



THE UNIVERSITY OF BRITISH COLUMBIA

**UBC STAFF
PENSION PLAN**

**YEAR IN
REVIEW**

**2016
ANNUAL REPORT**

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Message from the Chair

Dear Members:

We are pleased to present the UBC Staff Pension Plan's (SPP) Annual Report: *2016 Year in Review*. It was a busy, productive year for the plan.

Of the amendments to British Columbia (BC)'s Pension Benefits Standards Act (PBSA) that came into effect in 2015, the most relevant to the SPP was the explicit recognition of target benefit pension plans. In 2016, we received confirmation from BC's pension regulator, the Financial Institutions Commission (FICOM), that the SPP has operated as a target benefit plan since its inception. This ends any uncertainty regarding the status of the plan, the inception of which predates the adoption of any legislation in BC regulating pension plans. This recognition was achieved through extensive talks between SPP staff and its advisors and the Ministry of Finance and FICOM. We thank all who were involved.

2016 saw the completion of four major projects, some of which were started in prior years:

- the transition to the investment policy adopted in 2012;
- the launch of a new plan website;
- the addition of an electronic newsletter; and
- a survey of plan members.

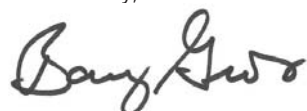
Board elections in 2016 resulted in one change in board membership. After nine years on the Board, Dave Lance did not stand for re-election. Mr. Lance's contributions were highly valued, especially during the implementation of the plan design changes in 2009. Michal Jaworski was elected to the Board for the first time and Alan Marchant, a Board member since 2001, was re-elected. In addition, Mike Leslie was reappointed for a second term on the Board. Mr. Marchant and Mr. Leslie's continued contributions to the Board are much appreciated. I'm pleased we continue to attract high-calibre individuals to serve on the Board through both the appointment and election processes.

Investment performance was solid in 2016. The return for the year of 7.5%, net of investment expenses, exceeded the investment benchmark of 6.1%. The full impact of these returns will be better known after we receive the actuarial valuation results, as of December 31, 2016, in 2017.

I encourage you to attend our upcoming annual Pension Fair, on June 21, 2017 at the Robert H. Lee Alumni Centre. It's a great opportunity to meet members of the SPP Board and learn more about how the plan benefits you.

In closing, I would like to thank the other Board members for their service and commitment over the past year. I would also like to thank the Pension Administration Office staff for their dedicated efforts. I look forward to working with them in 2017.

