

**Board of Governors
PENSION & BENEFITS COMMITTEE
Friday 18 November 2022
9:30 a.m. to 12:00 noon**

This meeting will be held via Microsoft Teams
Non-members may arrange to join the open session of the electronic meeting
by contacting Melissa Benjamin, melissa.benjamin@uwaterloo.ca

	OPEN SESSION	ACTION
9:30	1. Approval of the 7 October 2022 Minutes (Open Session)* and Business Arising	Decision
	2. Execution Against the Work Plan* [Weber-Kraljevski]	Information
9:40		
	3. Update - UPP	Information
9:50		
	4. Pension Risk Management Dashboard, Q3 2022* [Byron]	Information
10:05		
	5. Investments Update, Q3 2022* [Huber]	Information
10:20		
	6. Funding Policy for the Registered Pension Plan* [Huber and Shapira]	Decision
10:35		
	7. Update on Green Shield Canada Implementation* [Hornberger]	Decision
	8. Employee & Family Assistance Program (EFAP) – Annual Utilization Report* [Hornberger]	Information
	9. Extended Health & Dental Benefits – Indexation of Maxima effective January 1, 2023* [Hornberger]	Decision
	10. Retiree Life Insurance – Indexation of Coverage effective January 1, 2023* [Hornberger]	Decision
11:15		
	11. Update - Working Group to Review In-Vitro Fertilization Coverage [Saunders]	Information
11:25		
	12. Report from the Pension Investment Committee* [Kennedy]	Information
	13. Other Business	
	CONFIDENTIAL SESSION	
	14. Report from the Pension Investment Committee [Kennedy]	Decision
	a. Real Estate Investment: Recommendation+	
	15. Services Review [Hadley & Hornberger]	Information
	16. Approval of the 7 October 2022 Minutes (Confidential Session)+ and Business Arising	Decision

Next Meeting: Friday 9 December 2022, 9:30 a.m. – 12:00 noon

*attached ** to be distributed + distributed separately

11 November 2022

Tim Weber-Kraljevski
Associate University Secretary

Please convey regrets to Melissa Benjamin at melissa.benjamin@uwaterloo.ca

Future Agenda Items

- a. Pension Contribution for Members on LTD
- b. Level of LTD coverage vs. practical requirements
- c. EFAP Report Data Requirements
- d. Communication Plan re: Handling of Member Questions/Feedback

University of Waterloo
Board of Governors
PENSION & BENEFITS COMMITTEE
Minutes of the 7 October 2022 Meeting
[in agenda order]

Present: Peter Barr (chair), Melissa Graham, Michelle Hollis, Lily Hua, Dennis Huber, Ranjini Jha, David Saunders, Mike Steinmann, David Taylor, Tim Weber-Kraljevski (secretary)

Resources: Linda Byron, Sarah Hadley, Lee Hornberger, Joan Kennedy, Sue McGrath, Allan Shapira, Tyler Wendland

Guests: Colleen Burke, Jessica Fennema, Vivek Goel, Ally Hrubik, Kathy Johnson, Sheryl Kennedy, Lisa Kramer Johanna Lohrenz, Cindy McCarthy, Steven Millan, Chantal Moore, Andrew Naples, Sebrina Natalizio, Gale Rubenstein, Nancy Schrubert, Natalizio Sebrina, John Tartt, Barbara Zvan

Organization of Meeting: Peter Barr took the chair, and Tim Weber-Kraljevski acted as secretary. The secretary advised that a quorum was present. The agenda was accepted as distributed.

OPEN SESSION

1. UPP PRESENTATION

The UPP representatives provided a high-level overview of their administrative processes and structure, a comparison of the UPP and the Waterloo's pension plans, and an overview their Climate Action Plan. Following questions from members, UPP also provided overview of their investment approach, growth plan, and the logistics of adding additional universities.

2. APPROVAL OF THE 16 SEPTEMBER 2022 MINUTES (OPEN SESSION) AND BUSINESS ARISING

The following revisions were requested: in section 7, item 3, replace the word proposes with purposes; and correct the Next Meeting to be Friday 7 October 2022. There was a motion to approve the minutes with the requested revisions. Saunders and Jha. Carried.

3. EXECUTION AGAINST THE WORK PLAN

This item was received for information.

4. UPDATE ON GOVERNMENT PENSION PLAN INITIATIVES

There was nothing new to report under this item.

5. REPORT FROM THE PENSION INVESTMENT COMMITTEE

Kennedy provided a correction to the report, that the fund return was behind the performance objective, not the benchmark. The fund outperformed against the asset mix benchmark by +0.42%. Kennedy also spoke to the report, highlighting: the current market volatility; the Real Estate Investment Manager search and the increase of real assets for the fund; and upcoming items scheduled in the two-year work forward plan.

6. FUNDING POLICY FOR THE REGISTERED PENSION PLAN

Huber and Shapira provided an overview of the history and rationale of the proposed funding policy, highlighting: that the proposal reflects the current practices; that while there are no regulatory requirements to have a funding policy, it is considered best practice; and that it should be a living document. Members discussed the goal of the document and potential future regulations. Members were encouraged to provide feedback outside of the meeting. A final version of the Funding Policy will be presented at the November 2022 meeting for approval.

7. UPDATE ON GREEN SHIELD CANADA IMPLEMENTATION

Hornberger and Kennedy provided an update on the of the Green Shield Canada (GRC) implementation and as a continuation from the previous meeting presented several items from the material that require awareness and understanding and/or decisions by the Pension & Benefits Committee to move forward. Members discussed item 8.

Compounds. A motion was heard to approve Option 2: Implement GSC's Compound Policy and allow a one-time claims exception process. Letters will be sent to plan members referring them to speak to their physician to determine whether their compound will be an eligible expense and if declined, the plan member would contact GSC's call centre and the claim could be pushed through as a one-time exception, but no subsequent claims would be processed. Members would be notified by GSC of the one-time exception at the time of reprocessing. Huber and Hollis. Carried. Item 12. Narcotic Policy, was received for information. Members discussed Reasonable & Customary (R&C) Charges. A motion was heard to approve Option 2: Place a percentage buffer on GSC R&C amounts to be removed at a future date as GSC's R&C limits increase. Taylor and Huber. Carried. Lee reported that a second transition analysis will be performed in November 2022 with "top up" claims data to identify additional issues, if any. An overview of administration process and a comparison of UW and GSC standard plan designs were received for information. Members reviewed the standard programs and services offered by GRC available with no additional cost. A motion was approved authorizing GSC to add the Digital Pharmacy (Health Depot), Specialty Care Program, Virtual Physiotherapy (Phyzio Canada), Virtual Orthodontics (SmileDirectClub SDC), and Virtual Mental Health (Tranquility) to EHD benefits plan at no additional cost. Huber and Hua. Carried. Members reviewed the optional programs and services with additional cost. Members heard that a Green Shield Information Session will be scheduled for Members before Pension & Benefits Committee before presenting it to the campus community.

8. UPDATE - WORKING GROUP TO REVIEW IN-VITRO FERTILIZATION COVERAGE

Saunders reported that the Working Group received an update from AON that estimated the cost of extending the in-vitro fertilization coverage was around \$18,000 a year, and it also received more information on Starbuck's coverage. As well the Working Group received a presentation from Professor Alana Cattapan who indicated that Waterloo's plan could be more equitable, and that Ontario's Fertility Program can be difficult to navigate. Professor Cattapan suggested that Waterloo could provide fertility benefits without having to first access the provincial benefits (through the Ontario Fertility Program). The Working Group is currently requesting further information on this option before making a recommendation.

9. OTHER BUSINESS

Members discussed the UPP presentation. The chair will meet with Huber, Shapira and the secretary, and will bring back next steps to the November 2022 meeting.

NEXT MEETING

The next regular meeting is scheduled for Friday 18 November 2022, 9:30 a.m. – 12:00 noon.

11 November 2022

Tim Weber-Kraljevski
Associate University Secretary

Execution against Work Plan

Pension & Benefits Committee, Board of Governors, University of Waterloo

The below represents the annual responsibilities of the P&B Committee and has been prepared as an aid to planning only. The committee's activities are much broader, however, and include: legislative changes, plan changes and improvements; selection of managers and service providers; and requests from the UW community regarding pension and benefits plans.

Task	Frequency (Target month)	19 Nov 2021	10 Dec 2021	14 Jan 2022	18 Feb 2022	11 Mar 2022	20 May 2022	24 June 2022	16 Sept 2022	07 Oct 2022	18 Nov 2022
Approval of Actuarial Valuation Assumptions	Annual (Jan)			✓							
Investment Status of PPP	Annual (Feb)				✓						
Cost-of-living Increase for Pensioners	Annual (Feb)				✓						
Pensions for Deferred Members	Annual (Feb)				✓						
Salaries for Pension Purposes for Individuals on Long-term Disability	Annual (Feb)				✓						
Actuarial Valuations (RPP and PPP), with posting to website once approved	Annual (Mar)					✓					
Review of Contribution and Protocol Caps (RPP and PPP)	Annual (Mar)					✓					
Monitor sharing of current service cost between employee and university contributions	Annual (Mar)										
Benefits Plan Premium Renewals	Annual (Mar)					✓					
Indexing of Long-term Disability Plan Benefits and Maxima	Annual (Mar)					✓					
Annual Committee Self-Assessment	Annual (Mar)					✓					
Budget Overview	Annual (May)						✓				
Previous Years' Fees and Expenses	Annual (May)						✓				
Annual Audit of the Pension Plan Fund Financial Statements	Annual (May)						✓				

Task	Frequency	19 Nov 2021	10 Dec 2021	14 Jan 2022	18 Feb 2022	11 Mar 2022	20 May 2022	24 June 2022	16 Sept 2022	07 Oct 2022	18 Nov 2022
Benefits Utilization Report	Annual (June)							✓			
Annual review re: benefits added/removed from insured plans in the market	Annual (June)							D	D	✓	
Review of Committee Terms of Reference	Annual (June)							✓			
Review of Administrative Staffing Support for the Plan (first iteration to occur in 2023)	Annual (Oct)										
Indexing of Plan Maxima – Health, Dental, Retiree Life Insurance	Annual (Nov)	✓									✓
Employee and Family Assistance Program – report on utilization	Annual (Nov)	✓									✓
Maximum pension limits and caps adjustments, based on average industrial wage increase (AIW)	Annual (Dec)		✓								
Total Fund Overview	Quarterly		✓						✓		
Investment Manager Review	Semi-annually		✓								
Approval of the Statement of Investment Policies and Procedures (SIPP)	Annual		✓								
Annual Report to the Community	Annual				✓						
Actuarial Filing - Minimum every three years Secretariat to advise Aon and HR upon approval by BOG, to commence filing Most recent filings: 2017, 2018, 2020, 2021, 2022											



Pension Risk Management Dashboard

University of Waterloo
As of September 30, 2022

To protect the confidential and proprietary information included in this material, it may not be disclosed or provided to any third parties without the approval of Aon.

AON

About This Material

This dashboard was prepared for the University of Waterloo to track changes in funded status of the Pension Plan over successive reporting periods, as well as quantify the amount of risk to which the Pension Plan is exposed. The report presents the funded status and performs the analysis on three bases:

Risk-Free Benchmark Basis – This liability is calculated using best estimate assumptions for retirement, termination and other demographic experience, and a discount rate and inflation assumption determined with reference to the risk-free environment. For this report, the liability has been determined using the real return bond yield plus a 40 basis point credit spread to reflect the additional yield that can be achieved with relatively little additional risk. This liability differs from the solvency calculation in that the demographic assumptions are best estimate and statutory “grow-in” provisions are not included.

Going Concern Basis – This liability is calculated using the going concern assumptions at the most recent valuation. The analysis is performed using the market value of assets with a Provision for Adverse Deviation as prescribed by the *Pension Benefits Act* (Ontario).

Solvency/Hypothetical Wind Up Basis – This liability is calculated using assumptions determined in accordance with the Canadian Institute of Actuaries Annuity Purchase guidance and Commuted Value standards in effect at each measurement date shown in this report. A summary of these assumptions is included on page 15.

This dashboard also contains a reconciliation that compares the going concern liability with the liability calculated using the risk-free benchmark. The difference between the two liabilities represents the amount of return expected to be provided by taking on risk in the investment portfolio. Over successive quarters the tool helps quantify how that risk changes as the underlying interest rates change.

On both bases the following information is shown:

- **Current Funded Status and Historical Asset Liability Performance**

- How well funded is the plan?
- What has been the return on plan assets and liabilities?

- **Detailed Asset and Liability Performance Attribution**

- What factors drove the performance of assets and liabilities over the prior period?
- What is the relative impact of these factors on the assets and liabilities in isolation and in combination?

For the Risk-Free Benchmark Basis, the following information is also shown:

- **Scenario Testing**

- What risk exposures does the plan face?
- What would be the impact of a downside event for each risk factor?

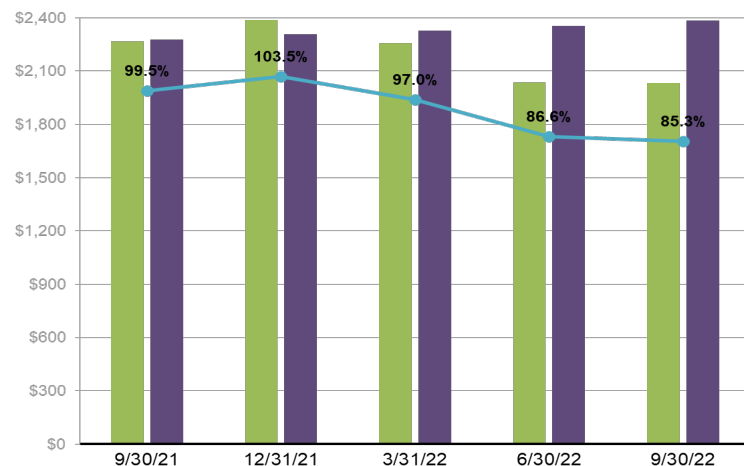
Highlights

- The going concern deficit increased from \$316.3 million to \$350.8 million over the quarter due to asset performance being lower than expected.
- The risk-free deficit increased from \$827.4 million to \$829.4 million over the quarter mainly as a result of asset performance being lower than expected. However, the impact of the lower asset performance was partially offset by a decrease in inflation expectations implicit in the bond market, which more than offset the impact of the decrease in nominal risk-free benchmark rates, resulting in a net reduction in the value of the Plan's liabilities.
- The solvency position surplus decreased from \$151.7 million to \$102.8 million over the quarter primarily due to the plan's asset performance being lower than expected and the impact of small decrease in nominal risk-free benchmark rates.
- The total fund had a rate of return after all fees of -0.4% for this quarter, lower than expectations.
- The estimated September 30, 2022 liabilities are projected based on the most recent actuarial valuation, with membership data as at December 31, 2021.
- The annuity purchase guidance educational note for valuations as of September 30, 2022 and October 1, 2022 (published as of October 25, 2022) has been reflected in the interest rates used to calculate the September 30, 2022 Solvency and Hypothetical Wind Up liabilities.
- The transfer ratio as at September 30, 2022 is 76.2%. Compared to the transfer ratio of 74.8% in the last filed valuation on December 31, 2021, this represents an increase of 1.4%. Since the transfer ratio has not decreased by 10% or more over the period, no Regulation 19 filing is required. See slide 11 for more details.
- The most recent actuarial valuation was performed as at December 31, 2021.
- All figures are in \$1,000,000 (CAD).

