

University
Pension Plan
Ontario

**Report on the
Actuarial Valuation
as at January 1, 2025**

Registration Number 1357243

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September 2025

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Report on the Actuarial Valuation of the University Pension Plan Ontario as at January 1, 2025

(Registration Number 1357243)

Section 1. Executive Summary

We are pleased to present this report which was prepared at the request of the Board of Trustees (the "Board") of the University Pension Plan Ontario ("the UPP" or "the Plan") for the following purposes:

1. To report on the financial position of the UPP as at January 1, 2025;
2. To satisfy the Funding Policy adopted by the Joint Sponsors of the UPP;
3. To establish the minimum and maximum contributions required for the period from January 1, 2025 until the next filed valuation, for which the effective date must be no later than January 1, 2028;
4. To provide the actuarial certifications required under the Pension Benefits Act (Ontario) (the "PBA") and the federal Income Tax Act (the "ITA").

The UPP is a Jointly Sponsored Pension Plan (JSPP) as defined in Subsection 1(2) of the PBA and is listed under subsection 1.3.1(3) of Regulation 909 of the PBA.

The intended users of this report are the Board (legal administrator of the Plan), the Joint Sponsors of the UPP, the Financial Services Regulatory Authority of Ontario and Canada Revenue Agency. This report is not intended or necessarily suitable for purposes other than those listed above. Any party reviewing this report for other purposes should have their own actuary or other qualified professional assist in their review to ensure that they understand the assumptions, results and uncertainties inherent in our estimates.

Terms of Engagement

For the purposes of this actuarial valuation report, the significant terms of engagement with the Board are:

- Funding of the Plan is dictated by the Funding Policy, applicable legislation and accepted actuarial practice in Canada;
- The Funding Policy, adopted by the Joint Sponsors of the UPP, specifies the following:
 - the going concern assumptions and methods are set by the Board of Trustees based on the recommendations from the Plan actuary;
 - funding for benefits transferred into the UPP ("pre-conversion date benefits") is the responsibility of the respective participating employer for a period of time; and
 - funding for service earned after the date the participating employer joins the UPP ("post-conversion date benefits") is shared 50/50 between the participating employers and the members.
- For the going concern valuation, we have used an actuarial (smoothed) value of assets. For the hypothetical wind-up and solvency valuations, we have used the market value of assets.
- A margin for adverse deviations has been included in the discount rate, as directed by the Board.
- As permitted by Regulation 909 of the PBA, the solvency valuation reports the value of benefits, excluding the value of prospective benefit increases to be granted after the valuation date.

Changes Since the Previous Valuation

The last valuation of the UPP was prepared as at January 1, 2024. Since the last valuation, the following changes have occurred:

- With the exception of the indexation assumption for pre-conversion benefits accrued under the provisions of the Trent University Faculty pension plan, we have used the same economic and demographic assumptions as those used at the prior valuation, as at January 1, 2024. The indexation assumption for Trent University Faculty pre-conversion benefits was changed from a deterministic reserve to an annual inflation assumption of 0.7% per year for pre-2006 benefits and 0% per year for post-2006 benefits (based on stochastic modelling). See Appendix B for details of the assumptions used in this valuation and the rationale employed in setting these assumptions. See Section 3 for the impact of the changes in assumptions on the valuation results.
- The hypothetical wind-up and solvency economic assumptions were changed to reflect market conditions as at the valuation date in accordance with the Canadian Institute of Actuaries' (CIA's) Standards of Practice and the CIA's Educational Note on Assumptions for Hypothetical Wind-up and Solvency Valuations. These assumptions are summarized in Appendix C.
- Effective January 1, 2025, the liabilities and assets of the Victoria University General Pension Plan ("Victoria University Plan") and the Contributory Pension Plan for Employees Represented by OPSEU Local 365 and Exempt Administrative Staff of Trent University ("Trent University Staff Plan") were transferred into the UPP. The members of these plans began to accrue service in the UPP effective January 1, 2025. The actual dates of transfer of the assets occurred between January 1, 2025 and April 29, 2025. Reports on the completion of both asset transfers were filed with FSRA on July 25, 2025 pursuant to Paragraph 10(1) 2. of Ontario Regulation 311/15 of the Act.

Reliance

We have relied on the following information:

- The UPP qualifies as a JSPP within the meaning of the PBA and is listed under subsection 1.3.1(3) of Regulation 909 under the Act;
- Member data as at January 1, 2025 provided by UPP (excluding data for the Victoria University Plan and the Trent University Staff Plan);
- Member data as at January 1, 2025 provided by the administrator of the Victoria University Plan;
- Member data as at January 1, 2025 provided by the administrator of the Trent University Staff Plan;
- Asset data provided by UPP including the audited financial statements;
- A copy of the University Pension Plan Ontario plan text, effective January 1, 2020, consolidated with amendments to January 1, 2025, approved by the Joint Sponsors on October 1, 2024 and filed for registration with the regulatory authorities;
- A copy of the Statement of the Investment Policies and Procedures of the UPP, effective January 1, 2025; and
- A copy of the Funding Policy for the UPP adopted by the Joint Sponsors in December 2019 and as amended effective January 1, 2025.

Summary of Results

(\$000's)	January 1, 2025	January 1, 2024
Going Concern Financial Position		
Going concern assets	\$ 13,107,532	\$ 12,215,769
Going concern liabilities	<u>\$ 12,862,499</u>	<u>\$ 11,966,492</u>
Going concern excess/ (unfunded liability)	\$ 245,033	\$ 249,277
Going concern funded ratio	101.9%	102.1%
Hypothetical Wind-up Financial Position		
Market value of assets net of provision for wind-up expenses	\$ 13,038,570	\$ 11,709,434
Hypothetical wind-up liabilities	<u>\$ 14,670,882</u>	<u>\$ 13,969,675</u>
Hypothetical wind-up excess/ (deficiency)	\$ (1,632,312)	\$ (2,260,241)
Transfer ratio	88.9%	83.9%
Solvency Financial Position		
Adjusted solvency assets net of provision for wind-up expenses	\$ 13,038,570	\$ 11,709,434
Solvency liabilities after adjustment	<u>\$ 12,417,444</u>	<u>\$ 11,655,420</u>
Solvency excess/(deficiency)	\$ 621,126	\$ 54,014
Solvency ratio	105.1%	100.5%
Contribution Sufficiency		
Total estimated contributions	\$ 487,311	\$ 464,390
As a % of capped ¹ pensionable earnings	19.93%	20.27%
Total capped pensionable earnings	\$2,445,114	\$2,291,019
Total current service cost	\$ 484,133	\$ 460,724
Minimum special payments	<u>0</u>	<u>0</u>
Total minimum required contributions	\$ 484,133	\$ 460,724
As a % of capped pensionable earnings	19.80%	20.11%
Estimated contribution excess/(shortfall)	\$ 3,179	\$ 3,666
As a % of capped pensionable earnings	0.13%	0.16%