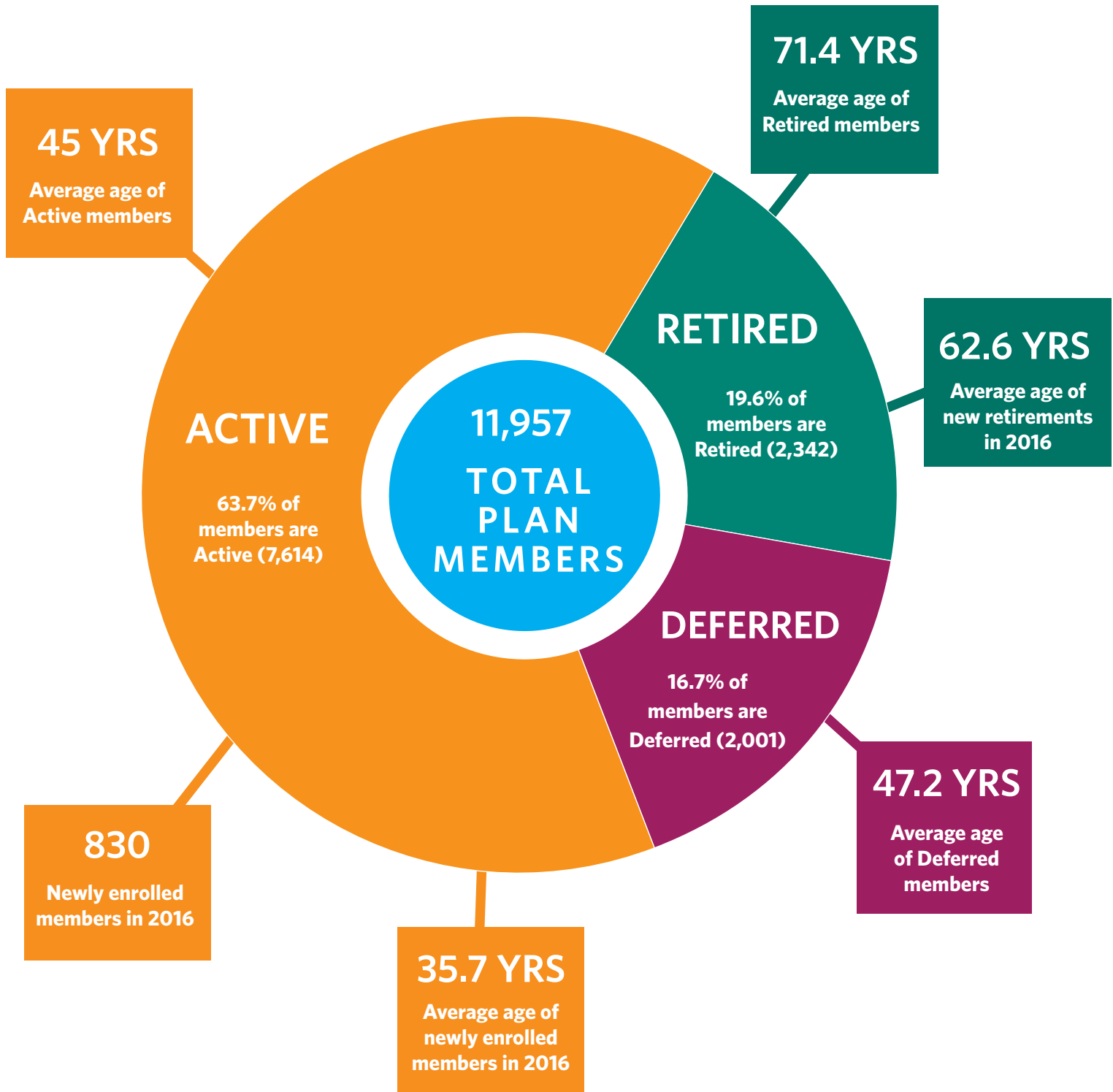
Yours truly,



Barry Gros
Chair, UBC Staff Pension Plan

Membership Highlights

as at December 31, 2016



Membership Statistics

The Plan's membership numbers are never constant; there are always members joining and leaving the Plan. It is important to maintain or increase the number of members joining the Plan, as contributions made by these members go towards funding the Plan. These funds, along with investment returns and employer contributions, provide pension benefits for members retiring from the Plan.

Growth in Plan Membership

Membership Statistics as of December 31 for Years 1971 to 2016 illustrates that since 2011, membership has grown by 21%. Total membership includes Active (contributing members), Deferred (members no longer contributing and have not yet elected an option from the Plan), and Retired members. The SPP provides retirement, termination, and death benefits for these groups.

Membership Statistics as of December 31 for Years 1971 to 2016

Membership	1971 ¹	1981 ¹	1991	2001	2011	2016
Active	1,006 ²	2,272	3,002	4,327	6,484	7,614
Deferred			765	890	1,728	2,001
Retired	0	298	710	1,057	1,650	2,342
Total	1,006	2,570	4,477	6,274	9,862	11,957

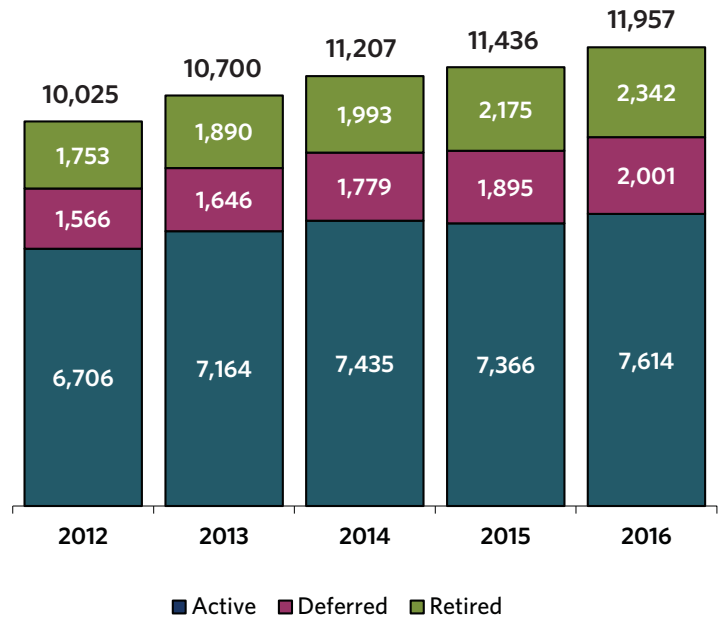
¹ For years 1971 to 1981, Active and Deferred members are combined.

² There were 1,006 individuals as at December 31, 1971 who were part of a prior UBC pension plan. These individuals became members of the SPP when the Plan was established in 1972.

Membership Statistics cont'd

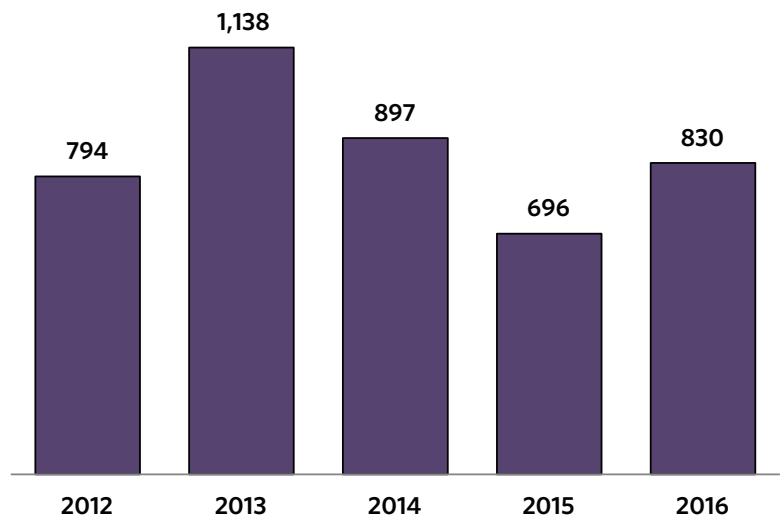
Number of Members as at December 31

This graph shows the number of members in the Plan at year-end for the last five years. In 2016, Active, Deferred and Retired members grew by 3.4%, 5.6% and 7.7% respectively.