Executive Summary – Going Concern

Values in \$1,000,000 (CAD)

Funded Status



Highlights for the Quarter-Ending 9/30/22

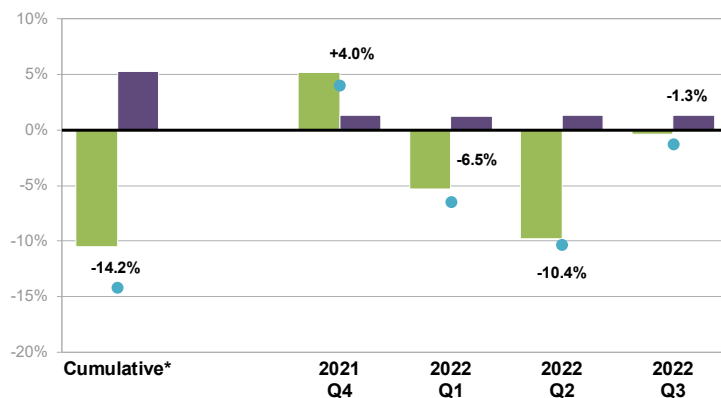
The plans' funded ratio decreased to 85.3% at 9/30/22. This result was primarily due to the combined effects of:

- Asset performance being less than expected, partially offset by
- Contributions exceeded the cost of new benefit accruals

	9/30/21	12/31/21	3/31/22	6/30/22	9/30/22
Market Value of Assets	\$ 2,267.7	\$ 2,387.7	\$ 2,257.3	\$ 2,037.5	\$ 2,033.6
Going Concern Liability	2,279.0 ¹	2,306.3 ¹	2,327.1 ¹	2,353.8 ¹	2,384.4 ¹
Surplus/(Deficit)	\$ (11.3)	\$ 81.4	\$ (69.8)	\$ (316.3)	\$ (350.8)
Periodic Contributions	\$ 27.1	\$ 26.8	\$ 26.5	\$ 27.1	\$ 27.9
Effective Interest Rate	5.30%	5.30%	5.50%	5.50%	5.50%
Funded Ratio:	99.5%	103.5%	97.0%	86.6%	85.3%
Interest rate sensitivity:					
Asset:	1.8	1.8	1.6	1.5	1.5
Going Concern Liability:	14.4	14.4	14.1	14.1	14.1

¹After application of the PfAD at 9.00%

Asset-Liability Return



Asset Liability Return for Quarter-Ending 9/30/22

Assets returned -0.4% during the quarter while liabilities returned 1.3%, resulting in a funded status decrease of 1.3%.

	Periodic Return/Change	Cumulative	12/31/21	3/31/22	6/30/22	9/30/22
Market Value of Assets						
Return		-10.5%	5.2%	-5.3%	-9.8%	-0.4%
Going Concern:						
Return		5.3%	1.3%	1.2%	1.3%	1.3%
Funded Ratio Change		-14.2%	4.0%	-6.5%	-10.4%	-1.3%

Asset-Liability Performance Attribution – Going Concern

Values in \$1,000,000 (CAD)

Assets



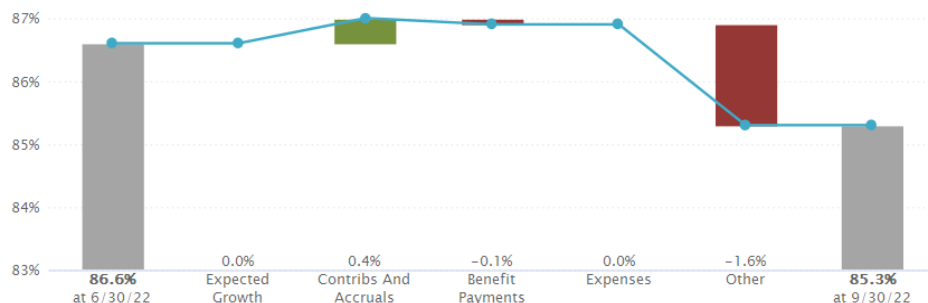
- Overall, assets returned -0.4% during this quarter.
- The fixed income assets lost value due to an increase in the underlying risk-free rates for assets in which the plan is invested, and widening credit spreads.
- The plans' return-seeking assets performed lower than expected during the quarter.
- The University and members made \$27.9 million in contributions during the quarter and the trust paid \$22.4 million in benefits to the participants.
- "Other" represents the scale of the under performance of the Plan's assets versus expectation (based on the Plan's going concern discount rate assumption).

Liabilities



- Liabilities as of 9/30/22 are calculated using a discount rate of 5.50% p.a.
- Liabilities were expected to grow by \$32.0 million due to interest cost during the quarter.
- New benefit accruals increased the liability by \$21.2 million during the quarter.
- Plan liabilities decreased by \$22.4 million during the quarter as benefits were paid.

Funded Ratio

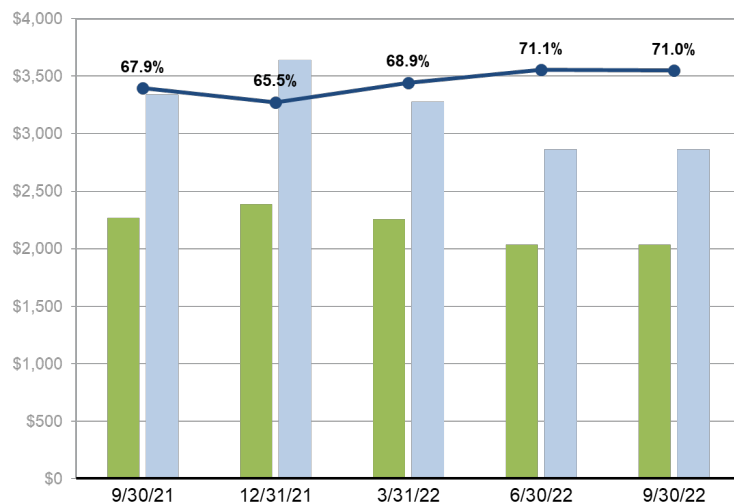


- Contributions exceeded the cost of new benefit accruals over the period leading to an increase of 0.4% in the funding ratio
- This was offset by lower than assumed asset returns which led to a reduction of 1.8% in the funding ratio.

Executive Summary – Risk Free

Values in \$1,000,000 (CAD)

Funded Status



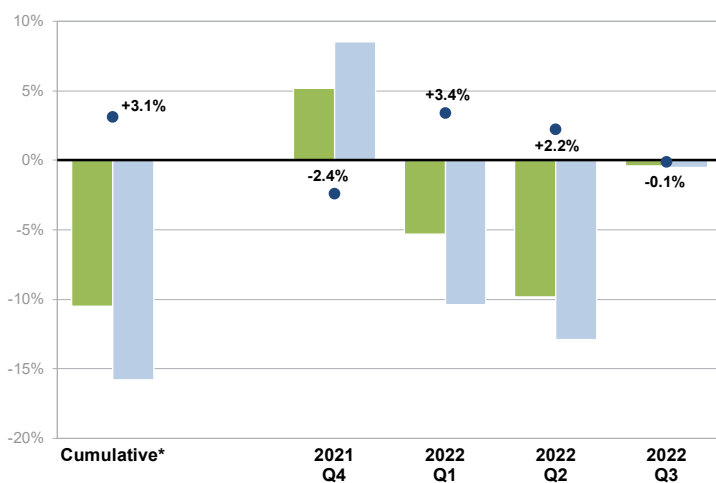
Highlights for the Quarter-Ending 9/30/22

The plans' funded ratio decreased to 71.0% at 9/30/22. This result was primarily due to the combined effects of:

- Asset performance less than expected,
- New benefit accruals exceeded contributions, and
- A decrease in liabilities due to a decrease in inflation assumptions partially offset by a decrease in underlying risk-free rates (nominal).

	9/30/21	12/31/21	3/31/22	6/30/22	9/30/22
Market Value of Assets	\$ 2,267.7	\$ 2,387.7	\$ 2,257.3	\$ 2,037.5	\$ 2,033.6
Risk-Free Liability	3,337.7	3,642.8	3,277.8	2,864.9	2,863.0
Surplus/(Deficit)	\$ (1,070.0)	\$ (1,255.1)	\$ (1,020.5)	\$ (827.4)	\$ (829.4)
Periodic Contributions	\$ 27.1	\$ 26.8	\$ 26.5	\$ 27.1	\$ 27.9
Discount Rate	0.62%	0.23%	0.94%	1.76%	1.84%
Funded Ratio:					
Assets/Risk-Free Liability	67.9%	65.5%	68.9%	71.1%	71.0%
Interest rate sensitivity:					
Assets:	1.8	1.8	1.6	1.5	1.5
Risk-Free Liability:	18.8	19.5	19.8	17.2	17.0

Asset-Liability Return



Asset Liability Return for Quarter-Ending 9/30/22

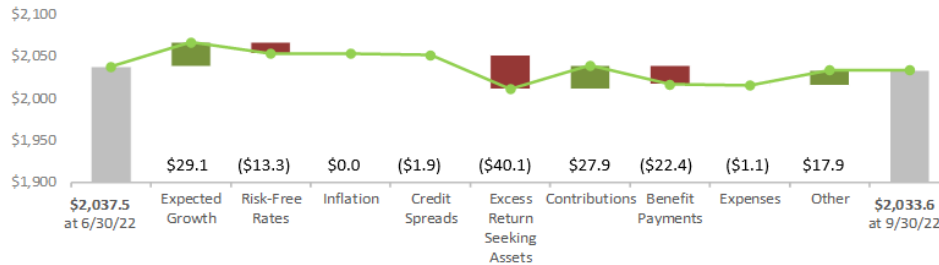
Assets returned -0.4% during the quarter while liabilities returned -0.5%, resulting in a funded status increase of 0.1%.

	Periodic Return/Change	Cumulative	12/31/21	3/31/22	6/30/22	9/30/22
Market Value of Assets						
Return		-10.5%	5.2%	-5.3%	-9.8%	-0.4%
Risk Free:						
Return		-15.7%	8.5%	-10.4%	-12.9%	-0.5%
Funded Ratio Change		3.1%	-2.4%	3.4%	2.2%	-0.1%

Asset-Liability Performance Attribution – Risk Free

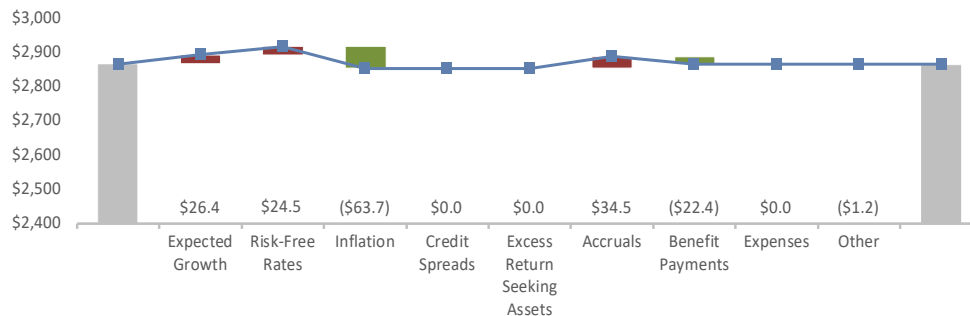
Values in \$1,000,000 (CAD)

Assets



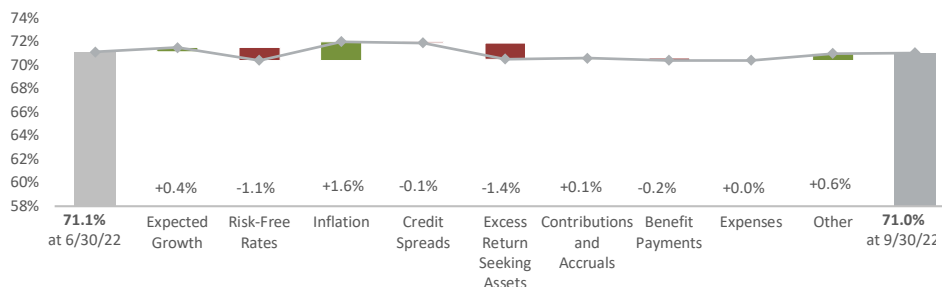
- Overall, assets returned -0.4% during this quarter.
- The fixed income assets lost value due to an increase in the underlying risk-free rates for assets in which the plan is invested, and widening credit spreads.
- The plans' return-seeking assets performed lower than expected during the quarter.
- The University and members made \$27.9 million in contributions during the quarter and the trust paid \$22.4 million in benefits to the participants.
- "Other" includes the impact of active management, and differences between benchmark and actual investment allocations.

Liabilities



- Liabilities were expected to grow by \$26.4 million due to interest cost during the quarter.
- Risk-free rates used to determine the liabilities decreased resulting in an increase in liabilities of \$24.5 million.
- Expected inflation decreased resulting in a decrease in the liabilities of \$63.7 million.
- New benefit accruals increased the liability by \$34.5 million during the quarter.
- Plan liabilities decreased by \$22.4 million during the quarter as benefits were paid.

Funded Ratio

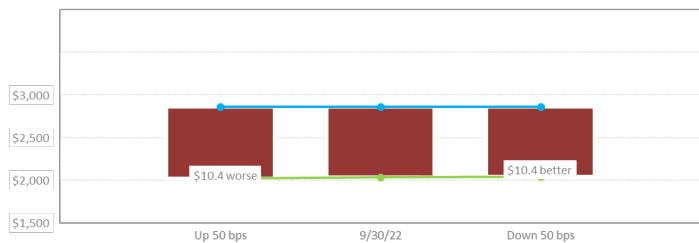


- The difference in exposure to risk-free rates between assets and liabilities combined with changes in risk-free rates resulted in a decrease in funded status of 1.1%.
- Return-seeking assets did not perform as well as expected during the quarter, deducting 1.4% from the plans' funded status during the period.
- Reductions in long-term inflation expectations helped to increase the funding ratio by 1.6%

Sensitivity Analysis – Risk-Free Benchmark

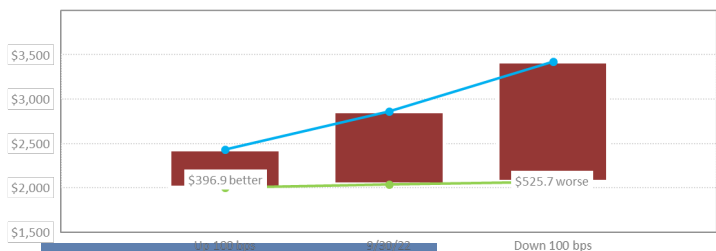
Values in \$1,000,000 (CAD)

Credit Spreads



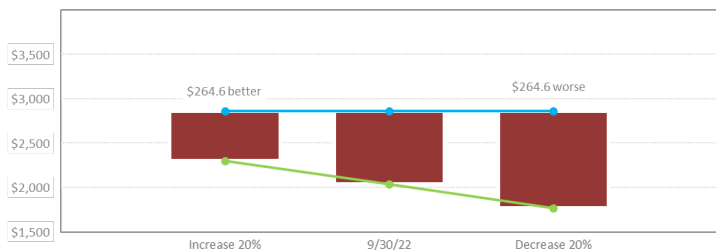
	Up 50bps	Current	Down 50bps
Market Value of Assets	\$2,023.2	\$2,033.6	\$2,044.0
Risk Free	\$2,863.0	\$2,863.0	\$2,863.0
Surplus/(Deficit)	(\$839.8)	(\$829.4)	(\$819.0)
Change		(\$10.4)	\$10.4

Risk-Free Rates



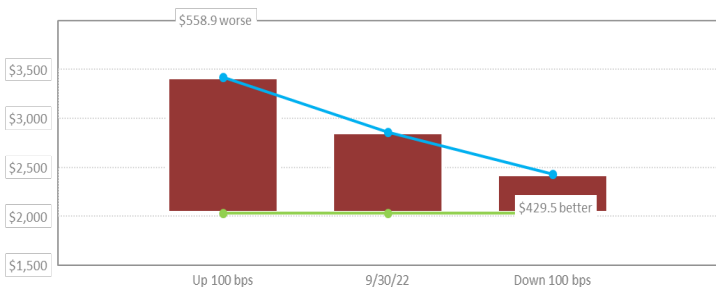
	Up 100bps	Current	Down 100bps
Market Value of Assets	\$2,001.0	\$2,033.6	\$2,066.8
Risk Free	\$2,433.5	\$2,863.0	\$3,421.9
Surplus/(Deficit)	(\$432.5)	(\$829.4)	(\$1,355.1)
Change		\$369.9	(\$525.7)

Return-Seeking Assets



	Increase 20%	Current	Decrease 20%
Market Value of Assets	\$2,298.2	\$2,033.6	\$1,769.0
Risk Free	\$2,863.0	\$2,863.0	\$2,863.0
Surplus/(Deficit)	(\$564.8)	(\$829.4)	(\$1,094.0)
Change		\$264.6	(\$264.6)

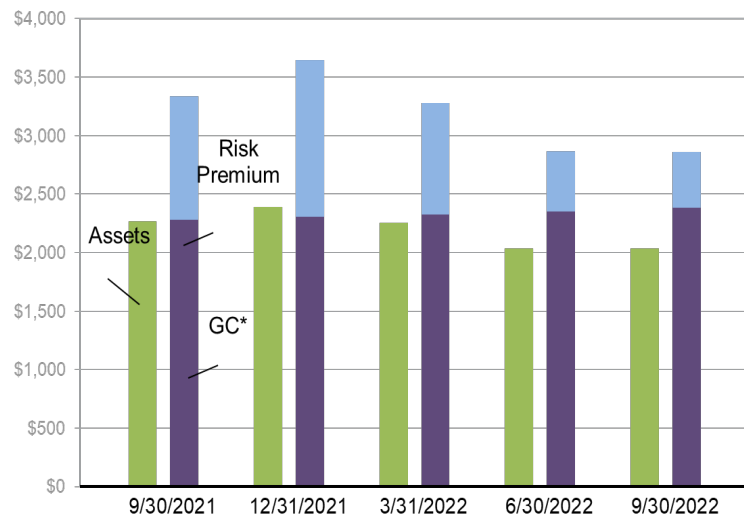
Inflation



	Up 100bps	Inflation	Down 100bps
Market Value of Assets	\$2,033.6	\$2,033.6	\$2,033.6
Risk-Free	\$3,421.9	\$2,863.0	\$2,433.5
Surplus/(Deficit)	(1,388.3)	(\$829.4)	(\$399.9)
Change		(\$558.9)	\$429.5

Reconciliation of Risk-Free Benchmark and Going Concern Funded Status

Values in \$1,000,000 (CAD)



*Going Concern

	9/30/21	12/31/21	3/31/22	6/30/22	9/30/22
Market Value of Assets	\$ 2,267.7	\$ 2,387.7	\$ 2,257.3	\$ 2,037.5	\$ 2,033.6
Going Concern Liability	\$ 2,279.0	\$ 2,306.3	\$ 2,327.1	\$ 2,353.8	\$ 2,384.4
Risk Premium	<u>1,058.7</u>	<u>1,336.5</u>	<u>950.7</u>	<u>511.1</u>	<u>478.6</u>
Risk-Free Liability	\$ 3,337.7	\$ 3,642.8	\$ 3,277.8	\$ 2,864.9	\$ 2,863.0

The difference between the Risk-Free Liability and the Going Concern Liability is a measure of the amount of risk premium on which the Pension Plan funding is based.