¹ Maximum Pensionable Earnings for Contributions set to \$215,300 in 2025 and \$201,900 in 2024

The Joint Sponsors of the UPP have directed UPP to file this actuarial valuation report with the Financial Services Regulatory Authority of Ontario and with Canada Revenue Agency.

The next actuarial valuation of the Plan should be filed with an effective date no later than January 1, 2028.

This report has been prepared and our opinions given in accordance with accepted actuarial practice in Canada.

Respectfully submitted,



Jill Wagman, FCIA, FSA

September 26, 2025

Date



Jasenka Brcic, FCIA, FSA

September 26, 2025

_ Date

Section 2. Introduction

The University Pension Plan Ontario was established effective January 1, 2020. Effective July 1, 2021, the three founding universities, University of Toronto, Queen's University, and University of Guelph, transferred the liabilities and assets of their pension plans into the UPP and their employees began to accrue service in the UPP.

Effective January 1, 2022, the liabilities and assets of the Contributory Pension Plan for TUFA Employees of Trent University ("Trent University Faculty") were transferred into the UPP. The members of this plan, as well as employees of UPP and employees of two other Participating Employers affiliated with the participating universities, began to accrue service in the UPP.

Effective April 30, 2024 employees of the Association of Professors of the University of Ottawa and the Ontario Confederation of University Faculty Associations joined UPP for future service only.

Effective January 1, 2025, the liabilities and assets of the Victoria University General Pension Plan ("Victoria University Plan") and the Contributory Pension Plan for Employees Represented by OPSEU Local 365 and Exempt Administrative Staff of Trent University ("Trent University Staff") were transferred into the UPP. The members of these plans began to accrue service in the UPP as of January 1, 2025.

Our report is based on the provisions of the Plan text effective January 1, 2020 and restated as of January 1, 2025.

Subsequent Events

Since December 31, 2024, and as of the date of this report, there has been considerable volatility in the global equity markets and macroeconomic uncertainty in connection with the ongoing implementation and threats of tariffs. The impact on the market value of assets and underlying assumptions is not reflected in the valuation results and as such, the plan financial position shown in this report may be substantially different if those results were incorporated in our valuation. These effects will be revealed in future valuations.

We are not aware of any other subsequent events that would have a material impact on our results.

Valuations Included in this Report

In this report, we describe the results of three different valuations of the Plan:

- A "going concern valuation" which is used to estimate the funded position of the Plan, assuming the Plan is continued indefinitely for existing members, and to estimate the contributions currently required to be made to the Plan's fund, both to fund the cost of any benefits being earned by members for post-conversion date benefits, and, in the event there is a funding deficiency, to liquidate the amount of the funding deficiency.
- A "Funding Policy" valuation. In accordance with the Funding Policy adopted by the Joint Sponsors of the UPP, going concern deficits for pre-conversion date benefits are the responsibility of the respective participating employer for a period of time, whereas going concern deficits for post-conversion date benefits are the joint responsibility of the members and the participating employers, shared on a 50/50 basis. Therefore, going concern assets and liabilities in respect of pre-conversion date and post-conversion date benefits are tracked separately by UPP through a notional allocation structure. See Section 4 for more details.
- A "hypothetical wind-up valuation", which is intended to reflect the status of the Plan as if it had been wound up on the valuation date and the Plan members had been provided with the benefits specified by the Plan and the PBA. The hypothetical wind-up valuation is not used to determine the required contributions to the Plan.

- A "solvency valuation", which is required by the Regulations under the PBA. This valuation is similar to a hypothetical wind-up valuation, except that certain adjustments may be made to the assets and liabilities. For JSPPs, the solvency valuation does not affect the required contributions to the Plan. If the solvency valuation reveals that there is a "solvency deficiency" (as defined in the Regulations), a solvency deficiency can be specified to be a stated amount which is less than the solvency deficiency but not less than zero as permitted under Section 1.3.1(3) of the Regulations of the PBA.

The difference between the hypothetical wind-up and solvency valuation for this Plan relates to the value of "escalated adjustments" (i.e., future indexing to be granted after the valuation date) which are included in the hypothetical wind-up liabilities. In the solvency valuation, these escalated adjustments are excluded as permitted by the Regulations under the PBA.

Filing Requirements

This report outlines the movements of the Plan's financial position since the previous filed valuation as at January 1, 2024, and, as directed by the Joint Sponsors, will be filed with the Financial Services Regulatory Authority of Ontario and Canada Revenue Agency to meet the filing requirements of the PBA and in order to ensure that contributions recommended in the report will qualify as eligible contributions for purposes of the ITA.

The report covers the period from January 1, 2025 to December 31, 2027 and is to be used by the Board to determine its funding requirements during that period or until the next actuarial valuation is filed, if sooner. The next actuarial valuation to be filed must have an effective date no later than January 1, 2028.

Assessments are not payable to the Pension Benefits Guarantee Fund in accordance with Subsection 37 of the Regulations under the PBA, as the UPP is a JSPP.

Section 3. Going Concern Valuation

Valuation Balance Sheet

The following is the going concern valuation balance sheet as at January 1, 2025 based on:

- the Plan provisions (summarized in Appendix A);
- the going concern valuation assumptions (described in Appendix B);
- the membership data (summarized in Appendix D); and
- the actuarial (smoothed) value of assets (summarized in Appendix F),

with comparative figures from the valuation as at January 1, 2024.