New Enrolments as at December 31

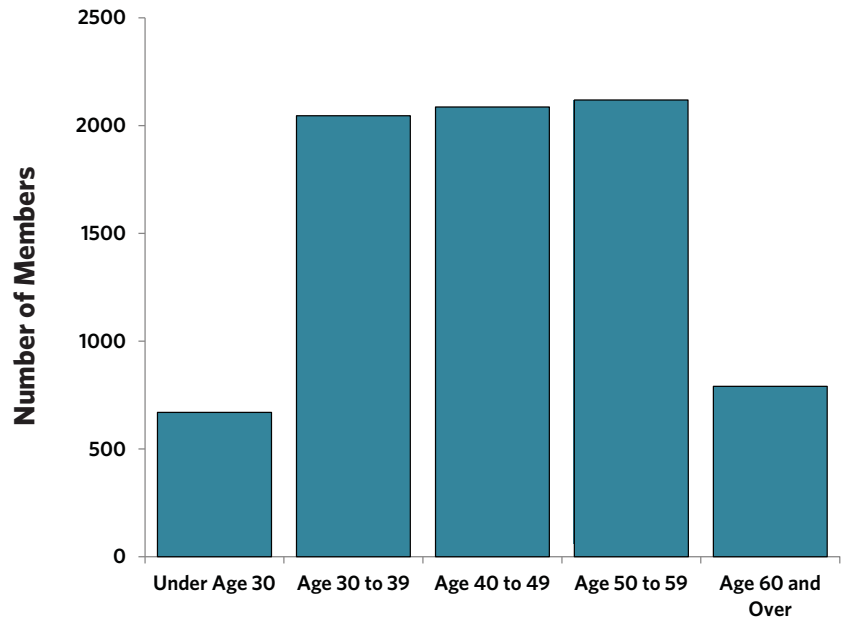
There were 830 new enrolments into the Plan in 2016, which was a 19.3% increase from 2015. Enrolments were noticeably higher in 2013 and 2014 due to a change in eligibility rules for CUPE 116 in 2013 and due to the communications campaign notifying eligible staff of the removal of retroactive enrolment effective January 1, 2015.



Membership Statistics cont'd

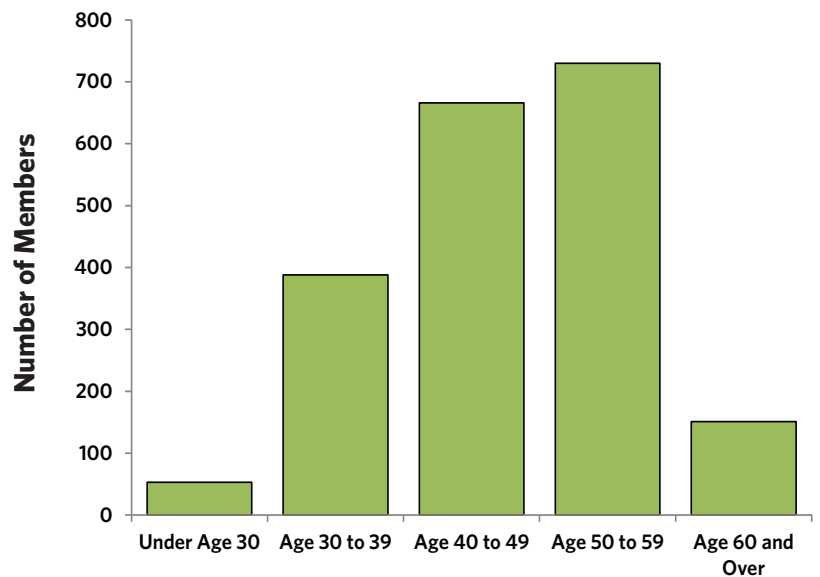
Active Members by Age

The average and median ages of Active members in 2016 was 45 years. The financial health of a pension plan, like the UBC Staff Pension Plan, is somewhat dependent on there being new members entering the Plan to help finance the pension benefits of retiring members.



Deferred Members by Age

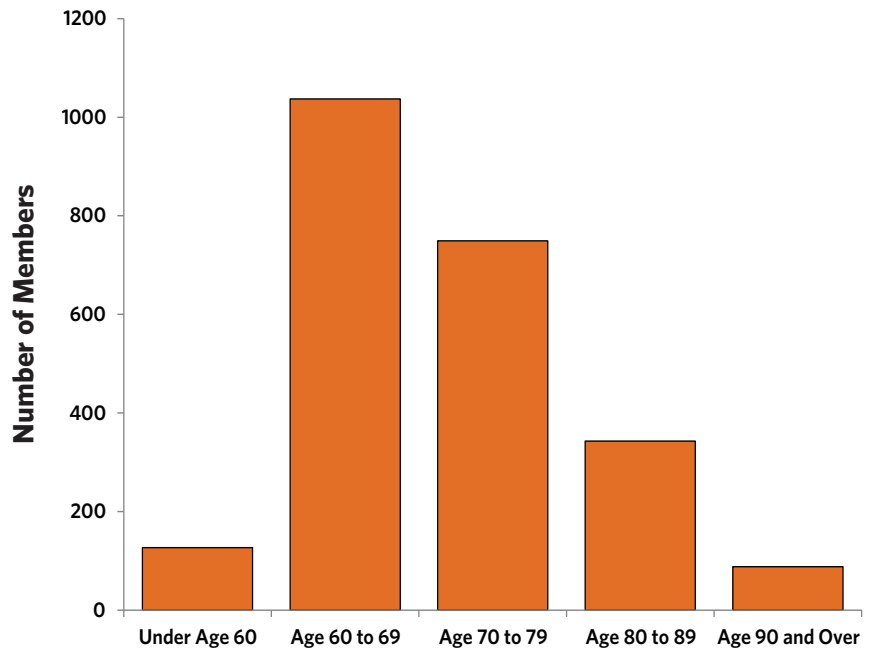
The average and median ages of Deferred members are 47.2 years and 48 years respectively. Deferred members represent approximately 17% of the total membership.