Hypothetical Wind Up (HWU) and Transfer Ratio

Values in \$1,000,000 (CAD)

	December 31, 2021 (Last Filled Valuation)		7/1/2022		10/1/2022	
■ HWU Assets *	\$	2,379.8	\$	2,037.0	\$	2,033.1
■ HWU Liability		3,181.6		2,623.4		2,668.5
Surplus/(Deficit)	\$	(801.8)	\$	(586.3)	\$	(635.5)
Transfer Ratio:						
■ Market Value of Assets/HWU Liability		74.8%		77.6%		76.2%

* Net of estimated wind up expenses

■ Restrictions on commuted values may come into effect if the administrator of the pension plan knows or ought to know that since the valuation date of the last filed report, events have taken place that may result in the reduction of the transfer ratio by 10% or more of the most recently determined transfer ratio. In such case, the administrator shall not transfer any part of the commuted value without prior approval of the Superintendent.

■ If the transfer ratio (the hypothetical wind up assets divided by the hypothetical wind up liabilities including indexation) drops by 10% or more since the last filed valuation, the administrator must stop paying commuted values and seek approval from the regulators to restart paying commuted values. The application is made in a prescribed format. This is generally referred to as a “Regulation 19 Filing”.

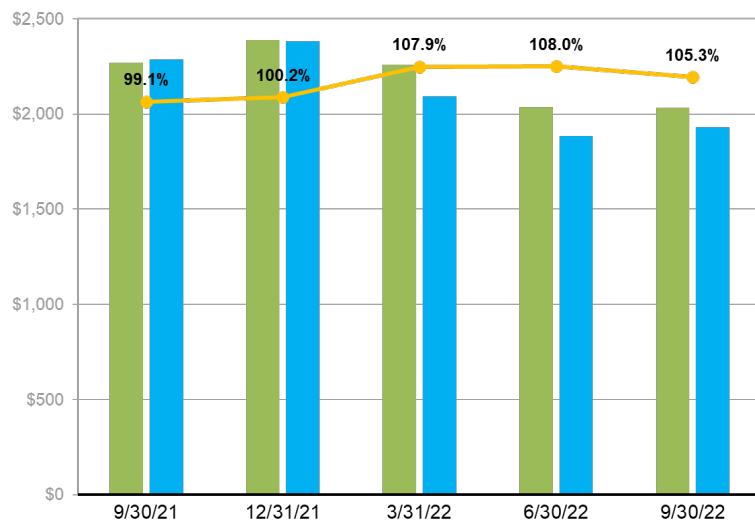
■ During Q3 2022, the financial position of the Pension Plan as measured on a wind-up basis did not drop by more than 10% since December 31, 2021 (the last filed valuation). Therefore, no Regulation 19 Filing is required as of October 1, 2022.

■ The Regulation 19 filing requirements will be monitored throughout 2022 on a quarterly basis.

Executive Summary - Solvency

Values in \$1,000,000 (CAD)

Funded Status



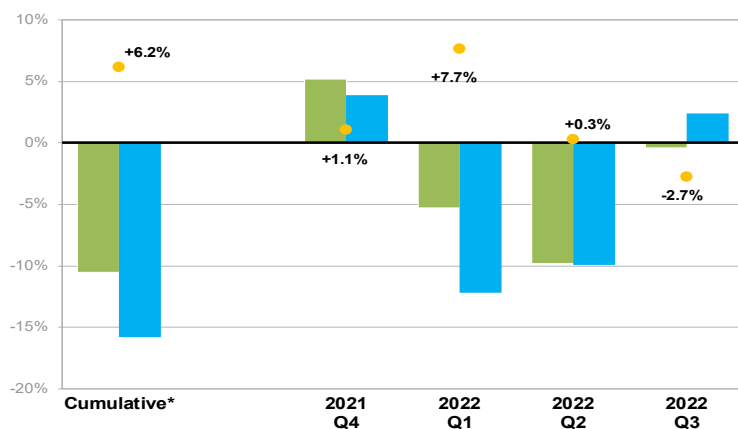
Highlights for the Quarter-Ending 9/30/22

The plans' funded ratio decreased to 105.3% at 9/30/22. This result was primarily due to the combined effects of:

- Asset performance being lower than expected,
- An increase in liabilities due to a decrease in the effective interest rates.

	9/30/2021	12/31/2021	3/31/2022	6/30/2022	9/30/2022
Market Value of Assets	\$ 2,267.7	\$ 2,387.7	\$ 2,257.3	\$ 2,037.5	\$ 2,033.6
Solvency Liability	2,287.4	2,382.8	2,092.4	1,885.8	1,930.8
Surplus/(Deficit)	\$ (19.7)	\$ 4.9	\$ 164.9	\$ 151.7	\$ 102.8
Periodic Contributions	\$ 27.1	\$ 26.8	\$ 26.5	\$ 27.1	\$ 27.9
Effective Interest Rate	3.01%	2.81%	3.70%	4.62%	4.52%
Funded Ratio:					
Assets/Solvency Liability	99.1%	100.2%	107.9%	108.0%	105.3%
Interest rate sensitivity:					
Assets	1.8	1.8	1.6	1.5	1.6
Solvency Liability	14.3	14.9	14.6	12.5	12.6

Asset-Liability Return



Asset Liability Return for Quarter-Ending 9/30/22

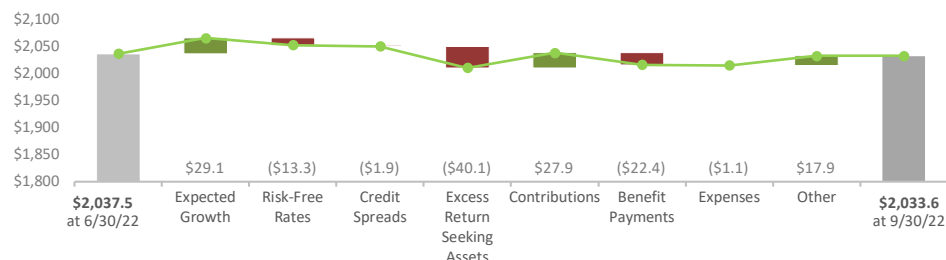
Assets returned -0.4% during the quarter while liabilities returned 2.4%, resulting in a funded status decrease of 2.7%.

	Periodic Return/Change	Cumulative	12/31/21	3/31/22	6/30/22	9/30/22
Market Value of Assets	Return	-10.5%	5.2%	-5.3%	-9.8%	-0.4%
Funding Target:	Return	-15.8%	3.9%	-12.2%	-9.9%	2.4%
Funded Ratio Change		6.2%	1.1%	7.7%	0.3%	-2.7%

Asset-Liability Performance Attribution – Solvency

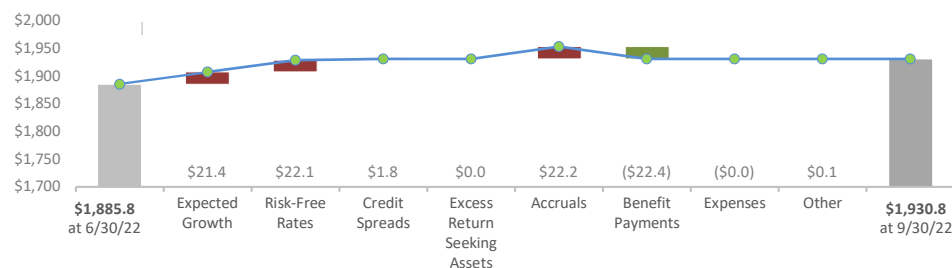
Values in \$1,000,000 (CAD)

Assets



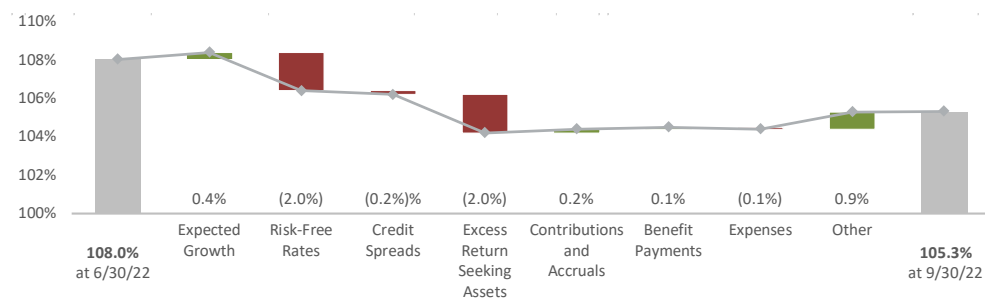
- Overall, assets returned -0.4% during this quarter.
- The fixed income assets lost value due to an increase in the underlying risk-free rates for assets in which the plan is invested and widening credit spreads.
- The plans' return-seeking assets performed lower than expected during the quarter.
- The plan sponsor made \$27.9 million in contributions during the quarter and the trust paid \$22.4 million in benefits to the participants.
- "Other" includes the impact of active management, and differences between benchmark and actual investment allocations.

Liabilities



- Liabilities were expected to grow by \$21.4 million due to interest cost during the quarter.
- Risk-free rates decreased, and credit spreads narrowed, resulting in a net increase of \$23.9 million (\$22.1 million + \$1.8 million).
- New benefit accruals increased the liability by \$22.2 million during the quarter.
- Plan liabilities decreased by \$22.4 million during the quarter as benefits were paid.

Funded Ratio

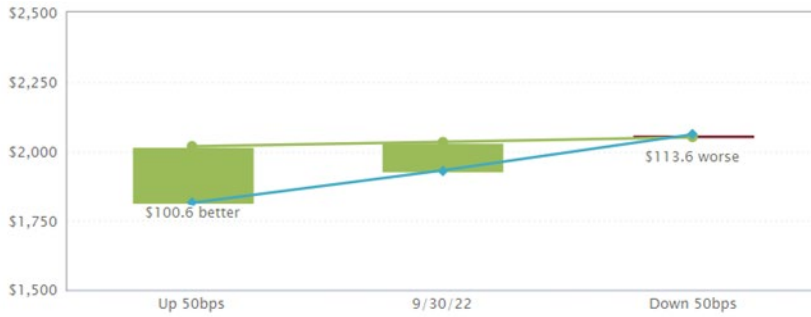


- The difference in exposure to risk-free rates between assets and liabilities combined with changes in risk-free rates resulted in a decrease in funded status of 2.0%.
- The difference in exposure to credit spreads between assets and liabilities combined with changes in credit spreads resulted in a decrease in funded status of 0.2%.
- Return-seeking assets did not perform as well as expected during the quarter, deducting 2.0% from the plans' funded status during the period.
- Contributions exceeded benefit accruals during the quarter, resulting in a net increase of 0.2% in the funded status.

Sensitivity Analysis - Solvency

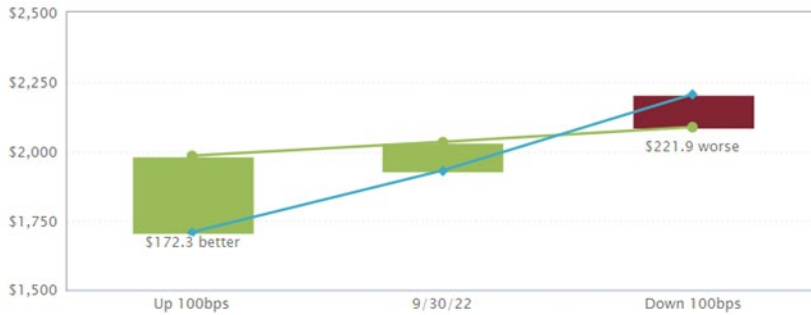
Values in \$1,000,000 (CAD)

Credit Spreads



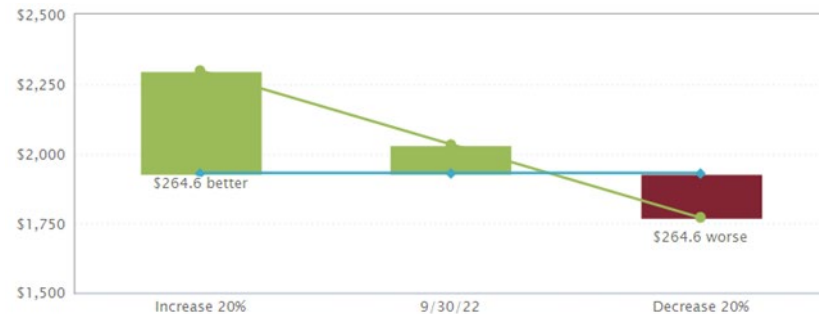
	Up 50bps	Current	Down 50bps
Market Value of Assets	\$2,017.4	\$2,033.6	\$2,050.1
Funding Target	\$1,814.0	\$1,930.8	\$2,060.9
Surplus/(Deficit)	\$203.4	\$102.8	(\$10.8)
Change		\$100.6	(\$113.6)

Risk-Free Rates



	Up 100bps	Current	Down 100bps
Market Value of Assets	\$1,983.8	\$2,033.6	\$2,087.1
Funding Target	\$1,708.7	\$1,930.8	\$2,206.2
Surplus/(Deficit)	\$275.1	\$102.8	(\$119.1)
Change		\$172.3	(\$221.9)

Return-Seeking Assets



	Increase 20%	Current	Decrease 20%
Market Value of Assets	\$2,298.2	\$2,033.6	\$1,769.0
Funding Target	\$1,930.8	\$1,930.8	\$1,930.8
Surplus/(Deficit)	\$367.4	\$102.8	(\$161.8)
Change		\$264.6	(\$264.6)



Appendix

Plan Provisions & Membership Data

Same as in the Actuarial Valuation Report as of December 31, 2021.