January 1, 2025 (\$000's)	Pre-Conversion Date Benefits	Asset and Liability Transfers	Post-Conversion Date Benefits	Total
Going Concern Assets				
Market value ¹	\$ 11,076,134	-	\$ 1,686,738	\$ 12,762,872
Smoothing adjustment	50,529	-	8,433	58,962
Assets transferred in	-	285,698	-	285,698
Going concern actuarial value of assets	\$ 11,126,663	\$ 285,698	\$ 1,695,171	\$ 13,107,532
Going Concern Liabilities				
Active members and members on leave and LTD				
Defined benefit liabilities	\$ 3,705,447	\$ 132,413	\$ 1,506,907	\$ 5,344,767
Money purchase liabilities	771,374	-	-	771,374
Deferred vested members				
Defined benefit liabilities	446,163	9,436	40,422	496,021
Money purchase liabilities	197,048	-	-	197,048
Retired members and survivors	5,818,623	145,871	80,713	6,045,207
Other members	6,386	-	1,696	8,082
Total going concern liabilities	\$ 10,945,041	\$ 287,720	\$ 1,629,738	\$ 12,862,499
Total Going Concern Excess/ (Unfunded Liability)	\$ 181,622	\$ (2,022)	\$ 65,433	\$ 245,033
Going Concern Funded Ratio				101.9%

¹As provided by UPP

The going concern funded ratio is the ratio of the going concern actuarial value of assets to the going concern liabilities.

January 1, 2024 (\$000's)	Pre-Conversion Date Benefits	Post-Conversion Date Benefits	Total
Going Concern Assets			
Market value ¹	\$ 10,620,357	\$ 1,099,077	\$ 11,719,434
Smoothing adjustment	445,778	50,557	496,335
Going concern actuarial value of assets	\$ 11,066,135	\$ 1,149,634	\$ 12,215,769
Going Concern Liabilities			
Active members and members on leave and LTD			
Defined benefit liabilities	\$ 3,886,379	\$ 1,055,029	\$ 4,941,408
Money purchase liabilities	756,870	-	756,870
Deferred vested members			
Defined benefit liabilities	372,288	13,283	385,571
Money purchase liabilities	172,645	-	172,645
Retired members and survivors	5,671,291	37,780	5,709,071
Other members	905	22	927
Total going concern liabilities	\$ 10,860,378	\$ 1,106,114	\$ 11,966,492
Total Going Concern Excess/ (Unfunded Liability)	\$ 205,757	\$ 43,520	\$ 249,277
Going Concern Funded Ratio			102.1%

¹As provided by UPP

Experience Gain and Loss

(\$000's)

Going concern excess/(unfunded liability) at January 1, 2024	\$ 249,277
Interest during inter-valuation period	13,586
Special Payments	32,304
Surplus/(Deficit) in respect of asset transfers at January 1, 2025	<u>(2,022)</u>
Expected excess/(unfunded liability) at January 1, 2025	\$ 293,145
Plus actuarial (losses)/gains due to experience differing from assumed during the inter-valuation period:	
• (Loss)/gain attributable to net investment experience	(8,501)
• (Loss)/gain on Money Purchase Balance due to credited rate of return different than expected	(84,846)
• (Loss)/gain attributable to change in Minimum Guarantee Pension for Queen's University pre-conversion date benefits	20,469
• (Loss)/gain on actual contributions more than the minimum required	3,869
• (Loss)/gain on salaries increasing at a different rate than expected	(6,089)
• (Loss)/gain on ITA maximum pension increasing at a different rate than expected	(26,477)
• (Loss)/gain on YMPE increasing at a different rate than expected	4,897
• (Loss)/gain on cost of living increases different than expected ¹	14,413
• (Loss)/gain on change in deferred indexation reserve for Queen's University pre-conversion date benefits	(3,374)
• (Loss)/gain on terminations other than expected	5,553
• (Loss)/gain on retirements other than expected	26,341
• (Loss)/gain on mortality other than expected	<u>(5,937)</u>
Net actuarial experience (loss)/gain	(59,682)
(Loss)/gain due to data corrections	3,679
(Loss)/gain due to change in assumptions	(850)
Other experience resulted in a net (loss)/gain	<u>8,741</u>
Going concern excess/(unfunded liability) at January 1, 2025	\$ 245,033

¹ Reflects indexation of 2.03% granted on January 1, 2025 to post-conversion date benefits, indexation of 1.37% granted on July 1, 2025 to University of Toronto pre-conversion date benefits and estimate of indexation of 0.27% that will be granted on October 1, 2025 to University of Guelph pre-conversion date benefits.

Current Service Cost

Based on the Plan provisions, assumptions and membership data described herein, we summarize the Plan's estimated contributions and current service cost as at January 1, 2025 in the tables below, with comparative figures from the valuation as at January 1, 2024.

% of capped pensionable earnings	January 1, 2025	January 1, 2024
Estimated contributions	19.93%	20.27%
Current service cost	19.80%	20.11%
Special payments for post-conversion date deficit	<u>0.00%</u>	<u>0.00%</u>
Minimum required contributions	19.80%	20.11%
Excess/(deficiency) of contributions	0.13%	0.16%

(\$000's)	January 1, 2025	January 1, 2024
Capped pensionable earnings	\$2,445,114	\$2,291,019
Estimated contributions	\$487,311	\$464,390
Current service cost	\$484,133	\$460,724
Special payments for post-conversion date deficit	<u>0</u>	<u>0</u>
Minimum required contributions	\$484,133	\$460,724
Excess/(deficiency) of contributions	\$3,179	\$3,666

Estimated dollar amounts for contributions and current service costs on and after 2026 are provided in Section 7. The actual dollar amount of current service costs for the years following the valuation date may be higher or lower than the amounts estimated if the actual pensionable earnings are different than assumed.

Sensitivity Analysis

The table below shows the impact on the total going concern actuarial liability and the current service cost as at January 1, 2025 of a one percentage point change in the discount rate assumption. All other assumptions were unchanged.