Membership Statistics cont'd

Retirees by Age

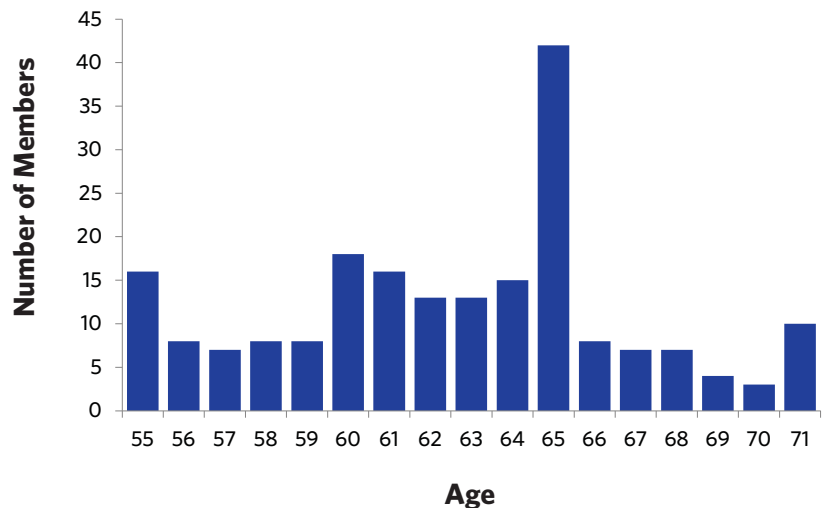
This graph illustrates the age distribution of the Plan's Retired members. These members are receiving a pension from the Plan. Since members age 55 and over must elect a pension option from the Plan (unless they qualify for a small pension lump sum payout), we will see growth in this group as more members will be receiving pensions from the Plan.



2016 Retirements by Age

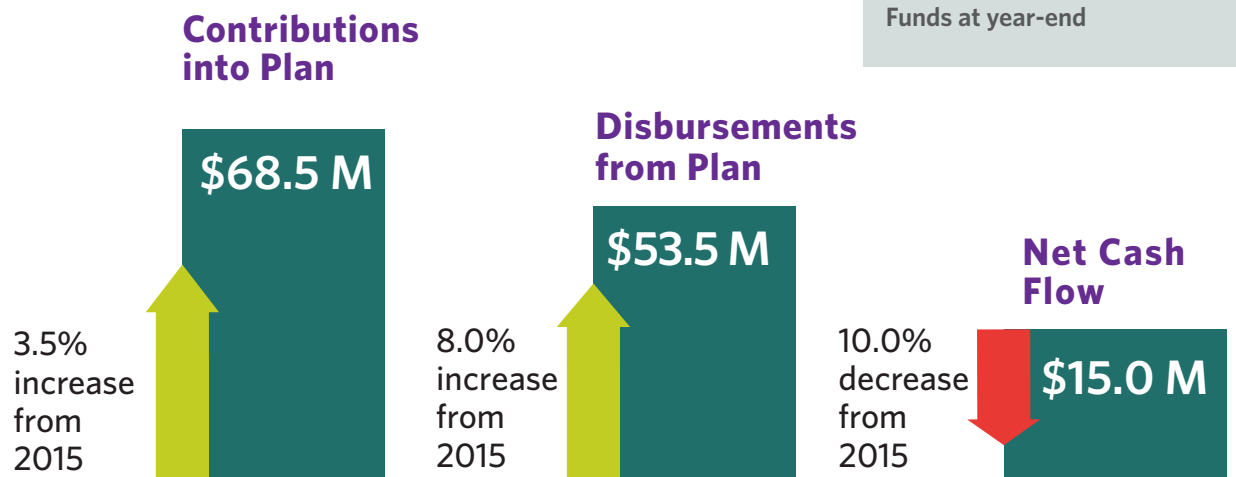
There were 203 retirements that took place in 2016, the greatest number of which (21%) occurred at age 65. The retirees shown in this graph took a Monthly Lifetime Pension or Monthly Lifetime Pension with a Lump Sum as their retirement option.

Note: Under the Income Tax Act, members are required to start their pensions by the end of the year in which they turn age 71.