Actuarial Methods & Assumptions

Our analysis of the estimated financial position of the Pension Plan is based on the following:

	9/30/21	12/31/21	3/31/22	6/30/22	9/30/22
Going Concern					
Discount Rate	5.30%	5.30%	5.50%	5.50%	5.50%
Inflation	2.00%	2.00%	2.00%	2.00%	2.00%
Salary Increase	3.00%/4.00% ¹	3.00%/4.00% ¹	3.00%/4.00% ¹	3.00%/4.00% ¹	3.00%/4.00% ¹
PfAD	9.00%	9.00%	9.00%	9.00%	9.00%
Mortality	CPM2014Public	CPM2014Public	CPM2014Public	CPM2014Public	CPM2014Public
Risk-Free Benchmark					
Discount Rate	0.62%	0.23%	0.94%	1.76%	1.84%
Solvency					
Annuity Purchase Interest Rate	3.12%	2.86%	3.81%	4.69%	4.64%
Effective Date of Annuity Purchase Guidance Used	9/30/21	12/31/21	3/31/22	6/30/22	9/30/22
Lump Sum Value Interest Rate (Years 1-10) ²	1.90%	2.10%	3.40%	4.30%	4.30%
Lump Sum Value Interest Rate (Years 10+) ²	3.40%	3.10%	3.70%	4.60%	4.30%
Mortality ³	CPM2014	CPM2014	CPM2014	CPM2014	CPM2014
Hypothetical Wind Up					
Annuity Purchase Interest Rate (100% Indexed)	-0.25%	-0.54%	0.14%	0.76%	0.76%
Annuity Purchase Interest Rate (75% Indexed)	0.59%	0.26%	1.06%	1.74%	1.73%
Effective Date of Annuity Purchase Guidance Used	9/30/21	12/31/21	3/31/22	6/30/22	9/30/22
Lump Sum Value Interest Rate (100% Indexed) (Years 1-10) ²	0.80%	0.70%	1.50%	2.50%	2.50%
Lump Sum Value Interest Rate (100% Indexed) (Years 10+) ²	1.30%	1.00%	1.80%	2.80%	2.60%
Lump Sum Value Interest Rate (75% Indexed) (Years 1-10) ²	1.00%	1.00%	2.00%	2.90%	3.00%
Lump Sum Value Interest Rate (75% Indexed) (Years 10+) ²	1.90%	1.50%	2.30%	3.20%	3.00%
Mortality ³	CPM2014	CPM2014	CPM2014	CPM2014	CPM2014
Underlying Canadian Reference Data					
CANSIM v39054 (7 Year)	1.24%	1.27%	2.37%	3.15%	3.19%
CANSIM v39056 (30 Year Long Term)	1.98%	1.68%	2.37%	3.14%	3.09%
CANSIM v39057 (30 Year Real Return)	0.25%	-0.14%	0.54%	1.36%	1.44%
CANSIM v39062 (Over 10 Years)	1.92%	1.66%	2.41%	3.19%	3.14%

¹ 3.00% per year for 2 years; 4.00% year thereafter

² Lump Sum Value Interest Rates are based on rates in effect on the first day of the month following quarter end (i.e., January 1st, April 1st, July 1st and October 1st).

³ With improvement scale MI-2017 for Going Concern and Risk Free and CPM-B for Solvency.

All other assumptions and methods are the same as those shown in the Actuarial Valuation Report as of December 31, 2021. For the Risk-Free Benchmark basis, all other assumptions and methods are the same as those used for the Going Concern basis.

Actuarial Attestation

This document is intended to provide the University of Waterloo with a summary of the performance of the Pension Plan as of September 30, 2022.

This analysis is intended to assist the University of Waterloo with a review of the associated issues and options, and its use may not be appropriate for other purposes. This analysis has been prepared solely for the benefit of the University of Waterloo. Any further dissemination of this report is not allowed without the written consent of Aon.

In conducting the analysis, we have relied on plan design, demographic and financial information provided by other parties, including the plan sponsor. While we cannot verify the accuracy of all the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it has produced appropriate results.

Experience different than anticipated could have a material impact on the ultimate costs of the benefits. In addition, changes in plan provisions or applicable laws could have a substantial impact on cost. Actual experience may differ from our modeling assumptions.

Aon
November 2022

Asset Allocation and Benchmarking

Asset Class	9/30/22
Alternatives	
■ FTSE EPRA NAREIT DEVELOPED Total Return Index USD	3.0%
■ MSCI USA Infrastructure Index	7.0%
Fixed Income	
■ FTSE TMX Universe Bond Index	35.0%
International Equities	
■ MSCI World Index	49.3%
■ S&P TSX	5.7%
Total	100.0%



University of Waterloo Pension Plan | Quarterly Period Ending 30 September 2022

Detailed Investment Review

*Visit the **Aon Retirement and Investment Website** (<https://retirement-investment-insights.aon.com/canada>); sharing our best thinking.*

Executive Summary

Performance Summary¹

As of 30 September 2022

	Allocation		Performance (%)								
	Market Value (\$000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years
Total Fund	2,033,572	100.0	-0.47	-14.96	-10.55	0.42	1.83	3.14	3.95	6.16	5.08
CPI + 3.5% ²			0.73	8.81	10.60	9.31	7.52	7.00	6.75	5.85	5.67
Value Added			-1.20	-23.77	-21.15	-8.89	-5.69	-3.86	-2.80	0.31	-0.59
Total Fund Benchmark ¹⁰			-1.10	-15.29	-10.77	0.50	2.25	3.68	4.53	6.84	-
Value Added			0.63	0.33	0.22	-0.08	-0.42	-0.54	-0.58	-0.68	-
Canadian Equities³	115,042	5.7	-1.40 (61)	-11.11 (86)	-5.36 (84)	9.62 (87)	2.00 (100)	2.62 (100)	3.26 (100)	6.33 (100)	-
S&P/TSX Composite Index			-1.41 (61)	-11.14 (87)	-5.39 (84)	10.06 (82)	6.59 (74)	6.71 (57)	6.54 (59)	7.30 (93)	4.88 (90)
Value Added			0.01	0.03	0.03	-0.44	-4.59	-4.09	-3.28	-0.97	-
TD Emerald Canadian Equity Index⁴	115,042	5.7	-1.40 (61)	-11.11 (86)	-5.36 (84)	10.08 (82)	6.60 (74)	6.71 (57)	6.54 (59)	7.28 (93)	4.89 (89)
S&P/TSX Composite Index			-1.41 (61)	-11.14 (87)	-5.39 (84)	10.06 (82)	6.59 (74)	6.71 (57)	6.54 (59)	7.30 (93)	4.88 (90)
Value Added			0.01	0.03	0.03	0.02	0.01	0.00	0.00	-0.02	0.01
Global Equities⁶	520,710	25.6	-0.94 (52)	-22.74 (81)	-17.12 (74)	-0.27 (78)	2.21 (87)	2.86 (79)	5.51 (64)	10.68 (72)	5.12 (87)
Global Equity Benchmark ¹¹			-0.25 (35)	-18.29 (56)	-11.43 (42)	5.09 (37)	7.77 (16)	7.42 (13)	9.33 (13)	13.95 (12)	8.96 (17)
Value Added			-0.69	-4.45	-5.69	-5.36	-5.56	-4.56	-3.82	-3.27	-3.84
Walter Scott⁵	363,110	17.9	-0.67 (44)	-21.84 (77)	-15.79 (70)	0.55 (73)	5.09 (51)	5.96 (33)	9.26 (13)	12.79 (28)	9.42 (13)
MSCI World Index (Net) (CAD)			-0.07 (30)	-19.02 (60)	-12.66 (49)	3.33 (51)	5.86 (36)	5.46 (40)	7.31 (38)	11.78 (50)	6.86 (62)
Value Added			-0.60	-2.82	-3.13	-2.78	-0.77	0.50	1.95	1.01	2.56
RBC Global Focus Equity⁹	80,220	3.9	-0.03 (29)	-23.46 (82)	-18.05 (78)	1.28 (68)	7.54 (18)	7.09 (17)	9.89 (10)	-	-
MSCI AC World Index (Net)			-0.74 (46)	-19.24 (61)	-13.77 (57)	2.12 (62)	5.04 (51)	4.74 (52)	6.43 (50)	10.93 (67)	6.34 (74)
Value Added			0.71	-4.22	-4.28	-0.84	2.50	2.35	3.46	-	-
Mirova Global Sustainable Equity⁹	77,309	3.8	-3.86 (91)	-26.16 (87)	-22.16 (87)	-2.50 (84)	7.12 (23)	8.04 (8)	9.91 (10)	-	-
MSCI AC World Index (Net)			-0.74 (46)	-19.24 (61)	-13.77 (57)	2.12 (62)	5.04 (51)	4.74 (52)	6.43 (50)	10.93 (67)	6.34 (74)
Value Added			-3.12	-6.92	-8.39	-4.62	2.08	3.30	3.48	-	-

¹Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

² CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸The Currency Overlay was discontinued on 20 November 2017.

⁹In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

¹⁰Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

¹¹Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

Performance Summary¹

As of 30 September 2022

	Allocation		Performance (%)										
	Market Value (\$000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years		
U.S. Equities													
TD Emerald Pooled U.S. Fund⁷	318,917	15.7	1.33 (52)	-17.13 (57)	-8.29 (53)	6.32 (55)	9.49 (36)	8.81 (35)	11.29 (36)	-	-		
S&P 500 (CAD)			1.32 (53)	-17.18 (57)	-8.32 (53)	6.32 (55)	9.51 (36)	8.82 (35)	11.31 (36)	15.50 (40)	10.39 (58)		
Value Added			0.01	0.05	0.03	0.00	-0.02	-0.01	-0.02	-	-		
International Equities													
TD Emerald International Equity Index⁷	158,286	7.8	-3.44 (49)	-20.60 (51)	-18.68 (53)	-1.50 (52)	-0.53 (72)	-0.10 (63)	1.15 (63)	7.28 (83)	2.92 (89)		
MSCI EAFE (Net)			-3.45 (49)	-20.69 (51)	-18.80 (54)	-1.60 (53)	-0.61 (74)	-0.20 (65)	1.05 (65)	7.19 (85)	2.81 (91)		
Value Added			0.01	0.09	0.12	0.10	0.08	0.10	0.10	0.09	0.11		
Fixed Income													
TDAM Universe Bond Index	669,114	32.9	0.13	-8.49	-8.04	-4.72	-1.20	0.87	0.98	-	-		
FTSE Canada Universe Bond	314,961	15.5	0.54 (64)	-11.75 (69)	-10.45 (66)	-7.04 (87)	-2.62 (99)	0.31 (96)	0.57 (98)	2.38 (5)	3.67 (56)		
Value Added			0.52 (69)	-11.78 (70)	-10.48 (68)	-6.98 (85)	-2.51 (96)	0.41 (95)	0.66 (94)	1.65 (91)	3.36 (95)		
TDAM Active Short Term Corporate	354,152	17.4	-0.23	-5.37	-5.77	-2.47	0.15	1.36	1.34	-	-		
FTSE Canada Short Term Corporate Bond			-0.26	-5.46	-5.85	-2.46	0.18	1.38	1.36	1.89	3.23		
Value Added			0.03	0.09	0.08	-0.01	-0.03	-0.02	-0.02	-	-		
Alternatives													
XRE ETF (Real Estate)	57,267	2.8	-7.62 (100)	-24.12 (100)	-17.91 (100)	6.60 (100)	-4.50 (100)	0.93 (100)	3.66 (100)	3.53 (100)	-		
FTSE EPRA Nareit Developed			-5.61 (100)	-23.23 (100)	-15.51 (100)	2.38 (100)	-4.45 (100)	0.49 (100)	1.97 (100)	7.29 (100)	3.96 (-)		
Value Added			-2.01	-0.89	-2.40	4.22	-0.05	0.44	1.69	-3.76	-		
BIP.UN (Infrastructure)	81,665	4.0	0.79	-0.66	8.89	12.02	12.74	17.78	14.04	18.79	-		
FTSE Global Core Infrastructure 50/50 Index			-2.93	-4.72	2.73	6.67	1.90	6.46	6.07	10.95	-		
Value Added			3.72	4.06	6.16	5.35	10.84	11.32	7.97	7.84	-		

¹Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

²CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸The Currency Overlay was discontinued on 20 November 2017.

⁹In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

¹⁰Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

¹¹Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

Executive Summary

Performance Summary¹

As of 30 September 2022

	Allocation		Performance (%)								
	Market Value (\$000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years
BEP.UN (Infrastructure)	59,300	2.9	-2.65	-	-	-	-	-	-	-	-
FTSE Global Core Infrastructure 50/50 Index			-2.93	-4.72	2.73	6.67	1.90	6.46	6.07	10.95	-
Value Added			0.28	-	-	-	-	-	-	-	-
Operating Account	53,272	2.6									
BAs/U.S. and CDN Cash	29,681	1.5	0.54	0.94	0.98	0.56	0.69	0.97	1.05	1.03	-
Operating Account	23,591	1.2	0.12	0.14	0.14	0.23	0.22	0.29	0.24	0.21	0.45
Currency Overlay Effect (Historical)⁸											
Total Fund & CO	2,033,572	100.0	-0.47	-14.96	-10.55	0.42	1.83	3.14	3.87	5.95	4.55
Total Fund ex CO			-0.47	-14.96	-10.55	0.42	1.83	3.14	3.95	6.16	5.08
Value Added			0.00	0.00	0.00	0.00	0.00	0.00	-0.08	-0.21	-0.53

¹Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

²CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are presentative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸The Currency Overlay was discontinued on 20 November 2017.

⁹In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

¹⁰Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

¹¹Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

Executive Summary

Rolling Year Performance¹

As of 30 September

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total Fund	-10.55	12.74	4.71	7.17	7.25	6.25	9.29	8.35	11.25	7.00
CPI + 3.5% ²	10.60	8.04	4.03	5.44	5.79	5.11	4.88	4.57	5.60	4.60
Value Added	-21.15	4.70	0.68	1.73	1.46	1.14	4.41	3.78	5.65	2.40
Total Fund Benchmark ¹⁰	-10.77	13.19	5.86	8.08	8.00	5.46	9.41	6.02	15.27	10.13
Value Added	0.22	-0.45	-1.15	-0.91	-0.75	0.79	-0.12	2.33	-4.02	-3.13
Canadian Equities³	-5.36 (84)	26.97 (77)	-11.68 (92)	4.50 (68)	5.86 (54)	13.20 (13)	18.87 (8)	-10.65 (84)	17.46 (91)	11.45 (65)
S&P/TSX Composite Index	-5.39 (84)	28.02 (68)	-0.03 (34)	7.06 (36)	5.87 (54)	9.18 (52)	14.21 (50)	-8.38 (71)	20.38 (55)	7.12 (95)
Value Added	0.03	-1.05	-11.65	-2.56	-0.01	4.02	4.66	-2.27	-2.92	4.33
TD Emerald Canadian Equity Index⁴	-5.36 (84)	28.03 (68)	-0.02 (34)	7.04 (38)	5.84 (54)	9.14 (52)	14.13 (50)	-8.32 (70)	20.34 (57)	7.11 (95)
S&P/TSX Composite Index	-5.39 (84)	28.02 (68)	-0.03 (34)	7.06 (36)	5.87 (54)	9.18 (52)	14.21 (50)	-8.38 (71)	20.38 (55)	7.12 (95)
Value Added	0.03	0.01	0.01	-0.02	-0.03	-0.04	-0.08	0.06	-0.04	-0.01
Global Equities⁶	-17.12 (74)	20.01 (67)	7.35 (54)	4.85 (42)	16.78 (20)	15.29 (36)	9.81 (45)	13.25 (66)	17.07 (88)	25.75 (56)
Global Equity Benchmark ¹¹	-11.43 (42)	24.69 (35)	13.34 (36)	6.36 (31)	17.32 (17)	14.64 (43)	11.38 (28)	16.11 (40)	24.39 (18)	28.16 (39)
Value Added	-5.69	-4.68	-5.99	-1.51	-0.54	0.65	-1.57	-2.86	-7.32	-2.41
Walter Scott⁵	-15.79 (70)	20.06 (66)	14.80 (31)	8.62 (20)	23.47 (4)	11.59 (69)	12.02 (23)	16.33 (39)	18.09 (81)	24.68 (63)
MSCI World Index (Net) (CAD)	-12.66 (49)	22.25 (47)	11.12 (44)	4.28 (46)	15.02 (34)	12.39 (63)	9.20 (51)	13.83 (62)	21.95 (41)	25.65 (56)
Value Added	-3.13	-2.19	3.68	4.34	8.45	-0.80	2.82	2.50	-3.86	-0.97
RBC Global Focus Equity⁹	-18.05 (78)	25.19 (32)	21.25 (18)	5.74 (34)	21.82 (5)	17.10 (22)	10.98 (33)	21.54 (14)	-	-
MSCI AC World Index (Net)	-13.77 (57)	20.93 (60)	11.15 (44)	3.82 (49)	13.51 (45)	12.85 (60)	9.79 (45)	11.95 (73)	21.00 (53)	23.06 (76)
Value Added	-4.28	4.26	10.10	1.92	8.31	4.25	1.19	9.59	-	-
Mirova Global Sustainable Equity⁹	-22.16 (87)	22.12 (49)	29.30 (9)	10.83 (10)	17.73 (16)	12.77 (60)	10.74 (35)	22.58 (12)	-	-
MSCI AC World Index (Net)	-13.77 (57)	20.93 (60)	11.15 (44)	3.82 (49)	13.51 (45)	12.85 (60)	9.79 (45)	11.95 (73)	21.00 (53)	23.06 (76)
Value Added	-8.39	1.19	18.15	7.01	4.22	-0.08	0.95	10.63	-	-

¹Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

²CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸The Currency Overlay was discontinued on 20 November 2017.