(\$000's)	Discount rate 1% lower	Discount rate 1% higher
Change in total going concern actuarial liability	\$1,901,945 14.8%	(\$1,485,440) (11.5%)
Change in total current service cost	\$131,791 27.2%	(\$96,093) (19.8%)

Section 4. Funding Policy Valuation

Funding Policy

In accordance with the Funding Policy adopted by the Joint Sponsors of the UPP, pre-conversion date benefits are the responsibility of the respective participating employers for a period of time, whereas going concern deficits for post-conversion date benefits are the joint responsibility of the members and the participating employers, shared on a 50/50 basis.

For post-conversion date benefits:

- The contribution rate required to fund post-conversion date benefits under the UPP will be shared 50/50 between participating employers and members.
- Contributions required to fund deficits in respect of UPP post-conversion date benefits will be shared 50/50 between participating employers and members.
- Funded conditional indexation applies to these benefits – contribution rates are established including post-retirement indexation at 75% of the assumed increase in Consumer Price Index (CPI), with indexation paid at 75% of the increase in CPI unless the Plan Sponsors jointly decide to activate the conditionality lever to pay future indexation below this level.

For pre-conversion date benefits:

- Initial pre-conversion going concern deficits for each participating employer are to be funded by the employer over a period of time in accordance with the transfer agreement between the employer and the Joint Sponsors.
- Transition of responsibility to both members and employers for losses and gains arising after the conversion date on pre-conversion assets and liabilities is determined per the Funding Policy.

The Funding Policy therefore requires the notional tracking of assets and liabilities between post-conversion date benefits and pre-conversion date benefits and by university for pre-conversion date benefits. UPP is responsible for the notional tracking of assets.

Funding Policy Valuation Results

The valuation as at January 1, 2025, prepared in accordance with the Funding Policy, results in the following pre-conversion going concern unfunded liabilities for the University of Guelph, Trent University Faculty and Victoria University which must be amortized over a period no greater than 15 years with the ability to defer the start of the amortization for new payments for one year**.

(\$000's)	University of Guelph	Trent University Faculty	Victoria University
Unfunded liability at January 1, 2025	\$16,218	\$20,435	\$8,020
Minimum annual required payment* beginning in 2025	\$1,568	\$2,106	\$775
Minimum annual required payment* beginning in 2026	\$1,643	\$2,118	n/a**

* payable monthly

** deferral option does not apply to Victoria University at January 1, 2025, per the Transfer Agreement between Victoria University and the Joint Sponsors.

Since the University of Guelph and Trent University Faculty had an unfunded liability at the previous valuation, the total minimum annual required payments are determined as follows:

Effective Date	Annual Special Payment (\$000's)	End of Liquidation Period	Present Value on January 1, 2025 (\$000's)
University of Guelph			
January 1, 2024	\$189	December 31, 2039 ¹	\$1,955
January 1, 2025	\$1,379*	December 31, 2039	\$14,263
Total	\$1,568		\$16,218

¹University of Guelph chose to delay the start of their payment by one year

Trent University Faculty			
January 1, 2023	\$985	December 31, 2037	\$9,250
January 1, 2024	\$893	December 31, 2038	\$8,823
January 1, 2025	\$228*	December 31, 2039	\$2,362
Total	\$2,106		\$20,435

* \$1,454,000 for University of Guelph and \$240,000 for Trent University Faculty, if the first payment is deferred to 2026. In this case the end of the liquidation period would be December 31, 2040.

No other participating employer is required to make pre-conversion deficit funding payments and there is no post-conversion deficit.

Section 5. Hypothetical Wind-Up Valuation

The purpose of the hypothetical wind-up valuation is to determine the financial position of the Plan if it were wound up on the valuation date. Accordingly, the following approach was used:

1. The Plan assets were valued at their market value.
2. The benefits valued were the pensions to which members would be entitled under applicable legislation and the Plan if the Plan were wound up on the valuation date.
3. The Joint Sponsors have not made an election to exclude the UPP from the operation of Section 74 of the Act. Therefore, for members whose age and service add to 55 or more, the pension may start at any age at which the member would have qualified for a pension if the Plan had not been wound up and if the member had continued in employment until retirement. Thus, the pension for such a member could start at age 55 or later.
4. In the hypothetical wind-up valuation, we assumed that the pension would start at the age which produced the highest present value of the pension for all members who were assumed to elect the annuity purchase option. For all other members who elected the lump sum option, it was assumed with a probability of 50% that the pension would start at the earliest age at which the member will be entitled to an unreduced lifetime pension and with a probability of 50% the pension would start at the age which produced the highest present value of the pension.
5. For members whose age and service add to less than 55, the pension was assumed to commence at normal retirement age.
6. The actuarial assumptions are developed in accordance with the CIA's Standard of Practice Section 3500 for determining Pension Commuted Values, and the Explanatory Note: Guidance for Assumptions for Hypothetical Wind-up and Solvency Valuations Update – Effective December 31, 2024, and Applicable to Valuations with Effective Dates on or after December 31, 2024, and No Later Than June 29, 2025. These assumptions are described in detail in Appendix C.
7. The values of the pensions are not discounted for termination or death or disability before the pension start date.
8. Contingent benefits are included in the liabilities under the hypothetical wind-up valuation.

Based on the Plan provisions in effect on January 1, 2025, the wind-up valuation assumptions mentioned above and the membership data supplied by UPP, the following is the wind-up position as at January 1, 2025:

(\$000's)	January 1, 2025	January 1, 2024
Hypothetical Wind-up Assets		
Market value	\$ 12,762,872	\$ 11,719,434
Assets transferred in	285,698	-
Allowance for wind-up expenses	(10,000)	(10,000)
Total hypothetical wind-up assets	\$ 13,038,570	\$ 11,709,434
Hypothetical Wind-up Liabilities		
Active members and members on leave and LTD		
Defined benefit liabilities	\$ 6,298,599	\$ 6,110,743
Money purchase liabilities	771,374	756,870
Deferred vested members		
Defined benefit liabilities	664,713	534,708
Money purchase liabilities	197,048	172,645
Retired members and survivors	6,731,066	6,393,782
Other members	8,082	927
Total hypothetical wind-up liabilities	\$ 14,670,882	\$ 13,969,675
Hypothetical Wind-up excess/ (deficiency)	\$ (1,632,312)	\$ (2,260,241)
Transfer ratio	88.9%	83.9%

The Prior Year Credit Balance is nil.