Financial Highlights

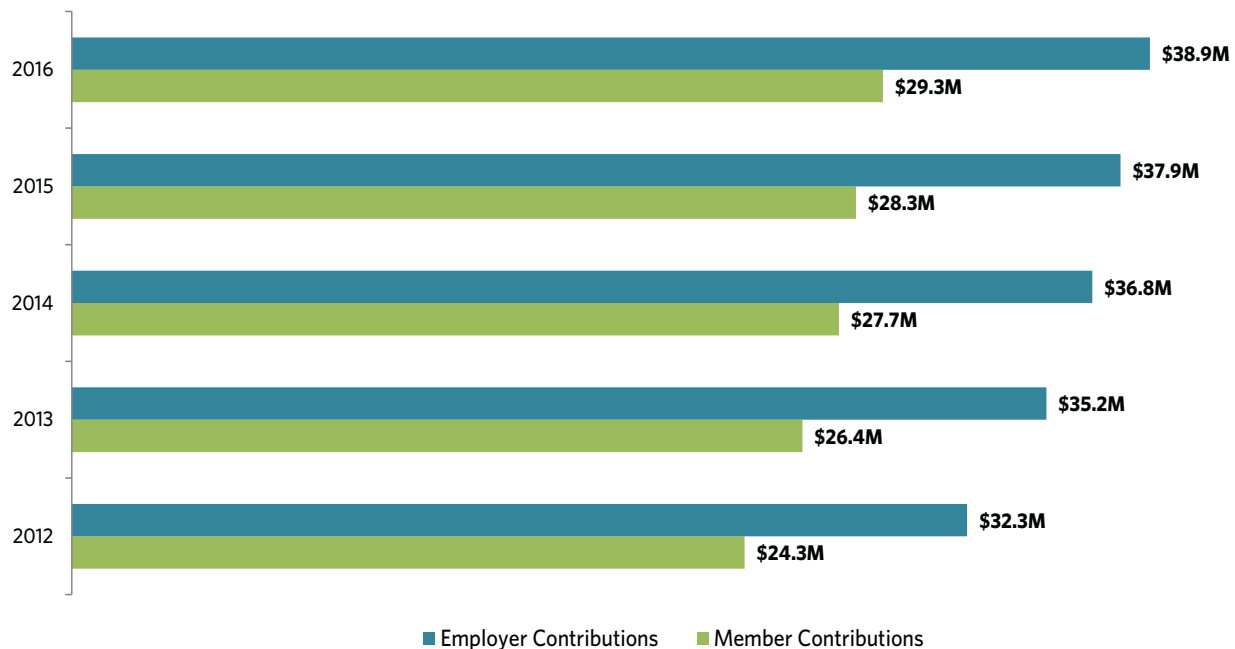
as at December 31, 2016



Financial Statistics

Member and Employer Contributions as at December 31 (\$ Millions)

The SPP provides for fixed contribution levels (from both the Plan members and the University and its related employers) to provide a certain level of benefit - a target benefit (known as your SPP basic benefit). For more information on Plan contributions, please refer to the **Overview** page on the Plan's website.



Employer Contributions includes contributions from the University and its related employers

Operating and Investment Expenses as at December 31

The following table shows the Plan's operating and investment expenses for the last five years.

Year	Operating Expenses	% per Assets	Investment Expenses	% per Assets
2012	\$1,596,866	0.18%	\$2,544,239	0.29%
2013	\$1,836,692	0.19%	\$4,188,636 ¹	0.43%
2014	\$1,634,839	0.15%	\$3,711,314	0.34%
2015	\$1,593,587	0.12%	\$4,891,942	0.38%
2016 ²	\$1,737,899	0.13%	\$7,635,242 ³	0.56%

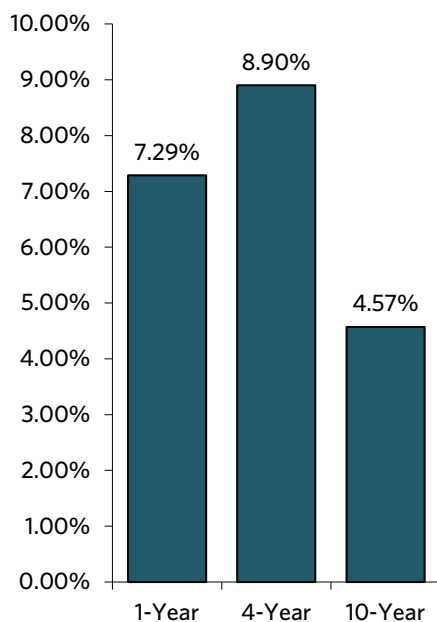
Note: The fee percentages for operating and investment expenses are calculated based on average market value.

¹ The investment expenses for 2013 included a one-time incentive fee that was paid as a result of the closure of a fund.

² In 2016, the recording of expenses has been changed to an accrual basis from a cash basis.

³ Starting in 2016, this amount includes investment fees charged directly from the investment funds which do not impact cash flow. If the direct charges were not included, the expenses would have been \$5,838,633, or 0.43%.

SPP Fund Net Rate of Return (net of all fees)



To view the Plan's Net Rate of Return for the last 10 years, visit **Plan Governance > Investments** on the Plan's website.

Investment Review

The following 2016 Investment Review has been provided by the Plan's investment manager, UBC Investment Management Trust (IMANT) Inc. UBC IMANT is responsible for implementing the Plan's approved asset mix policy, under the direction of the Plan's investment consultant, PBI Actuarial Consultants Ltd.

Market Commentary

In 2016, we witnessed several major political events ranging from Brexit to the U.S. presidential election of Donald Trump. Despite the economic uncertainty, most major equity and fixed income markets ended the year on a positive note.

- In the Canadian bond market, interest rates slightly rose due to expectations of higher inflation and improved global growth prospects.
- The S&P/TSX Composite Index was ahead of other developed markets and returned 21.1% in 2016. This was led by strong performance in the Energy and Materials sectors following a rebound in commodity prices after an agreement by OPEC to cut oil production in late November.
- The S&P 500 returned 8.1% in Canadian dollar terms (12.0% in U.S. dollar terms) and positive economic momentum following the U.S. election prompted just the second policy rate increase by the Federal Reserve in over 10 years.
- Emerging markets outperformed developed countries for most of 2016 but were adversely impacted by a strengthening U.S. dollar and returned 7.3% for the year in Canadian dollar terms.
- International equity markets (EAFE) declined -2.5% as central banks in Europe and Japan continued to pursue easy monetary policies with interest rates hovering near zero or in negative territory. Uncertainty over the future of the E.U. following Brexit also resulted in economic instability, resulting in the British pound hitting a 30-year low against the loonie.
- As the Canadian dollar appreciated against most developed currencies during the year, this resulted in currency losses for many Canadian investors with unhedged foreign currency investments.