⁹In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

¹⁰Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

¹¹Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

Executive Summary

Rolling Year Performance¹

As of 30 September

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
U.S. Equities										
TD Emerald U.S. Pooled Fund⁷	-8.29 (53)	23.25 (56)	16.13 (42)	6.78 (39)	21.79 (44)	12.79 (56)	13.06 (25)	19.23 (55)	-	-
S&P 500 (CAD)	-8.32 (53)	23.30 (55)	16.17 (42)	6.79 (39)	21.87 (43)	12.87 (55)	13.15 (24)	19.23 (55)	30.18 (32)	24.67 (76)
Value Added	0.03	-0.05	-0.04	-0.01	-0.08	-0.08	-0.09	0.00	-	-
International Equities										
TD Emerald International Equity Index⁷	-18.68 (53)	19.31 (50)	1.45 (64)	1.18 (43)	6.31 (47)	13.35 (62)	4.42 (64)	9.75 (75)	13.50 (69)	29.39 (48)
MSCI EAFE (Net)	-18.80 (54)	19.25 (50)	1.39 (64)	1.06 (44)	6.18 (48)	13.34 (62)	4.42 (64)	9.58 (76)	13.34 (71)	29.30 (49)
Value Added	0.12	0.06	0.06	0.12	0.13	0.01	0.00	0.17	0.16	0.09
Fixed Income										
TDAM Universe Bond Index	-8.04	-1.28	6.24	7.32	1.46	-4.34	3.29	-	-	-
TDAM Universe Bond Index	-10.45 (66)	-3.51 (92)	6.87 (90)	9.65 (51)	1.63 (82)	-8.96 (100)	7.44 (2)	11.98 (1)	9.83 (1)	2.18 (1)
FTSE TMX Canada Bond Universe	-10.48 (68)	-3.35 (90)	7.08 (85)	9.69 (46)	1.66 (75)	-2.97 (89)	6.31 (77)	5.29 (39)	6.34 (68)	-1.28 (79)
Value Added	0.03	-0.16	-0.21	-0.04	-0.03	-5.99	1.13	6.69	3.49	3.46
TDAM Active Short Term Corporate	-5.77	0.95	5.60	5.08	1.27	0.32	3.30	-	-	-
FTSE Canada Short Term Corporate Bond	-5.85	1.05	5.68	5.06	1.29	0.41	3.06	3.03	3.68	2.01
Value Added	0.08	-0.10	-0.08	0.02	-0.02	-0.09	0.24	-	-	-
Alternatives										
XRE ETF (Real Estate)	-17.91 (100)	38.42 (1)	-23.34 (100)	19.13 (1)	15.32 (2)	4.10 (100)	12.38 (1)	-0.07 (100)	11.76 (1)	-9.52 (100)
FTSE EPRA Nareit Developed	-15.51 (100)	24.06 (1)	-16.77 (100)	16.88 (1)	8.12 (75)	-3.39 (100)	13.57 (1)	24.26 (1)	16.01 (1)	15.91 (12)
Value Added	-2.40	14.36	-6.57	2.25	7.20	7.49	-1.19	-24.33	-4.25	-25.43
BIP.UN (Infrastructure)	8.89	15.24	14.19	34.30	0.22	23.60	48.17	19.43	13.98	16.37
FTSE Global Core Infrastructure 50/50 Index	2.73	10.76	-7.00	21.38	4.56	7.47	13.54	14.19	25.97	19.92
Value Added	6.16	4.48	21.19	12.92	-4.34	16.13	34.63	5.24	-11.99	-3.55
BEP.UN (Infrastructure)	-	-	-	-	-	-	-	-	-	-
FTSE Global Core Infrastructure 50/50 Index	2.73	10.76	-7.00	21.38	4.56	7.47	13.54	14.19	25.97	19.92
Value Added	-	-	-	-	-	-	-	-	-	-

¹Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

²CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸The Currency Overlay was discontinued on 20 November 2017.

⁹In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

¹⁰Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

¹¹Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

Executive Summary

Performance Summary (Net of Fees)¹

As of 30 September 2022

	Performance (%)								
	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years
Total Fund	-0.52	-15.07	-10.74	0.20	1.62	2.91	3.70	5.89	4.79
CPI + 3.5% ²	0.73	8.81	10.60	9.31	7.52	7.00	6.75	5.85	5.67
Value Added	-1.25	-23.88	-21.34	-9.11	-5.90	-4.09	-3.05	0.04	-0.88
Total Fund Benchmark ¹⁰	-1.10	-15.29	-10.77	0.50	2.25	3.68	4.53	6.84	-
Value Added	0.58	0.22	0.03	-0.30	-0.63	-0.77	-0.83	-0.95	-
Canadian Equities³	-1.40	-11.12	-5.38	9.54	1.95	2.58	3.23	6.32	-
S&P/TSX Composite Index	-1.41	-11.14	-5.39	10.06	6.59	6.71	6.54	7.30	4.88
Value Added	0.01	0.02	0.01	-0.52	-4.64	-4.13	-3.31	-0.98	-
TD Emerald Canadian Equity Index⁴	-1.40	-11.12	-5.38	10.05	-	-	-	-	-
S&P/TSX Composite Index	-1.41	-11.14	-5.39	10.06	6.59	6.71	6.54	7.30	4.88
Value Added	0.01	0.02	0.01	-0.01	-	-	-	-	-
Global Equities⁶	-1.08	-23.06	-17.58	-0.82	1.48	2.14	4.79	9.96	4.42
Global Equity Benchmark ¹¹	-0.25	-18.29	-11.43	5.09	7.77	7.42	9.33	13.95	8.96
Value Added	-0.83	-4.77	-6.15	-5.91	-6.29	-5.28	-4.54	-3.99	-4.54
Walter Scott⁵	-0.80	-22.16	-16.25	-0.01	4.48	5.33	8.58	12.03	8.65
MSCI World Index (Net) (CAD)	-0.07	-19.02	-12.66	3.33	5.86	5.46	7.31	11.78	6.86
Value Added	-0.73	-3.14	-3.59	-3.34	-1.38	-0.13	1.27	0.25	1.79
RBC Global Focus Equity⁸	-0.16	-23.78	-18.50	0.74	6.97	6.52	9.30	-	-
MSCI AC World Index (Net)	-0.74	-19.24	-13.77	2.12	5.04	4.74	6.43	10.93	6.34
Value Added	0.58	-4.54	-4.73	-1.38	1.93	1.78	2.87	-	-

¹Parentheses contain percentile rankings. (1st percentile is the best performing). Reported net returns are based on estimated fees.

²CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

¹⁰Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

¹¹Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

Executive Summary

Performance Summary (Net of Fees)¹

As of 30 September 2022

	Performance (%)								
	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years
Mirova Global Sustainable Equity⁸	-3.28	-25.94	-22.04	-2.76	6.68	7.52	9.34	-	-
MSCI AC World Index (Net)	-0.74	-19.24	-13.77	2.12	5.04	4.74	6.43	10.93	6.34
Value Added	-2.54	-6.70	-8.27	-4.88	1.64	2.78	2.91	-	-
U.S. Equities									
TD Emerald Pooled U.S. Fund⁷	1.33	-17.15	-8.31	6.29	9.46	8.78	11.26	-	-
S&P 500 (CAD)	1.32	-17.18	-8.32	6.32	9.51	8.82	11.31	15.50	10.39
Value Added	0.01	0.03	0.01	-0.03	-0.05	-0.04	-0.05	-	-
International Equities									
TD Emerald International Equity Index⁷	-1.75	-19.22	-17.27	-0.66	0.03	0.31	1.47	7.44	3.01
MSCI EAFE (Net)	-3.45	-20.69	-18.80	-1.60	-0.61	-0.20	1.05	7.19	2.81
Value Added	1.70	1.47	1.53	0.94	0.64	0.51	0.42	0.25	0.20
Fixed Income									
TDAM Universe Bond Index	0.11	-8.53	-8.09	-4.76	-1.23	0.84	0.96	-	-
FTSE Canada Universe Bond	0.52	-11.78	-10.48	-6.98	-2.51	0.41	0.66	1.65	3.36
Value Added	0.01	0.01	0.01	-0.09	-0.13	-0.12	-0.12	-0.13	-0.13
TDAM Active Short Term Corporate	-0.25	-5.44	-5.86	-2.57	0.05	1.27	1.25	-	-
FTSE Canada Short Term Corporate Bond	-0.26	-5.46	-5.85	-2.46	0.18	1.38	1.36	1.89	3.23
Value Added	0.01	0.02	-0.01	-0.11	-0.13	-0.11	-0.11	-	-

¹Parentheses contain percentile rankings. (1st percentile is the best performing). Reported net returns are based on estimated fees.

²CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

¹⁰Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

¹¹Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

Executive Summary

Rolling Year Performance (Net of Fees)¹

As of 30 September 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total Fund	-10.74	12.48	4.52	6.88	6.96	5.91	9.00	8.07	10.95	6.70
CPI + 3.5% ²	10.60	8.04	4.03	5.44	5.79	5.11	4.88	4.57	5.60	4.60
Value Added	-21.34	4.44	0.49	1.44	1.17	0.80	4.12	3.50	5.35	2.10
Total Fund Benchmark ¹⁰	-10.77	13.19	5.86	8.08	8.00	5.46	9.41	6.02	15.27	10.13
Value Added	0.03	-0.71	-1.34	-1.20	-1.04	0.45	-0.41	2.05	-4.32	-3.43
Canadian Equities³										
TD Emerald Canadian Equity Index⁴	-5.36	28.03	-0.02	7.04	5.84	9.14	14.13	-8.32	20.34	7.11
S&P/TSX Composite Index	-5.39	28.02	-0.03	7.06	5.87	9.18	14.21	-8.38	20.38	7.12
Value Added	0.03	0.01	0.01	-0.02	-0.03	-0.04	-0.08	0.06	-0.04	-0.01
Global Equities⁶										
Global Equity Benchmark	-17.58	19.34	6.26	4.13	16.12	14.54	9.10	12.64	16.35	24.91
Global Equity Benchmark	-11.43	24.69	13.34	6.36	17.32	14.64	11.38	16.11	24.39	28.16
Value Added	-6.15	-5.35	-7.08	-2.23	-1.20	-0.10	-2.28	-3.47	-8.04	-3.25
Walter Scott⁵										
MSCI World Index (Net) (CAD)	-16.25	19.37	14.08	7.91	22.64	10.80	11.21	15.48	17.21	23.75
MSCI World Index (Net) (CAD)	-12.66	22.25	11.12	4.28	15.02	12.39	9.20	13.83	21.95	25.65
Value Added	-3.59	-2.88	2.96	3.63	7.62	-1.59	2.01	1.65	-4.74	-1.90
RBC Global Focus Equity⁸										
MSCI AC World Index (Net)	-18.50	24.53	20.61	5.18	21.18	16.49	10.40	20.91	-	-
MSCI AC World Index (Net)	-13.77	20.93	11.15	3.82	13.51	12.85	9.79	11.95	21.00	23.06
Value Added	-4.73	3.60	9.46	1.36	7.67	3.64	0.61	8.96	-	-
Mirova Global Sustainable Equity⁸										
MSCI AC World Index (Net)	-22.04	21.29	28.42	10.07	16.93	11.99	9.97	21.74	-	-
MSCI AC World Index (Net)	-13.77	20.93	11.15	3.82	13.51	12.85	9.79	11.95	21.00	23.06
Value Added	-8.27	0.36	17.27	6.25	3.42	-0.86	0.18	9.79	-	-

¹Parentheses contain percentile rankings. (1st percentile is the best performing). Reported net returns are based on estimated fees.

² CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

¹⁰Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

¹¹Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

Executive Summary

Rolling Year Performance (Net of Fees)¹

As of 30 September 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
U.S. Equities										
TD Emerald Pooled U.S. Fund⁷	-8.31	23.22	16.10	6.74	21.74	12.75	13.02	19.19	-	-
S&P 500 (CAD)	-8.32	23.30	16.17	6.79	21.87	12.87	13.15	19.23	30.18	24.67
Value Added	0.01	-0.08	-0.07	-0.05	-0.13	-0.12	-0.13	-0.04	-	-
International Equities										
TD Emerald International Equity Index⁷	-17.27	19.28	1.42	1.16	6.27	13.32	4.38	9.71	13.46	29.34
MSCI EAFE (Net)	-18.80	19.25	1.39	1.06	6.18	13.34	4.42	9.58	13.34	29.30
Value Added	1.53	0.03	0.03	0.10	0.09	-0.02	-0.04	0.13	0.12	0.04
Fixed Income										
TDAM Universe Bond Index	-8.04	-1.28	6.24	7.32	1.46	-4.34	3.29	-	-	-
TDAM Universe Bond Index	-10.47	-3.53	6.84	9.62	1.55	-3.16	6.19	5.24	6.22	-1.47
FTSE Canada Universe Bond Index - C\$	-10.48	-3.35	7.08	9.69	1.66	-2.97	6.30	5.29	6.34	-1.28
Value Added	0.01	-0.18	-0.24	-0.07	-0.11	-0.19	-0.11	-0.05	-0.12	-0.19
TDAM Active Short Term Corporate										
TDAM Active Short Term Corporate	-5.86	0.85	5.50	5.00	1.17	0.22	3.18	-	-	-
FTSE Canada Short Term Corporate Bond	-5.85	1.05	5.68	5.06	1.29	0.41	3.06	3.03	3.68	2.01
Value Added	-0.01	-0.20	-0.18	-0.06	-0.12	-0.19	0.12	-	-	-

¹Parentheses contain percentile rankings. (1st percentile is the best performing). Reported net returns are based on estimated fees.

²CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

¹⁰Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

¹¹Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

**University of Waterloo Pension Plan for Faculty and Staff (the “Plan”)
Funding Policy & Guideline
November 2022**

Purpose:

The purpose of this funding policy & guideline is to establish a formal framework to achieve the Plan’s funding requirements subject to the provisions of the Plan Text and Applicable Laws.

Plan Overview:

The Plan is a contributory defined benefit plan based upon an individual’s final average salary and years of participation in the Plan prior to retirement. Pensions paid under the Plan are escalated annually by the cost-of-living factor as described in the Governing Documents. The University is the sponsor and legal administrator of the Plan for the purposes of Applicable Law. The University through its Board is ultimately responsible for all aspects of managing the Plan, including the prudent investment and administration of the assets of the Plan. In accordance with the Governing Documents, the Board has created committees and subcommittees, delegated to University staff, and appointed external agents, to carry out certain of its responsibilities. The University will comply with the Governing Documents and will exercise the care, diligence and skill in the administration and investment of the Plan’s assets (the “Fund”) that a person of ordinary prudence would exercise in dealing with the property of another person. The individuals acting on behalf of the Plan in furtherance of its duty will use all knowledge and skill that they possess or ought to possess in the administration and investment of the Plan.

The Pension & Benefits Committee has adopted four protocols; one directly addresses the University’s contributions and three which indirectly impact contributions through the Plan’s liabilities.

1. Pension Contribution Protocol 2005
 - establishes a base level of University current service costs; when University contributions exceed the base level, those amounts can be applied to reducing the University’s annual contributions when the plan has a funding excess
2. Protocol Regarding the Adjustment of the Pension Cap 2008
 - tracks the funding required to meet the defined benefit formula without the maximum benefit caps (“Pension Cap”) recognizing the first priority is to annually review if the current Pension Cap would limit near-term benefit accruals
3. Protocol for Tracking Over-Contributions to the Pension Plan 2008
 - tests if any member made pension contributions on salary which is not included in determining their pension benefit
4. Indexation Protocol for Pensions in Payment 2013

- given the Plan's limits on indexation in pay, if the plan has a going concern funding excess (notionally > 110% after funding additional indexation); the Committee will review the long-term affordability of an indexation top-up for the pensions in payment

This funding policy & guideline takes precedence over the existing protocols while supporting their original principles.

Funding Objectives:

The core objectives of this funding policy & guideline are to ensure both the stability of contributions and benefit security

The highest priority is to fund the benefits prescribed in the Plan Text

The next highest priority is to fund benefits up to the limits established by the Income Tax Act irrespective of the Pension Cap as defined in the Plan Text

The next highest priority is the provision of post-retirement cost-of-living adjustments for those years when the value exceeds:

- 5% (related to pre-2014 service) and/or 3.75% (related to post-2013 service)

Followed by

- Increasing the cost-of-living adjustment from 75% to 100% for post-2013 service

Benefit improvements beyond these priorities are not planned.

Key Risks Impacting the Financial Position of the Plan:

The Plan's financial position is driven by many factors beyond the monthly contributions made by the University and the Plan Members

When actual Plan experience differs from professionally developed assumptions (such as investment returns, inflation, salary increases, longevity, terminations, and retirement ages), surpluses or deficits may occur.