The transfer ratio is the ratio of the total hypothetical wind-up assets, prior to the allowance for wind-up expenses, to the hypothetical wind-up liabilities.

If the transfer ratio is less than 100%, there are regulatory restrictions on the transfer of commuted values to terminating members.

If the transfer ratio falls by a prescribed amount since the last filed valuation, no commuted values may be paid out of the Plan until approval is obtained from the Financial Services Regulatory Authority of Ontario.

Hypothetical Wind-Up Valuation Sensitivity Analysis

If the hypothetical wind-up discount rate changed by 1% from the assumptions described in Appendix C, and all other assumptions remained the same, the total hypothetical wind-up liabilities would change as follows:

(\$000's)	Discount rate 1% lower	Discount rate 1% higher
Change in wind-up liabilities	\$ 1,997,726 13.6%	(\$1,564,171) (10.7%)

Incremental Cost

In accordance with the CIA's Standard of Practice, we have estimated the incremental cost of the hypothetical wind-up liability as at January 1, 2025. This is the expected aggregate change in hypothetical wind-up liability between January 1, 2025 and January 1, 2028. The incremental cost is the present value, at the valuation date, of the expected aggregate change in the hypothetical wind-up or solvency liability between the valuation date and the next required valuation date. It also reflects expected benefit payments between the valuation date and the next required valuation date.

	3 years
Incremental Cost on a wind-up basis (000's)	\$ 1,499,796

The incremental cost does not impact the funding requirements of the Plan under the PBA and is for information purposes only.

Pension Benefits Guarantee Fund

Assessments are not payable to the Pension Benefits Guarantee Fund in accordance with Subsection 37 of the Regulations under the PBA, as the UPP is a JSPP.

Section 6. Solvency Valuation

The table below shows the solvency position of the Plan as at January 1, 2025. The calculations are based on the Plan provisions in effect on the valuation date, including the solvency valuation assumptions described in Appendix C, and the membership data supplied by UPP.

The solvency valuation is similar to the hypothetical wind-up valuation except for the adjustments to the solvency liabilities, as noted in Section 2. As permitted by the Regulations to the PBA, the solvency liabilities exclude the value of "escalated adjustments" (i.e., future indexing adjustments to be granted after the valuation date). The value of this amount as at the valuation date is \$2,253,438,000.

(\$000's)	January 1, 2025	January 1, 2024
Solvency Assets		
Market value	\$ 12,762,872	\$ 11,719,434
Assets transferred in	285,698	
Allowance for wind-up expenses	(10,000)	(10,000)
Total solvency assets	\$ 13,038,570	\$ 11,709,434
Solvency Liabilities		
Active members and members on leave and LTD		
Defined benefit liabilities	\$ 5,161,000	\$ 4,854,920
Money purchase liabilities	771,374	756,870
Deferred vested members		
Defined benefit liabilities	455,518	345,304
Money purchase liabilities	197,048	172,645
Retired members and survivors	5,824,422	5,524,754
Other members	8,082	927
Total solvency liabilities	\$12,417,444	\$11,655,420
Solvency excess/ (deficiency)	\$ 621,126	\$ 54,014
Solvency ratio	105.1%	100.5%

As at January 1, 2025, there is a solvency excess.

Solvency Valuation Sensitivity Analysis

If the solvency discount rate changed by 1% from the assumptions described in Appendix C, and all other assumptions remained the same, the total solvency liabilities would change as follows:

(\$000's)	Discount rate 1% lower	Discount rate 1% higher
Change in solvency liabilities	\$ 1,473,731 11.9%	(\$1,156,956) (9.3%)

Section 7. Contribution Requirements

Minimum Post-Conversion Funding Requirements

Participating employers and Plan members are required to make annual current service cost contributions, as well as special payments to fund any post-conversion date going concern unfunded actuarial liability as at January 1, 2025. As at January 1, 2025 there is no post-conversion unfunded liability.

Under Sections 5.01 through 5.04 of the UPP plan text, members and participating employers each contribute 9.20% of Pensionable Earnings up to the Year's Additional Maximum Pensionable Earnings (YAMPE) plus 11.50% of Pensionable Earnings above the YAMPE up to the Maximum Pensionable Earnings for Contributions (capped pensionable earnings of \$215,300 in 2025).

If the number of actively employed members remains at the January 1, 2025 level, and if the members' Pensionable Earnings increases at the assumed salary escalation rate thereafter, the minimum required annual estimated contributions under the PBA for the three years following the valuation would be as follows:

% of capped pensionable earnings	2025	2026	2027
Estimated contributions	19.93%	19.93%	19.93%
Current service cost	19.80%	19.80%	19.80%
Post-conversion date special payments	<u>0</u>	<u>0</u>	<u>0</u>
Minimum required contributions	19.80%	19.80%	19.80%
Excess/(deficiency) of contributions	0.13%	0.13%	0.13%

(\$000's)	2025	2026	2027
Capped pensionable earnings	\$2,445,114	\$2,542,919	\$2,644,635
Estimated contributions	\$487,311	\$506,804	\$527,076
Current service cost	484,133	503,498	523,638
Post-conversion date special payments	<u>0</u>	<u>0</u>	<u>0</u>
Minimum required contributions	\$484,133	\$503,498	\$523,638
Excess/(deficiency) of contributions	\$ 3,179	\$ 3,306	\$ 3,438

As summarized in the previous tables, the estimated contributions are expected to be sufficient to meet the minimum funding requirements of the Plan until the date of the next valuation.

The actual dollar amount of contributions for the years following the valuation date may be higher or lower than the amounts indicated above if the actual capped pensionable earnings are different than assumed.