Index Returns to December 31, 2016 (Canadian dollars)

Asset Class	Index	1 Year	2 Year	4 Year	10 Year
Cash	FTSE TMX 91 Day T-Bills	0.5%	0.6%	0.8%	1.4%
Universe Bonds	FTSE TMX Universe Bond	1.7%	2.6%	3.1%	4.8%
Long Bonds	FTSE TMX Long Bond	2.5%	3.1%	4.1%	6.3%
Real Return Bonds	FTSE TMX Real Return Bond	2.9%	2.8%	1.0%	5.1%
Canadian Equities	S&P/TSX	21.1%	5.4%	8.5%	4.7%
U.S. Equities	S&P 500	8.1%	14.6%	23.2%	8.5%
International Equities	MSCI EAFE	(2.5%)	7.7%	12.0%	2.2%
World Equities	MSCI World	3.8%	11.1%	17.5%	5.3%
Emerging Market Equities	MSCI Emerging	7.3%	4.7%	5.0%	3.3%
Hedge Fund of Funds	HFRI FOF: Conservative	(1.2%)	9.0%	11.3%	2.8%
	Consumer Price Index	1.5%	1.6%	1.5%	1.6%

Transition to the Long Term Policy

The SPP's assets are invested to provide stable lifetime retirement pensions in accordance with the *Statement of Policies and Procedures* which is recommended by the SPP Board and approved by the UBC Board of Governors. The following table contains the actual asset mixes at the end of December 2015 and 2016 along with the long term policy asset mix adopted in June 2015. A new *Statement of Policies and Procedures* will become effective in January 2017 and there are no changes to the long term policy asset mix.

Transition to the Long Term Policy as at December 31, 2016

Asset Mix	December 2015	December 2016	Long Term Policy
Cash and Net Currency Forwards	1.0%	1.3%	1.0%
Long Term Fixed Income	29.0%	26.9%	29.0%
Real Return Bonds	3.4%	3.9%	5.0%
Infrastructure Debt	10.0%	9.4%	10.0%
Total Fixed Income	43.5%	41.6%	45.0%
Canadian Equities	12.3%	13.2%	10.0%
Global Equities (including U.S. and International)	14.8%	13.0%	10.0%
Emerging Market Equities	4.5%	4.1%	5.0%
Total Equities	31.6%	30.3%	25.0%
Private Equity	4.2%	3.2%	5.0%
Real Estate	9.0%	10.9%	12.5%
Infrastructure Equity	11.6%	14.0%	12.5%
Hedge Fund	0.2%	0.0%	0.0%
Total Alternatives	24.9%	28.1%	30.0%
Total	100.0%	100.0%	100.0%

The SPP completed the transition to the long term investment policy weights in 2016. Notable changes during the year included a review of the portfolio's non-Canadian equity structure which recommended elimination of the U.S. equity mid-cap allocation and consolidation into the U.S. large-cap allocation. The SPP also funded a Canadian long bond fund in accordance with the SPP's transition from separate Long Bond and Mortgages mandates into a combined Long Term Fixed Income mandate based on the long term policy asset mix.

In public equities, investments in Canadian Equities (13.2%) and Global Equities (13.0%) were overweight versus the long term policy weight of 10.0% for each. These investments will be reduced as further private equity and real estate investments are funded over time.

In alternative asset classes, investments will be made as commitments made to external managers are drawn and investments are diversified through time. In the private equity program, \$14 million was

received in net distributions, bringing down the asset class weight to 3.2% versus the long term policy weight of 5%. This will allow capacity for new commitments to be made in future years. During the year, €7.5M and \$10M USD were committed to two global private equity funds. In real estate, \$22.5 million and \$15 million USD commitments were made to a Canadian core and U.S. mezzanine debt funds. Actual investments now account for 10.9% of the portfolio (15.5% including outstanding commitments) versus the long term policy weight of 12.5%.

In the infrastructure equity portfolio, \$39 million was funded in net capital calls, raising the asset class weight to 14.0% (15.2% including outstanding commitments). \$25 million was invested in a Canadian brownfield fund and \$15 million was committed to a global infrastructure fund. Capital calls during the year were funded partially by proceeds from a publicly traded infrastructure equity fund. The actual weight is above the long term policy weight of 12.5% but is below the policy maximum weight of 16.0%. In infrastructure debt, \$70 million was committed to a closed end private infrastructure debt fund to seek additional yield and to access the illiquidity premium. This will be funded from proceeds from an existing public infrastructure debt fund over an investment period of three to four years.

The SPP continued to receive redemption proceeds from its hedge fund of funds and a minimal amount (< 0.01% of the total Fund) remains in this asset class.

Performance of the Fund

The following table shows the Fund return against the policy benchmark return for various periods ending December 31, 2016. The policy benchmark portfolio serves as a proxy for a passively invested portfolio and is made up of asset class benchmarks, weighted by their long term policy weights. For example, for Canadian equities, the commonly quoted public market index S&P/TSX Composite index is used. For alternative investments, where investable indices are not available, other industry indices or combinations of relevant public indices may be used for the asset class benchmarks (e.g. MSCI World lagged 3 months + 2% for private equity).

Fund Return versus Investment Policy Benchmark

	1 Year	2 Year	4 Year	10 Year
Fund Return	7.5%	6.4%	9.2%	4.9%
Investment Policy Benchmark	5.7%	5.7%	8.2%	5.4%
Value Added	1.8%	0.8%	0.9%	(0.5%)

Note: Numbers may not add due to rounding.
Returns are presented net of external investment management fees starting January 2010.