The maturity stage of the Plan (number of active members vs retirees/beneficiaries) impacts cashflows and investment risk.

Risk Management Approach:

In the first instance, the frequent measurement of the Plan's financial position provides a high level of transparency and awareness for the University and the Plan Members. Each calendar quarter, a Pension Risk Management Dashboard is provided by the Plan's Actuary reporting on current asset values and current liabilities. In addition, at the beginning of each calendar year, an updated valuation is provided by the Plan's Actuary which is used to inform the University's required pension contributions for the fiscal year as part of its operating budget development. Plan assets are measured on a "marked to market basis" without smoothing over market cycles.

At the same time as the updated valuation is prepared, the potential impact of the Pension Cap is calculated to determine when the Income Tax Act limit could exceed the Pension Cap.

Other risk management activities include the annual review of the Statement of Investment Policies and Procedures, the quarterly review of investment returns and investment manager performance, and the completion of Asset Liability Studies.

Funding Approach:

The focus on ensuring the long-term financial sustainability of the Plan informs how the Plan is funded through (i) contributions and (ii) investment returns. The University has a long history of contributing beyond the statutory minimums and ensures the Plan is appropriately funded on a going concern basis while maintaining compliance with solvency and wind-up provisions.

Contributions come from two sources: the University and the Plan Members. The current service costs (cost of pensions earned in the current year) are shared approximately equally between the University and Plan Members

The Provision for Adverse Deviation will be fully funded on both a current service cost basis and a total liability basis.

The total annual contributions and estimated investment returns will be designed to ensure that any Plan deficits will be funded over a period shorter to or equal to the statutory requirements for both the going concern and solvency measures.

Each time the annual valuation is filed with the regulators, the University will commit to a contribution rate which may be in excess of the statutory minimum in order to achieve funding sustainability and lower contribution volatility. In the 2021 filed valuation, the University's minimum funding commitment was 12.45% of pensionable earnings until the next filed valuation.

A range of measures may be implemented (such as the Pension Contribution Protocol 2005) to reduce any impediments to contributing beyond the statutory minimums.

Monitoring:

This funding policy & guideline shall be reviewed at least every three (3) years, and typically in a year when the actuarial valuation will be filed. The review will be undertaken through the appropriate Board Committees and sub-committees.

Green Shield Canada (GSC) – Implementation Project – Update #3

New Provider for Extended Health and Dental Benefits effective January 1, 2023

Communications and Change Management

The benefit implementation [website](#) continues to be updated to inform the University community on this project, including key milestones, important announcements, and essential action items that EHD benefit participants must complete to support the change from Canada Life to GSC. In addition, the communications plan includes the following completed/planned activity:

- August 29, 2022 – initial announcement released by email to employees and retirees with EHD benefits
- Week of October 17, 2022 – announcement mailed to retirees, inactive employees, and surviving spouses participating in EHD benefits with additional details about information sessions registration
- GSC Information Sessions to support understanding of the change and services available:
 - October 26: Session for the Project team; November 3: Session for the staff of the APHR department
 - November 14: Session for the members of the P&B Committee
 - November 16 and 17: Five sessions for campus (one virtual with recording, four in-person)
- First week of December: GSC welcome kits to be mailed to member home addresses – will include benefit cards with member IDs (based on eligibility data provided to GSC through the first integration file from Workday at the end of November)
 - Thereafter, employees and retirees will be able to reach out to GSC directly with questions about their EHD benefits
- Employee Benefit Booklets:
 - By the end of December, GSC benefit booklets will be available which outline the EHD plan details for the active employee population as well as the plan details that apply to retired employees; when combined with the Administrative Services Only contract and financial agreement, these documents comprise the University's contract with GSC
 - The University's consolidated [Employee Benefits Booklet](#) for active employees will be reissued in January 2023 to remove reference to Canada Life and other normal January 1 changes (e.g. updated YMPE)
 - On an interim basis, the details for the EHD coverage will be removed from the consolidated booklet and employees will be referred to the GSC booklet
 - The consolidated booklet will be updated again for May 1, 2023 changes (i.e. premium rates) and the target will be to include the EHD details from the GSC booklet with that version

Pension & Benefits Committee
November 18, 2022

Dependent Children Eligibility

The University's consolidated benefit booklet indicates that a plan member's dependent child(ren) is eligible for benefits coverage if they are an unmarried person who is: (i) the plan member's natural or adopted child; or (ii) a step-child, child of a common-law spouse (of whom the spouse has legal custody), or child for whom a plan member has been appointed legal guardian by a court of competent jurisdiction, who resides with the plan member. In addition, the dependent child(ren) has the following characteristics:

1. Dependent on the plan member for financial support; and,
2. Not employed on a full-time basis; and
3. Younger than 21 years of age; or
4. If a full-time student at an accredited school, college or university, under 25 years of age; or
5. Incapable for self-sustaining employment due to a continuous mental or physical disability that began while the child was an eligible dependent and was covered under the contract as a dependent on the day prior to their 21st birthday and remains dependent on the plan member for support.

GSC has shared that their booklet wording indicates that a plan member's dependent child(ren) is eligible for benefits coverage if they are the plan member's (or their spouse's) child (natural, legally adopted, or step) and they reside together in a parent-child relationship and/or are dependent on the plan member, and are not regularly employed. In addition, the dependent child(ren) has one of the following criteria:

- a) Unmarried child under age 21
- b) Unmarried child under age 25 if enrolled and in full-time attendance at an accredited college, university, or educational institute
- c) Child (regardless of age) who became totally disabled while eligible under a) or b) above, and has been continuously so disabled since that time and is considered a dependent as defined under the Income Tax Act (ITA); to qualify under the ITA, the following conditions must be true:
 - a. Disability tax credit is claimed by the plan member for the disabled dependent, and
 - b. Unmarried, unemployed, and financially dependent on the plan member, and
 - c. Dependent lives with the plan member or resides in an institution or group home, or
 - d. Does not reside with the plan member due to divorce or separation.

The University has delegated administration responsibility to Human Resources; eligibility data is maintained in Workday and will be provided to GSC through an integration to enable their EHD claims adjudication.

Prior to each September, the Human Resources department conducts an Overage Dependent (Student) process to confirm eligibility for dependent children over age 21 but under age 25 (proof of school attendance is not requested). This annual confirmation process does not apply to the disabled dependent status – once the disabled dependent status is established, coverage continues based on the plan member’s eligibility.

With the implementation of GSC, a change is required for the administration process for the disabled dependent status. A service that has been available through Canada Life is medical underwriting to confirm the achievement of the plan design provision. GSC does not provide this service – in the past, GSC provided this service to some of their clients on an exception basis with an additional cost but following a recent review, they have discontinued offering this service altogether. Options available with GSC are as follows:

Options	Description	Considerations
1 – Attestation Form	GSC recommends the use of an attestation form (such as GSC’s “ <i>Dependent with Special Needs Eligibility Form</i> ”, see below). This would be collected by Human Resources (not shared with GSC) and reviewed to confirm eligibility criteria is achieved prior to establishing coverage for the dependent child.	Similar to the manual process that applies to annually confirm eligibility for overage dependent children who are full-time students.
2 – Attestation Form plus Additional Documentation	<p>In addition to the completion of an attestation form, plan members would need to supply proof to substantiate the requirements, which could include one or more of the following:</p> <ul style="list-style-type: none"> • Medical assessment indicating date of disability, extent of disability, and attestation that dependent cannot be gainfully employed • Copy of tax assessment and/or Notice of Determination (NOD) • Proof of residency (government ID with address, affidavit) <p>Human Resources would review the above to confirm eligibility is achieved prior to establishing coverage for the dependent child.</p>	<p>Not a common approach based on information from GSC.</p> <p>NOD outlines decision from CRA as it pertains to the Disability Tax Credit; the NOD does not disclose any personal health information</p>
3 – No Attestation Form	Plan members self-report or inform Human Resources that their dependent child qualifies for benefits coverage through the achievement of the eligibility criteria for disabled status.	<p>Reliance on the honour system with no controls or administrative oversight. Workday is configured to support (Canada Life involvement is manual).</p> <p>Similar to process that applies to dependent children under 21.</p>



DEPENDENT WITH SPECIAL NEEDS ELIGIBILITY FORM

Plan Member ID: _____

Date: _____

Billing Division #: _____

Contract Reference Code: _____

I, _____ request the addition and/or continuation of coverage of _____ as a *Dependent with Special Needs* to my Green Shield Canada coverage.
(Name of Dependent)

Dependent Date of Birth: _____
YYYY-MM-DD

Date of Disability: _____
YYYY-MM-DD

.....
This dependent is mentally or physically disabled and a disability tax credit for a dependent age 18 or over can be claimed by me under the Income Tax Act. YES NO

AND
This dependent is unmarried, unemployed, and financially dependent upon me. YES NO

AND
This dependent lives with me or resides in an institution or group home. YES NO

OR
This dependent does not reside with me due to divorce or separation. YES

- Proof may be requested to substantiate any of the requirements, which could include:
- Medical assessment indicating date of disability, extent of disability, and attestation that dependent cannot be gainfully employed;
 - Copy of tax assessment;
 - Proof of residency (government ID with address, affidavit)

By signing this form I agree that the information provided is complete and accurate. Failure to disclose, or falsifying information, could result in denial of claims and the cancellation of my coverage.

Signature of Plan Member

Signature of Plan Administrator

DATED THIS _____ day of _____ 20____.

Other Information

In early November 2022, there are nearly 18,000 individuals participating in the EHD benefits, with the following breakdown:

Eligible Plan Members	Active Employees		Retired Employees (Extended Health only)	Combined
	Full Benefits Program (Extended Health & Dental)	Temporary Benefits Program (Extended Health only)		
Extended Health	5313*	452	1942	7707
Dental	5310*	n/a	n/a	5310

**Difference between extended health and dental enrolments due to part-time employees being eligible to waive participation if alternate coverage exists*

Eligible Spouses	Active Employees		Retired Employees (Extended Health only)	Combined
	Full Benefits Program (Extended Health & Dental)	Temporary Benefits Program (Extended Health only)		
Total	3856	136	1280	5272

Eligible Dependent Children	Active Employees		Retired Employees (Extended Health only)	Combined
	Full Benefits Program (Extended Health & Dental)	Temporary Benefits Program (Extended Health only)		
Under age 21	4292	138	23	4453
Overage Student	324	4	9	337
Disabled	37	1	13	51
Total	4653	143	45	4841

Action Required: *Decisions: booklet wording for dependent children eligibility; administration process for establishing disabled dependent status*

Employee & Family Assistance Program (EFAP)

6th Annual Utilization Report: September 1, 2021 to August 31, 2022

November 18, 2022

An Update to the Pension & Benefits Committee



UNIVERSITY OF
WATERLOO

Background

- EFAP was implemented with Homewood Health in September 2016 for an initial contract of 3 years which was renewed for 2 years; it was renewed in early 2021 for an additional 2 year period
 - \$2.50 per employee per month plus additional fee for service; HH invoices monthly based on annually confirmed headcount (not actual participation)
 - RFP process planned in the Winter/Spring 2023 to confirm the EFAP provider effective September 1, 2023 (initially planned for 2021 but postponed due to the pandemic)
- ~5,021 employees who are enrolled in the full benefits program are eligible for the EFAP along with their eligible family members, if applicable
 - Eligibility extends to employees of the Affiliated and Federated Institutes of Waterloo (AFIW) with the exception of St Jerome's University College
 - Retirees and some active employees (i.e. those ineligible for benefits or participating in the temporary benefits program) are ineligible for the EFAP

Overview of Services

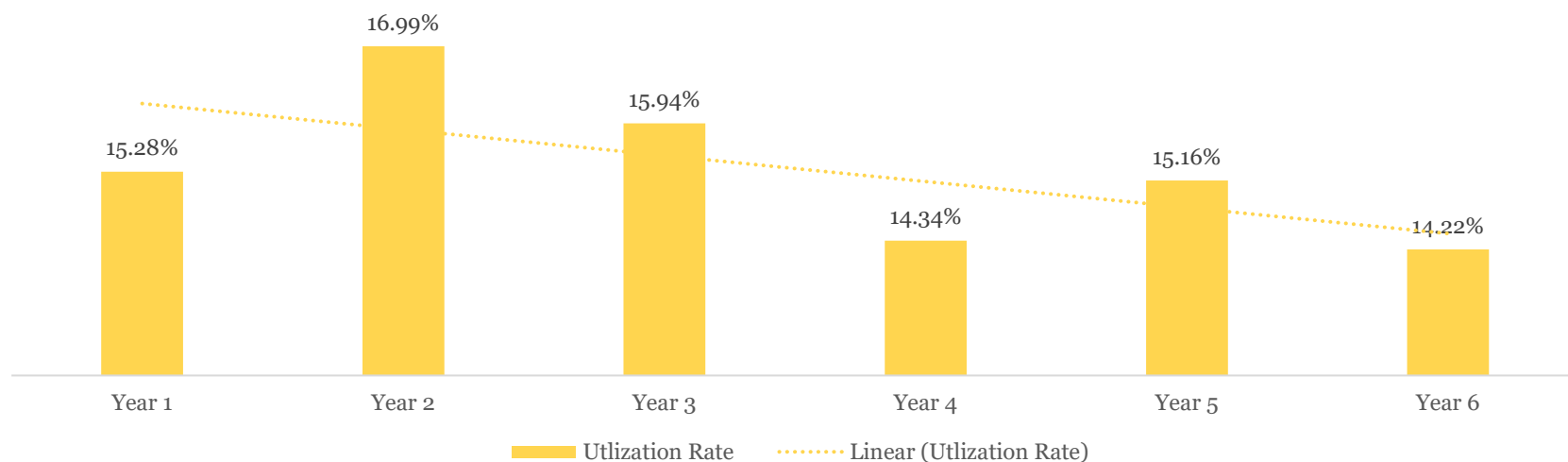
- Five key components of the EFAP:
 - Counselling Services – unlimited number of sessions with a short-term outcome based model (by telephone, in person, or online)
 - 24/7/365 access via toll-free number or by calling collect if international
 - Life Smart Services – a series of work-life balance services (by telephone)
 - Online Services – elder/childcare locator, e-courses, health risk assessment
 - Crisis Management Services (CMS) – counselling assistance for individuals and/or groups in the event of crisis
 - Wellness Sessions – 10 sessions per policy year included in the contract
- CMS and Wellness Sessions are coordinated centrally whereas the other components are accessed by individuals confidentially and directly

Utilization of Services Accessed Individually

- The utilization for Year 6 was lower than previous years as well as HH's benchmark for the University sector of 14.87%, with a rate of 14.22% based on 714.17 cases ...

Overall Utilization

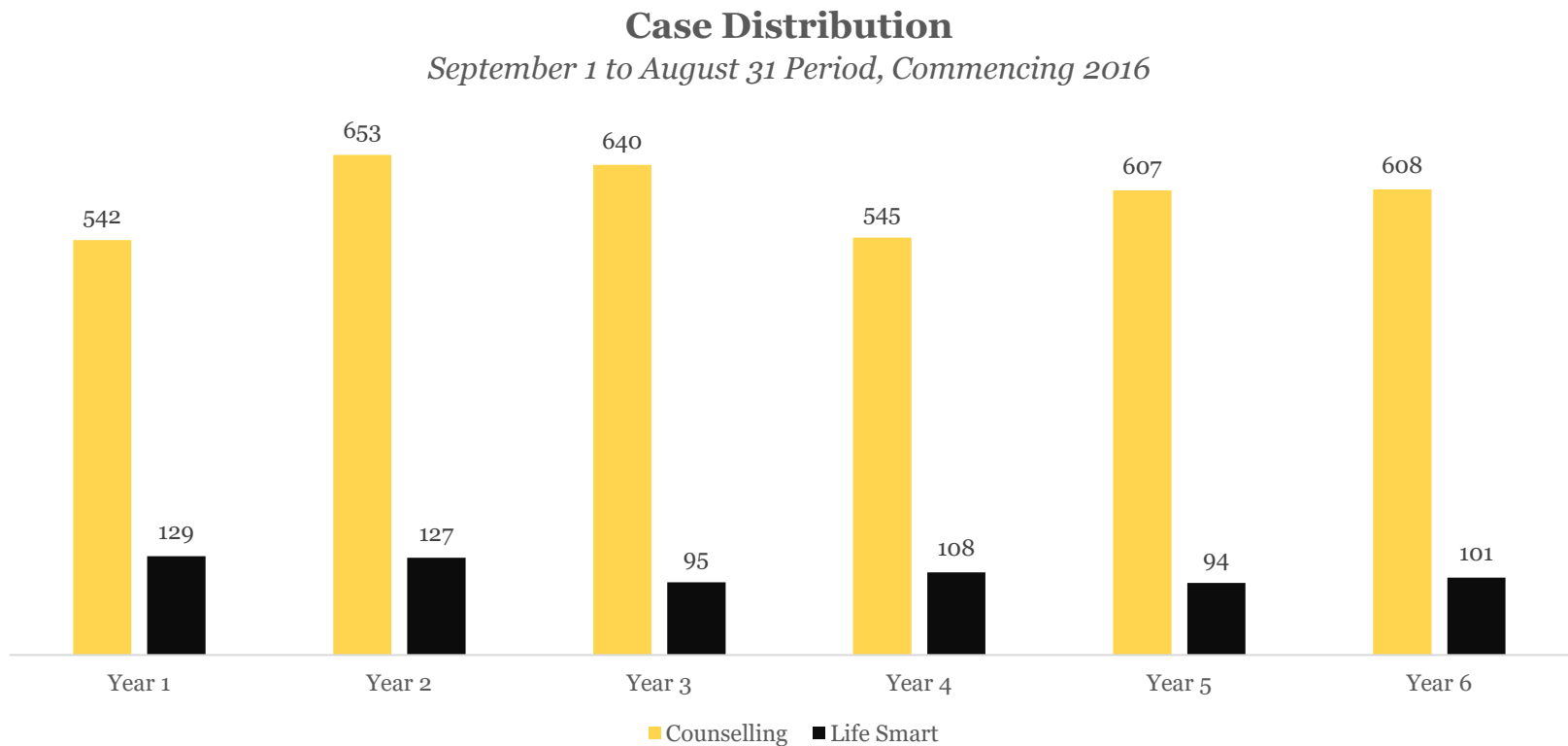
September 1 to August 31 Period, Commencing 2016



Note: At the end of February 2020, utilization for Year 4 was tracking towards 16.29%; however, utilization decreased significantly at the commencement of the COVID-19 pandemic in March 2020 and has not yet returned to pre-pandemic levels.