Minimum Pre-Conversion Funding Requirements

There is a going concern excess as at January 1, 2025, therefore no special payments are statutorily required under subsection 5.1(b) of Regulation 909 under the Act. However, in accordance with the Funding Policy, the following minimum annual special payments are required for pre-conversion date benefits:

	Minimum annual payments (payable monthly) for pre-conversion date benefits, beginning in 2025 (\$000's)
University of Toronto	\$0
Queen's University	\$0
University of Guelph	\$1,568*
Trent University Faculty	\$2,106*
Trent University Staff	\$0
Victoria University	\$755
Total Pre-conversion	\$4,449

*\$1,643,000 for University of Guelph and \$2,118,000 for Trent University Faculty, if the first payment of the new 2025 deficit payment is deferred to 2026.

No other participating employer is required to make pre-conversion deficit funding payments.

Excess Surplus

Subsection 147.2(2) of the ITA prohibits employer contributions to a registered pension plan if the actuarial surplus exceeds a stated threshold. If an *excess surplus* exists and no employer contributions are required under applicable provincial legislation, employer contributions must be suspended, to the extent permitted under applicable provincial legislation, until the excess surplus is eliminated.

An *excess surplus* is defined by paragraph 147.2(2)(d) of the ITA as the amount by which a Plan's going concern funding excess exceeds 25% of the actuarial liabilities. Based on this formula, the Plan has an excess surplus of \$0 as at January 1, 2025 and therefore there is no impact on the contribution requirements for the Plan.

Maximum Eligible Contributions

The maximum tax-deductible contributions that can be made to the Plan is equal to the sum of:

1. A lump sum equal to the greater of the going concern unfunded liability and the hypothetical wind-up deficiency, plus interest thereon; and
2. The current service contributions of 19.80% of earnings in the year following the valuation date and each year thereafter until the date of the next valuation.

Because the Plan has a hypothetical wind-up deficiency of \$1,632,312,000 as at January 1, 2025, total member and participating employer contributions to plan are eligible contributions under the ITA.

Paragraph 8503(4)(a) of the Regulations to the ITA set a limit on member contributions that can be made to a defined benefit provision of a registered pension: the lesser of (i) 9% of the member's compensation, and (ii) the sum of \$1,000 plus 70% of the member's pension credit for the year. A waiver of this limit has been granted by the Canada Revenue Agency to the UPP pursuant to subsection 8503(5) of the Regulations for the period from January 1, 2024 to December 31, 2027. The UPP will apply for a new waiver prior to December 31, 2027.

Under Ontario pension legislation, the participating employer and member contributions are due within 30 days following the end of each month.

Section 8. Actuarial Opinion

This opinion is based on the actuarial valuation of the University Pension Plan Ontario as at January 1, 2025.

In our opinion, in respect of the going concern valuation, the hypothetical wind-up valuation and the solvency valuation,

1. the membership data on which the valuations are based are sufficient and reliable for the purposes of the valuations;
2. the assumptions are appropriate for the purposes of the valuations; and
3. the methods employed in the valuations are appropriate for the purposes of the valuations.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada.

Notwithstanding the foregoing opinion, emerging experience differing from the assumptions will result in gains or losses which will be revealed in future valuations.

This report has been prepared in a manner consistent with the recommendations for the preparation of actuarial valuation reports issued by the Canadian Institute of Actuaries.

This report has been prepared in accordance with applicable legislation.



Jill Wagman
Fellow, Canadian Institute of Actuaries



Jasenka Brcic
Fellow, Canadian Institute of Actuaries

September 26, 2025

Appendix A: Summary of Plan Provisions

This appendix describes the substantive provisions of the Plan, as amended to January 1, 2025, that have been reflected in the results of the valuation.

POST-CONVERSION DATE BENEFITS:

Eligibility

Full-time employees of a participating employer must join the Plan on the first day of the month coincident with or following their date of hire. Other than continuous full-time employees may elect to join the Plan after completing 2 consecutive calendar years of service in which either earnings exceed 35% of the YMPE or hours worked exceed 700.

Contributions

Members contribute an amount equal to 9.20% of Pensionable Earnings up to the YMPE (YAMPE starting in 2025) plus 11.50% of Pensionable Earnings (up to the Maximum Pensionable Earnings for Contributions) in excess of the YMPE (YAMPE starting in 2025). Participating employers match members' contributions and, under certain types of leaves, make part or all of the member's contributions.

"Maximum Pensionable Earnings for Contributions" means \$173,200 in 2020 and increased each year after 2020 by the same percentage increase in the ITA maximum pension limit, subject to adjustments made on the advice of the Plan's actuary. The Maximum Pensionable Earnings for Contributions was adjusted for the change to the use of YAMPE instead of YMPE in the contribution and benefit formulas starting in 2025. The Maximum Pensionable Earnings for Contributions in 2025 is \$215,300 and will be increased each year by the same percentage increase in the ITA maximum pension limit, subject to adjustments made on the advice of the Plan's actuary.

Retirement Dates

A member's normal retirement date is the last day of the month in which the member attains the age of 65. Early retirement is permitted at any time in the 10-year period preceding the member's normal retirement date. Postponed retirement is permitted until November 30 of the year in which the member attains the age of 71.

Retirement Benefit

For each year of Pensionable Service on or after July 1, 2021 and up to December 31, 2024:

1.60% of Best Average Earnings up to Average YMPE, plus 2.0% of Best of Average Earnings in Excess of the Average YMPE

For each year of Pensionable Service on or after January 1, 2025:

1.60% of Best Average Earnings up to Average YAMPE, plus 2.0% of Best of Average Earnings in Excess of the Average YAMPE

"Best Average Earnings" (BAE) means the average of the highest 48 months (does not need to be consecutive) of Pensionable Earnings during participation in the Plan (or prior plans) up to retirement, termination, or death. Best Average Earnings will be capped at the level at which the Income Tax Act maximum pension is reached at the date of determination.

“Average YMPE” means the average of the Year’s Maximum Pensionable Earnings during the last consecutive 48 months of participation in the Plan (or prior plans) up to retirement, termination, or death.

“Average YAMPE” means the average of the Year’s Additional Maximum Pensionable Earnings (YAMPE) during the last consecutive 48 months of participation in the Plan (or prior plans) up to retirement, termination, or death. If the last 48 months of participation includes periods before January 1, 2025, the YAMPE before 2025 will be equal to 114% of the YMPE for that period.