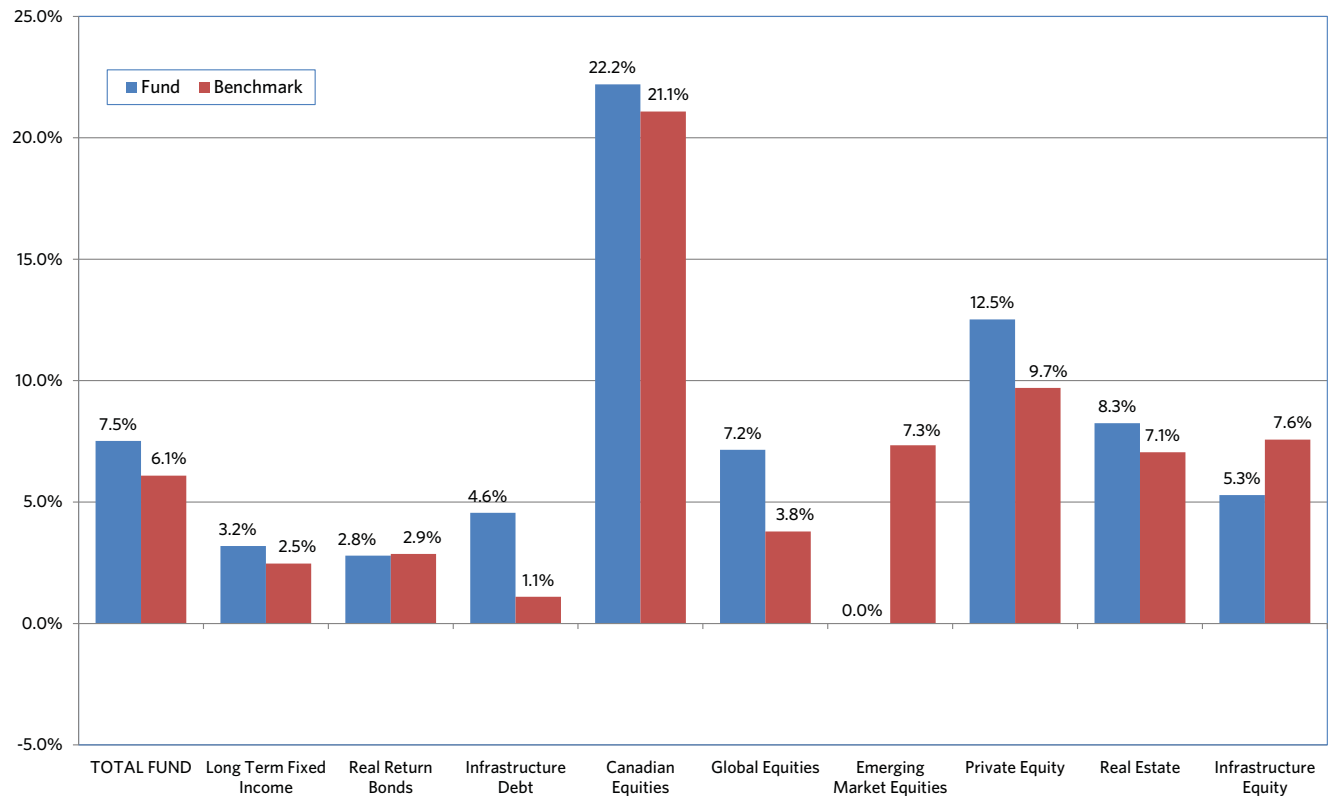
For one year ending December 31, 2016, the SPP portfolio returned 7.5% versus its policy benchmark return of 6.1%, an outperformance of 1.4%. Over a four-year period, the Fund returned 9.2% and outperformed the benchmark portfolio by 0.9%. Over a ten-year period, the Fund returned 4.9% and underperformed the benchmark portfolio by -0.5%.

The outperformance for the year came from a variety of sources. Long-term fixed income and infrastructure debt managers performed well against their respective bond benchmarks. Additionally,

Investment Review cont'd

the overweight in equities and outperformance by Canadian and global equities asset classes helped overall returns. This was slightly offset by underperformance in emerging markets equities and infrastructure equity investments. Unhedged foreign equity also slightly detracted from performance as foreign currency depreciated against the Canadian dollar during the year. The following graph shows the one-year asset class returns versus benchmarks.

One-Year Asset Class Returns versus Benchmarks



Note: Global Equities combines U.S. equities, International equities and Global equities and are compared to the MSCI World Index Net (CAD). Asset class benchmarks presented:

- Long Term Fixed Income: FTSE TMX Long Bond Index;
- Real Return Bonds: FTSE TMX Real Return Bond Index;
- Infrastructure Debt: FTSE TMX Long Federal Government Index + 1.9%;
- Canadian Equities: S&P/TSX Composite Index;
- Global Equities: MSCI World Net Index (CAD);
- Private Equity: MSCI World Net Index (CAD) +2.0% (lagged 3 months);
- Real Estate: CPI + 4.0%;
- Infrastructure Equity: CPI + 4.5%;
- Hedge Fund of Funds has no benchmark weight and its presentation is excluded as results are not meaningful.

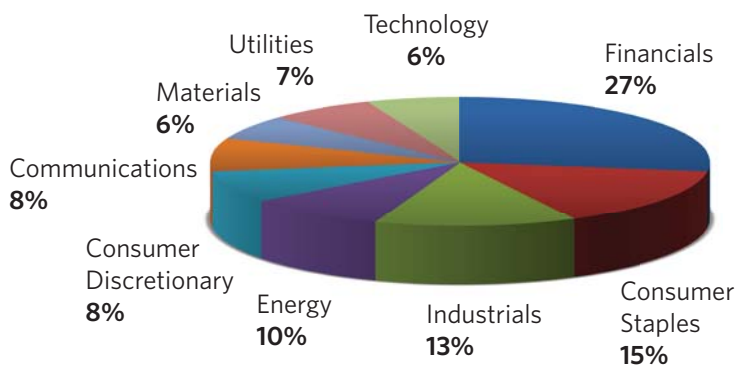
Portfolio Breakdown by Geography, Sector, and Credit Ratings

As part of UBC IMANT's risk assessment and management of the SPP portfolio, information on underlying holdings in external manager pooled funds is collected and aggregated to provide a more thorough picture of portfolio exposures and to confirm that portfolio risk characteristics are in line with the investment policy. Exposures in the SPP's equity and fixed income portfolios as at December 31, 2016 are provided below for information.