Case Distribution

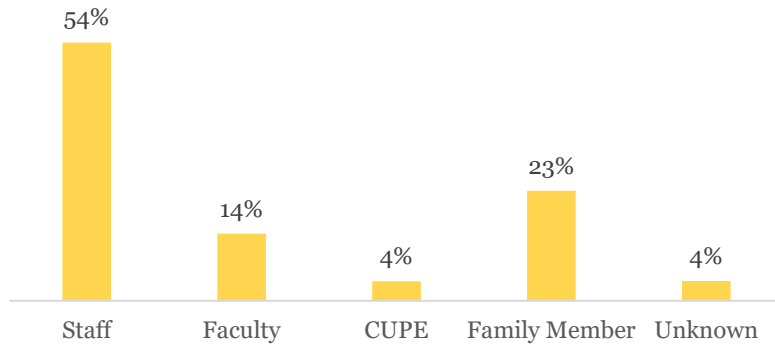
- Excluding 5.17 Online Services in Year 6, 86% of the 709 cases were Counselling and 14% were Life Smart services; this is consistent with historical distribution ...



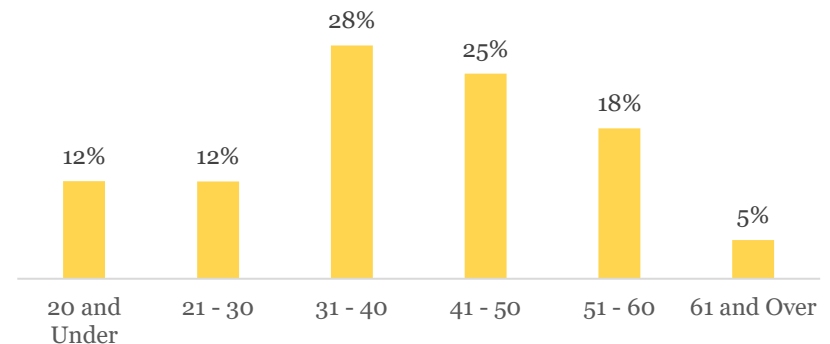
How Users Self-Identify

- Since inception of the EFAP, self-reported characteristics of those individuals who have accessed Counselling and Life Smart services are as follows ...

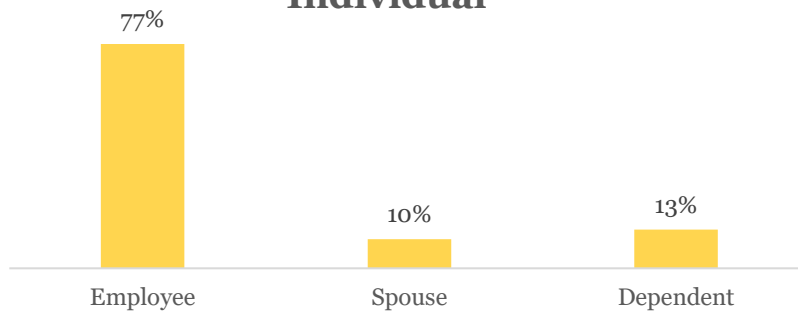
Group



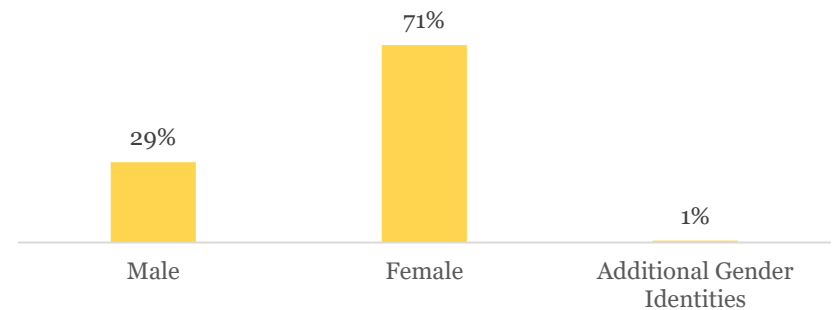
Age Group



Individual



Gender

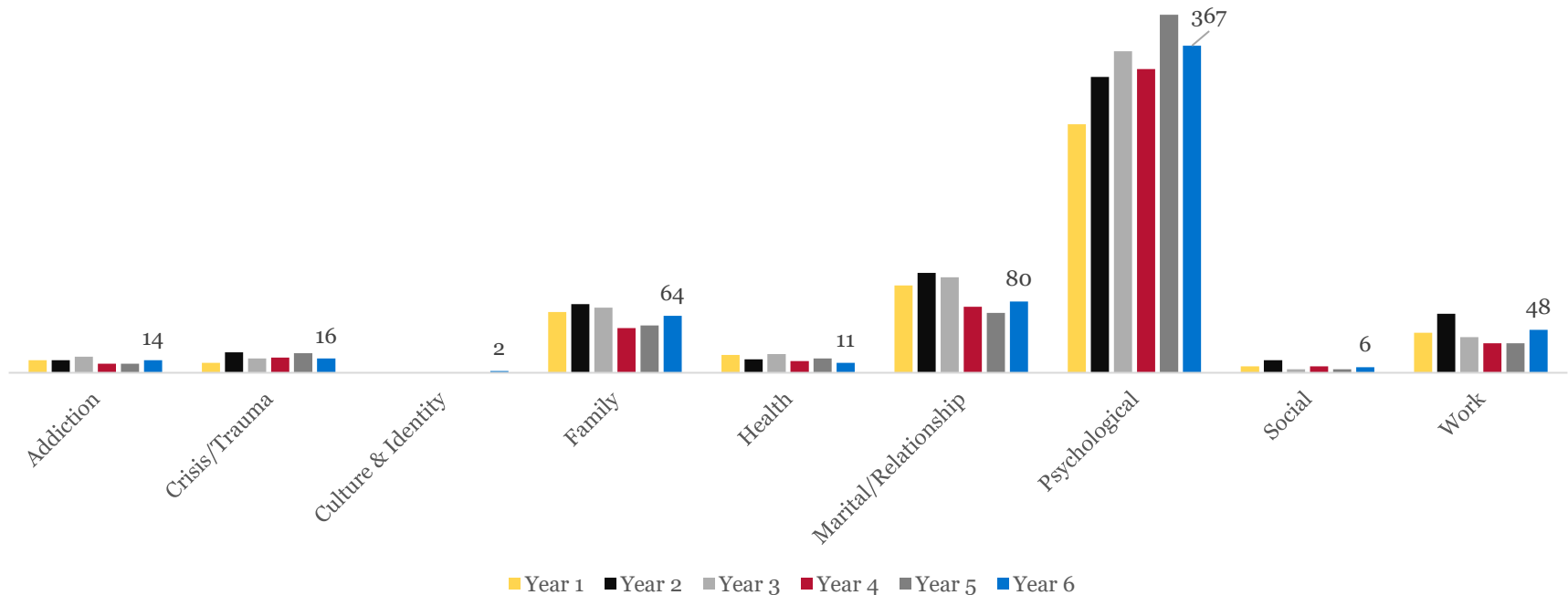


Counselling Services

- 60% of cases in Year 6 correspond with psychological issues, followed by marital/relationship (13%), family (11%), and work (8%) issues; consistent with the historical distribution ...

Counselling Services

September 1 to August 31 Period, Commencing 2016

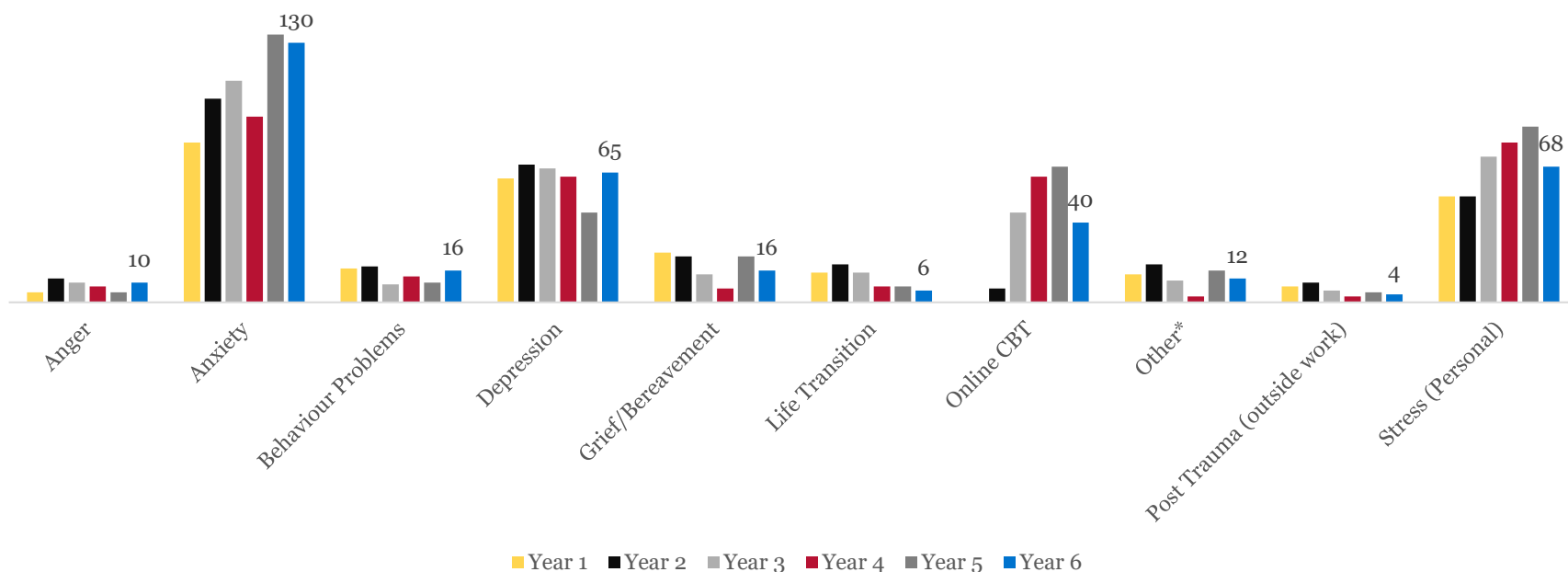


Counselling Services – Psychological Cases

- Leading categories in Year 6 were anxiety (35%), personal stress (19%), depression (18%), and Online CBT (11%); these have been the top 4 historically ...

Counselling Services - Psychological Cases

September 1 to August 31 Period, Commencing 2016



*Other (for Year 6) includes sexuality (0), learning disabilities (2), eating disorders (2), and self-esteem (8)

**Online CBT (Cognitive Behavioural Therapy) was launched by Homewood Health in June 2018

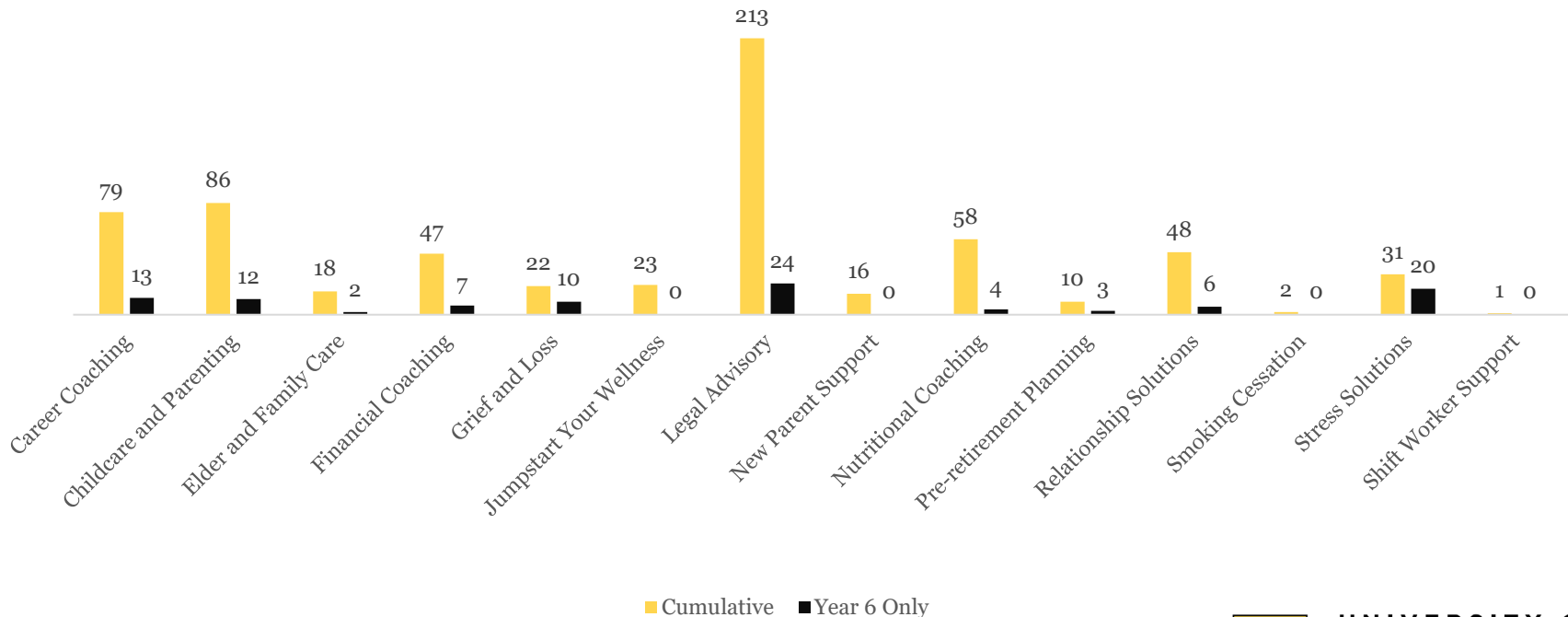


Life Smart Services

- Since inception of the EFAP, there have been 654 cases of Life Smart Services; 33% relate to legal advisory services and within, largely “family/divorce/custody” issues ...