Early Retirement

The member is entitled to a pension calculated under the normal retirement formula, using BAE, Average YMPE/YAMPE, and Pensionable Service at their early retirement date, reduced by 5% for each year the early retirement date is prior to the normal retirement date.

Members may retire with an unreduced pension benefit if they are at least age 60 and their age plus eligibility service totals at least 80 points.

Active University of Toronto and University of Guelph members who were within 3 years of early retirement eligibility at July 1, 2021 may have an earlier unreduced early retirement date.

Postponed Retirement

The member will continue to accrue pension benefits until the earlier of the member’s termination of employment or November 30 in the year in which the member attains the age of 71. The pension is calculated under the normal retirement formula, using BAE, Average YMPE/YAMPE, and Pensionable Service at the postponed retirement date.

Disability Benefits

A member on long-term disability continues to accrue pension benefits. The member’s Pensionable Earnings will increase at the same rate as increases to the member’s long-term disability benefits. The member’s employer will pay the member required contributions during the period the member is on long-term disability.

Form of Pension

The normal form for members without a spouse at pension commencement is a lifetime pension guaranteed for 10 years. For members with a spouse at pension commencement, the normal form is a life annuity with 50% continuing thereafter to the surviving spouse for their lifetime. If the member’s spouse is more than 10 years younger than the member, the pension will be actuarially reduced to reflect each additional year in excess of 10 years that the spouse is younger than the member.

Termination of Employment

A member who terminates employment prior to eligibility for early retirement is entitled to a pension calculated under the normal retirement formula using BAE, Average YMPE/Average YAMPE and Pensionable Service at their termination date, payable at their normal retirement date (or actuarially reduced for early commencement). In lieu of the pension, the member may choose to transfer the commuted value of their accrued pension to a prescribed retirement savings vehicle, a new employer’s pension plan, or a life insurance company to purchase an annuity.

Pre-retirement Death Benefits

On the death of a member before retirement, the member's beneficiary is entitled to the commuted value of the member's pension calculated under the normal retirement formula using BAE, Average YMPE/Average YAMPE, and Pensionable Service at the member's date of death. If the member was eligible to retire, the commuted value shall include the value of the early retirement provisions of the Plan.

Funded Conditional Indexation

The Plan provides funded conditional indexation on January 1 each year to post-conversion pensions in pay (prorated if the member was not retired for the full prior year) equal to 75% of the increase in CPI to the previous September 30. The Joint Sponsors may, in accordance with the Funding Policy, provide indexation at a rate less than 75% of the increase in CPI. Notwithstanding the previous sentence, the Joint Sponsors have agreed, for post-conversion service pensions in pay, to grant indexation up to and including January 1, 2028 at 75% of the increase in CPI.

Maximum Benefits

The annual lifetime pension payable under the Plan, shall not exceed the maximum amount allowed by the ITA for registered pension plans, as in force from time to time.

Excess Contributions

If the member's contributions with interest at retirement, termination or death exceed 50% of the commuted value of the member's accrued pension, the member is entitled to a refund of the excess contributions. Excess contributions are calculated including contributions and benefits under the prior plans.

Pre-Conversion Date Benefits:

The following pages describe the main provisions of the benefits applicable to service prior to the conversion date for members who accrued benefits under the prior plans. Benefits for deferred vested and retired members as of their plan's conversion date are in accordance with the plan texts of the prior plans as of their plan's conversion date.

PRE-CONVERSION: UNIVERSITY OF TORONTO BENEFITS	
Conversion Date	July 1, 2021
Normal Retirement Date	Last day of the month in which the member attains the age of 65
Benefit	Academic Staff, Librarians and Research Associates: <i>For each year of Pensionable Service prior to July 1, 2021:</i> 1.5% of Highest Average Salary up to the Average CPP Maximum Salary, plus 2.0% of Highest Average Salary in excess of the Average CPP Maximum Salary Administrative Staff, Unionized Administrative Staff and Unionized Staff: <i>For each year of Pensionable Service before July 1, 2021:</i> 1.6% of Highest Average Salary up to the Average CPP Maximum Salary plus 2.0% of Highest Average Salary in excess of the Average CPP Maximum Salary "Highest Average Salary" means the average of the highest 36 months (does not have to be consecutive) of Salary during participation in the Plan (including after the conversion date) and is limited to a level corresponding to the ITA maximum pension. "Average CPP Maximum Salary" means the average of the YMPE during the last 36 months of participation in the Plan.
Early Retirement Date	Within 10 years of normal retirement
Early Retirement Benefit	The pension calculated under the normal retirement formula, using Highest Average Salary and Average CPP Maximum Salary at the early retirement date, reduced by 5% for each year the early retirement date is prior to normal retirement date
Unreduced Early Retirement Date	Academic Staff and Librarians: December 31 or June 30 following the member's attainment of age 60 with a minimum of 10 years of Pensionable Service Administrative Staff – P/Ms 6 and Above: Age 60 with a minimum 15 of years of Pensionable Service Administrative Staff (Other than Above), Unionized Administrative Staff, Unionized Staff and Research Associates: Age 60 and age plus continuous service totals at least 80
Unreduced Early Retirement Benefit	The pension calculated under the normal retirement formula, using Highest Average Salary and Average CPP Maximum Salary at the early retirement date, without reduction for early commencement
Postponed Retirement Benefit	The pension calculated under the normal retirement formula, Highest Average Salary and Average CPP Maximum Salary at the postponed retirement date (no later than November 30 of the year in which the member attains age 71).
Disability Benefit	The Salary for a member on long-term disability will increase at the same rate as "across the board" increases granted to active employees.
Normal Form of Pension	Life guaranteed for 5 years for members without a spouse at pension commencement. For members with a spouse at pension commencement, the normal form is a life annuity with 60% continuing thereafter to the surviving spouse for their lifetime. If the member's spouse is more than 15 years younger than the member, the pension will be actuarially reduced to reflect each additional year in excess of 15 years that the spouse is younger than the member. Under certain circumstances, a survivor's pension is payable to a member's dependent children.

