Children and Family Services Society Freshwater Fisheries Society of BC
G	GAEA Management Ltd.
H	Habitat Conservation Trust Foundation

Appendix: Employer list

I	Industry Training Authority Insurance Corporation of British Columbia Interior Health Authority Islands Trust Council ISM Information Systems Management Canada Corporation
J	Justice Development Commission
L	Land Title and Survey Authority of British Columbia Legislative Assembly of British Columbia Liquor Distribution Branch Lu'ma Native Housing Society
M	Mainroad Pavement Marking Limited Partnership Maximus BC Health Benefits Operations Inc. Maximus BC Health Inc. MAXIMUS Canada Services (BC) Inc.
N	Northern Development Initiative Trust Northern Health Authority
P	Partnerships British Columbia Inc. Professional Employees Association Protrans BC Operations Ltd. Providence Health Care Society Provincial Health Services Authority Public Service Pension Plan
R	Royal BC Museum
S	Scw'exmx Child and Family Services Society South Coast British Columbia Transportation Authority Southern Interior Development Initiative Trust
T	TELUS Sourcing Solutions Inc. Themis Program Management and Consulting Ltd. Thompson Health Region Thompson River University TransLink Security Management Ltd. Transportation Investment Corporation
U	Union of Psychiatric Nurses
V	Vancouver Aboriginal Child and Family Services Society Vancouver Coastal Health Authority Vancouver Island Health Authority VSA Highway Maintenance Ltd.
W	WaterBridge Equipment Inc. WaterBridge Ferries Inc. West Coast Express Ltd. Western Pacific Marine Ltd. Workers Compensation Appeal Tribunal