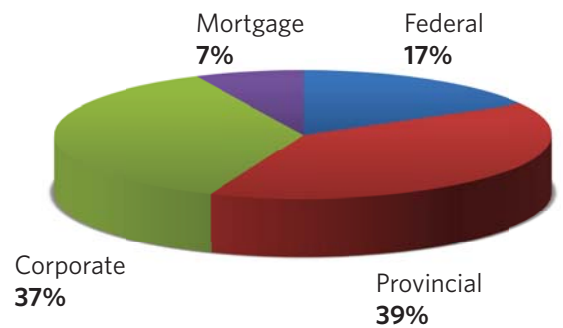
Entire Portfolio by Geographic Region

Region	
Canada	63%
United States	20%
Western Europe	10%
Asia Pacific	3%
Other	4%

Public Equity Exposure by Geographic Region



Fixed Income Exposure by Sector



Public Equity Exposure by Geographic Region

Region	
Canada	40%
United States	27%
Asia Pacific	16%
Western Europe	13%
Other	4%

Fixed Income Exposure by Credit Rating

Credit Rating	
AAA	20%
AA	24%
A	23%
BBB	9%
Other*	24%

*Includes unrated, mortgages and infrastructure debt



Plan Overview

The SPP, established January 1, 1972, is a Target Benefit pension plan that provides retirement, termination, and death benefits for eligible staff of the University of British Columbia and related employers. The Plan is funded by fixed contributions from Plan members and the University. Beyond these contributions, neither have any further financial responsibility to fund the Plan. Members contribute 6.5% of their salary, and the University contributes 10% of the member's salary less a 1.8% CPP offset, which on average represents 8.7% of member salaries.

As of July 1, 2009, pensions for new members entering the Plan are calculated according to a formula of 1.8% of salary multiplied by years of pensionable service. Members who also have service prior to July 1, 2009 will have their pension calculated using the pre-July 1, 2009 and post-July 1, 2009 formulas. Retirement pensions are indexed subject to the Plan's ability to pay. If there is not adequate funding, the Plan's policy for balancing benefits and funding requires a reduction of benefits, starting with future indexing. The Plan's actuary determines if there is adequate funding based on the results of the latest actuarial valuation report. The last actuarial valuation occurred on December 31, 2013. A new valuation is in progress as at December 31, 2016.

The University has delegated the day-to-day administration of the Plan to the SPP Board, and administration services are provided by the Pension Administration Office in Human Resources. Amendments to the Plan Text are recommended by the SPP Board, reviewed by the University Administration and approved by the UBC Board of Governors. The SPP also employs several advisors and consultants to provide expertise and advice on specific areas.

Balancing assets and liabilities is critical to providing stable lifetime retirement pensions. The SPP funds (\$1,481.2 M as at December 31, 2016) are invested in accordance with the Statement of Policies and Procedures (SIPP). The SIPP is prepared by the SPP Board with the assistance of the Plan's investment consultant, PBI Actuarial Consultants (PBI) Ltd. and input of the investment manager, UBC Investment Management Trust (IMANT) Inc., and is approved by the UBC Board of Governors.

The Plan's British Columbia Registration Number is P085439-1 and Canada Revenue Agency Registration Number is 0572362.



Board Members

Appointed Non-Voting Chair

Barry Gros

Aon Hewitt (retired)

Term expires: December 31, 2017

Appointed Board Members

Mike Leslie

UBC Faculty Pension Plan

Term expires: December 31, 2020

Jay Parker

UBC Human Resources (retired)

Term expires: December 31, 2017

Peter Smailes

UBC Treasury

Term expires: December 31, 2018

Laura O'Neill

BC Government and Service Employees' Union

Term expires: December 31, 2019

Elected Board Members

Brian Evans

TRIUMF (retired)

Term expires: December 31, 2018

Michal Jaworski

UBC Legal Counsel/Office of the University
Counsel

Term expires: December 31, 2020

Alan Marchant

UBC Advancement Services (retired)

Term expires: December 31, 2020

Karen Ranalletta

CUPE 2950

Term expires: December 31, 2018



Management & Staff

Orla Cousineau
Executive Director, Pensions

Debbie Wilson
Associate Director, Pensions

Margaret Leathley
Pension Administrator

Anna Ha
Pension Analyst

Betty Jay
Pension Clerk

Monita Law
Pension Clerk

Carol Brodie
Pension Clerk

Maricres De Leon
Pension Plan Accountant

GV Fragante
Systems Analyst

Helena Huynh
Systems Analyst

Kathy Pang
Communications Manager

Chelsey Maher
Communications Assistant

Sarah Halvorson
Office Administrator

Shirley Lim
Project Coordinator



Service Providers

Aon Hewitt: Actuary

Deloitte LLP: Auditor

Simons Solutions: Communications Consultant

The Northern Trust Company, Canada: Custodian

PBI Actuarial Consultants Ltd. (PBI): Investment/Asset Consultant

UBC Investment Management Trust Inc. (IMANT): Investment Manager

Lawson Lundell LLP: Legal Counsel