Life Smart Services

For the September 1, 2016 to August 31, 2022 6-Year Period

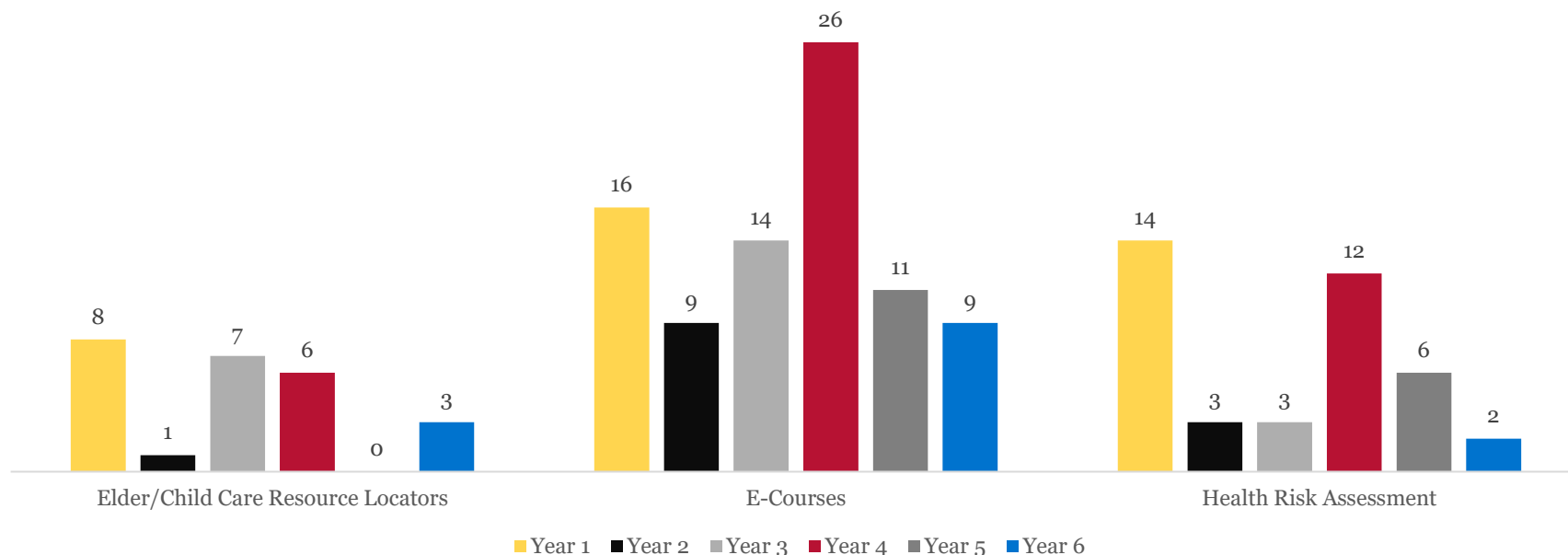


Online Services

- There were 14 Online Service counts (5.17 cases) in Year 6; most access was for e-courses ...

Online Services

September 1 to August 31 Period, Commencing 2016



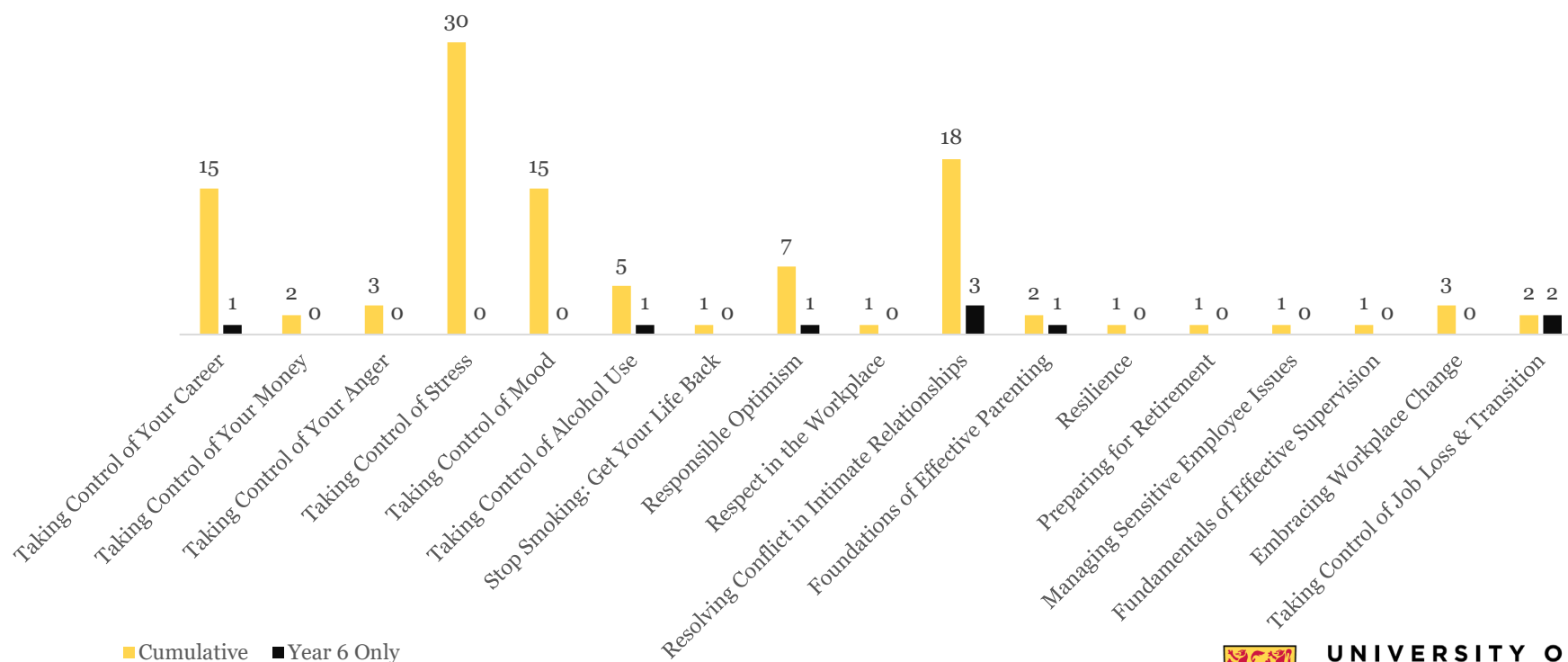
Note: 1 service count is tracked as 0.33 of a case for e-courses and the health risk assessment whereas 1 service count is tracked as 0.50 for the elder/child care resource locator

Online Services – E-courses

- Since inception of the EFAP, 108 e-courses have been accessed; while not accessed in Year 6, the most popular course has been Taking Control of Stress (29%) ...

Online Services - E-Courses

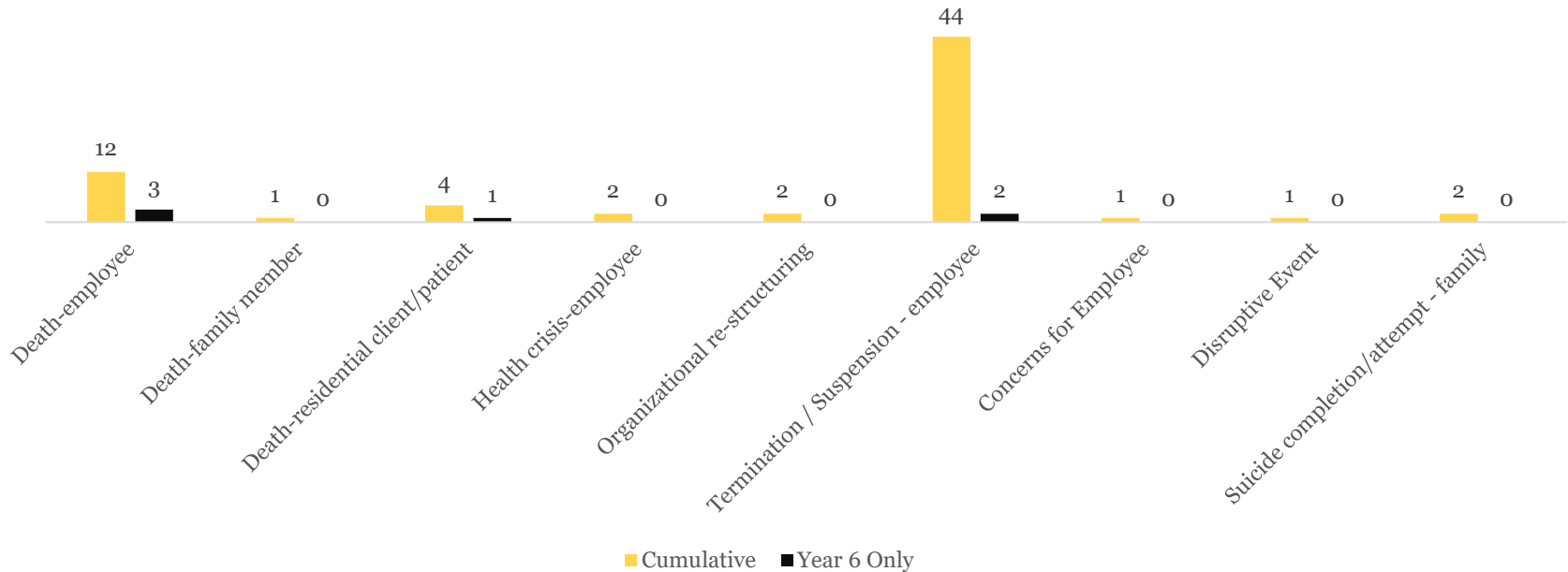
For the September 1, 2016 to August 31, 2022 6-Year Period



Crisis Management Services (CMS)

- Since inception of the EFAP, there have been 69 instances where CMS support has been arranged; 64% relate to employment terminations/suspensions ...

Crisis Management Services
For the September 1, 2016 to August 31, 2022 6-Year Period



Wellness Sessions

- The allocation of 10 wellness sessions for Year 6 was as follows:

Topic	Date
Managing Your Time and Energy	October 27, 2021
Self-Care Strategies during COVID-19	November 9, 2021
The Emotional Effects of Retirement	May 26, 2022
	May 30, 2022
	June 6, 2022
Foundations of Positive Parenting	June 1, 2022
	June 8, 2022
Communication in Family Life	May 31, 2022
	June 7, 2022
	June 14, 2022

UNIVERSITY OF WATERLOO



QUESTIONS

Extended Health and Dental Benefits
Indexation of Maxima effective January 1, 2023

The University's plan design for healthcare benefits is subject to an annual cost of living adjustment for the plan maxima.

Indexing Model

The adjustment to the maxima has been calculated as in previous years and the impact is identified in the table below. Aon has advised that to increase the benefit maxima for January 1, 2023 based on 1-year inflation results in a \$151,900 annual on-going cost.

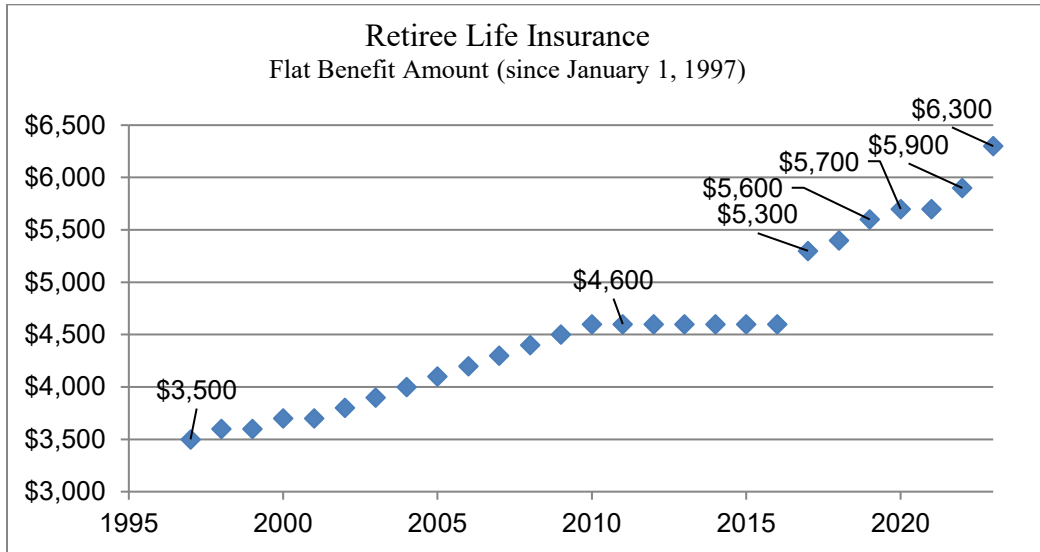
Provision	Current Maxima	Proposed Maxima (1 Year Inflation)	Change
Paramedical/Hearing Aids	\$768	\$811	5.64% ¹
Psychologist/Social worker (Actives & Retirees Post 6-6-2020)	\$975	\$1,030	5.64% ¹
Psychologist/Social worker (Retirees 1-1-1996 to 6-5-2000)	\$768	\$811	5.64% ¹
Private Duty Nursing	\$23,271	\$24,583	5.64% ¹
Out of pocket max: Single	\$133	\$138	3.61% ²
Out of pocket max: Family	\$267	\$277	3.61% ²
Dental Basic	\$2,466	\$2,583	4.75% ³
Dental Major	\$3,716	\$3,893	4.75% ³
Dental Orthodontia	\$3,716	\$3,893	4.75% ³
Total Additional Annual Cost of Indexing:⁴		\$151,900	
<p>¹ Percentage increases are calculated from Stats Can Other Health Care index rates for each year that the inflation is applied.</p> <p>² Percentage increases are calculated from Stats Can Medicinal and Pharmaceutical index and Other Health Care index rates for each year that the inflation is applied based on 60%/40% weighting.</p> <p>³ Dental Maxima increases based on the 2022 increase to the dental fee guide as an estimate for 2023 fee guide increase (current year fee guide applies)</p> <p>⁴ These costs are above the annual total claim costs projected based on UW's claims experience from October 2021 to September 2022 (adjusted 2021 claims with plan design changes), inclusive of administration fees and applicable taxes. These are not a one-time cost but will be additional costs to claims experience on an on-going basis. This amount does not include any increase to the non-pension postretirement benefits liability or annual expense related to the plan amendment created by improving the ongoing retiree benefits design.</p>			

Action Required: *Decision*

Retiree Life Insurance

Indexation of Coverage effective January 1, 2023

Employees with 10 years of continuous regular service are eligible for a University paid life insurance benefit at retirement as long as they elect an immediate pension at their date of retirement. Eligible employees who retired prior to January 1, 1997 received coverage based on a percentage of earnings; however, eligible employees who retired on or after January 1, 1997 have been eligible for a flat benefit amount with changes occurring January 1st if applicable, as follows:



Note: Eligible retirees receive the life insurance coverage in effect as at their date of retirement; the volume is not subject to change during their retirement.

The University’s retiree life plan design is subject to an annual cost of living adjustment to the flat benefit amount for future eligible retirees.

Indexing Model

The proposed adjustment to the flat benefit amount for eligible individuals who retire on or after January 1, 2023 has been calculated based on indexing over the last year.

Effective Date	Retiree Life Insurance Coverage <i>For eligible individuals who retire on or after January 1, 2023</i>	
	<i>Current</i>	<i>Proposed</i>
January 1, 2023	\$5,900	\$6,300 ¹

¹ Based on the Consumer Price Index (Stats Can All Items) from September 2021 to September 2022, rounded to the nearest \$100 of benefit.

Action Required: *Decision*

Report to the Pension & Benefits Committee
Pension Investment Committee
18 November 2022

The Pension Investment Committee (PIC) met on 9 November 2022 and agreed to forward the following items to the Committee for information or approval as noted below.

FOR INFORMATION

Investment Reporting

PIC reviewed the total fund and investment manager performance for the third quarter of 2022. The fund returned -0.47% (gross of fees) for the quarter, which was ahead of the benchmark by 0.63%. The fund also outperformed the benchmark for the one-year period but not the four- and ten-year periods. PIC also met with the fund's three active global equities investment managers: Walter Scott, Fiera/Mirova, and RBC/PH&N. Walter Scott and Mirova were behind the benchmark for the quarter. For the one year period, Walter Scott returned -15.79% (-3.13% vs. benchmark), RBC/PH&N returned -18.05% (-4.28% vs. benchmark), and Mirova returned -22.16% (-8.39% vs. benchmark). Beyond performance, the committee reviewed material events at the firms; investment processes; drivers of performance; portfolio turnover; change of personnel, impact of and responses to inflationary pressures, the shifting pandemic, and other macro events affecting markets and changes and risks in the outlook; and policies and processes related to ESG, approach to climate risk and transition, and their proxy voting record.

Two-year Work Forward Plan

PIC reviewed and approved a two-year work forward plan which include non-regular items including: a review of fixed income allocation within pension plan, an investigation into clean-tech/carbon neutral transition, a review of hedging strategy, a review of all benchmarks, and a biennial review investment consultant mandate and consultant performance. The plan also includes a special ESG education session with an environmental scan of what other RPPs are doing on ESG. PIC also approved an additional meeting for February 2023 to cover all the regular and non-regular item scheduled in the plan.

RPP Funding Policy

PIC reviewed the proposed RPP Funding Policy. The Policy was positively received and PIC provided feedback on the name and the schedule for review.

Sheryl Kennedy
Chair, Pension Investment Committee