PRE-CONVERSION: UNIVERSITY OF TORONTO BENEFITS	
Termination Benefit	A terminating member is entitled to a pension calculated under the normal retirement formula using Highest Average Salary and Average CPP Maximum Salary at their termination date, payable at normal retirement date (or actuarially reduced for early commencement). In lieu of the pension, the member may choose to transfer the commuted value of their accrued pension to a prescribed retirement savings vehicle, a new employer's pension plan or a life insurance company to purchase an annuity. For terminations after July 1, 2019 but prior to early retirement age, the minimum commuted value is two times the member's required contributions made prior to July 1, 2019 with interest.
Pre-retirement Death Benefit	The commuted value of the member's accrued pension calculated under the normal retirement formula using Highest Average Salary and Average CPP Maximum Salary at the member's date of death. If the member was eligible to retire, the commuted value shall include the value of the early retirement provisions of the Plan.
Cost of Living Adjustments	Pensions in pay, and deferred pensions for members who terminated service on or after July 1, 1982, will be increased on July 1 each year (prorated if the member was not retired or terminated for the full prior year) by the greater of (a) and (b): (a) The increase in the CPI for the previous calendar year minus 4.0%; or (b) 75% of the increase in the CPI for the previous calendar year to a maximum CPI increase of 8%, plus 60% of the increase in CPI in excess of 8%.
Maximum Pension	The annual lifetime pension payable under the Plan, shall not exceed the maximum amount allowed by the ITA for registered pension plans, as in force from time to time.

PRE-CONVERSION: QUEEN'S UNIVERSITY BENEFITS	
Conversion Date	July 1, 2021
Normal Retirement Date	Last day of the month in which the member reaches age 65
Benefit	Money Purchase Pension: Pension calculated by converting the member's Money Purchase Account balance (member and university money purchase contributions up to and including June 30, 2021, credited with Fund Interest to retirement date) to a pension using the conversion factors used by the Plan for administration purposes. The Money Purchase Account balance is currently reduced by 4.5% to account for the cost of the non-reduction provision. "Fund Interest" is the net rate of return of the Plan assets. Minimum Guarantee Pension: The amount, if any, of (a) over (b): (a) 1.40% of Final Average Earnings (1.35% for Credited Service before September 1, 1997) up to YMPE Average plus 1.80% of Final Average Earnings in excess of YMPE Average multiplied by Credited Service prior to July 1, 2021 (b) the Money Purchase Pension as calculated above "Final Average Earnings" means the highest average Earnings over 48 consecutive months. "YMPE Average" means the average of the YMPE during the same 48 months.
Early Retirement Date	Any age
Early Retirement Benefit	Pension calculated under the normal retirement formula using Money Purchase Account balance, Final Average Earnings and YMPE Average at the early retirement date, reduced as follows: For Minimum Guarantee Pensions accrued as of September 1, 2012: 2% per year for the first five years prior to normal retirement date and 6% per year for each additional year prior to normal retirement date For Minimum Guarantee Pensions accrued on or after September 1, 2012: If early retirement date is within 10 years of normal retirement date: 3% per year for the first five years prior to normal retirement date and 6% per year for each additional year prior to normal retirement date; Otherwise: 6% per year from normal retirement date
Unreduced Early Retirement Date	Age 60 and age plus continuous service totals at least 80
Unreduced Early Retirement Benefit	Pension calculated under the normal retirement formula using Money Purchase Account balance, Final Average Earnings and YMPE Average at the early retirement date, without reduction for early commencement
Postponed Retirement Benefit	Pension calculated under the normal retirement formula using Money Purchase Account balance, Final Average Earnings and YMPE Average at the postponed retirement date (no later than November 30 of the year in which the member attains age 71).
Disability Benefit	The Salary for a member on long-term disability will increase at the increase in the Consumer Price Index up to a maximum of 5% per year.

PRE-CONVERSION: QUEEN'S UNIVERSITY BENEFITS	
Normal Form of Pension	Life guaranteed for 10 years for members without a spouse at pension commencement. For members with a spouse at pension commencement, the normal form is a life annuity with 60% continuing thereafter to the surviving spouse for their lifetime. The pension under this form is actuarially equivalent to the pension payable to members without a spouse.
Termination Benefit	In lieu of a pension, a Member may elect to transfer their Money Purchase Account plus the excess, if any, of the commuted value of the Minimum Guarantee Pension calculated under the normal retirement formula using Money Purchase Account balance, Final Average Earnings and YMPE Average at the termination date, over the Money Purchase Account, to a prescribed retirement savings vehicle, a new employer's pension plan, or a life insurance company to purchase an annuity.
Pre-retirement Death Benefit	A lump-sum benefit equal to the member's Money Purchase Account balance plus the excess, if any, of the commuted value of the Minimum Guarantee Pension calculated under the normal retirement formula using Final Average Earnings, YMPE Average and Credited Service after January 1, 1987 at the member's date of death, over the Money Purchase Account balance at the member's date of death for required contributions on and after January 1, 1987.
Excess Interest Indexation	For members who retired prior to or on September 1, 2012: Pensions in pay for at least one full year are adjusted each September 1 by the excess, if any, of the 4-year average of the Fund Interest over 6%. No reduction will be made if the 4-year average of the Fund Interest is less than 6%. For members retiring after September 1, 2012 (applies only to the Money Purchase Pension and the prorated portion of the Minimum Guarantee Pension in respect of Credited Service prior to September 1, 2012): Pensions in pay for at least one full year are adjusted each September 1 by the excess, if any, of the 6-year average Fund Interest in excess of 6%. For this purpose, the Fund Interest rate for periods prior to the retirement date will be set at 6%. The indexation will be adjusted either positively or negatively to reflect actual mortality gains or losses. No reduction will be made if the 6-year average of the Fund Interest combined with the mortality adjustments is less than 6%.
Maximum Pension	The Minimum Guarantee Pension payable at normal retirement, prior to reduction by the Money Purchase Pension, shall not exceed the maximum allowed under the ITA for registered pension plans.

PRE-CONVERSION: UNIVERSITY OF GUELPH BENEFITS	
Conversion Date	July 1, 2021
Normal Retirement Date	Last day of the month in which the member reaches age 65
Benefit	<i>For each year of Credited Service prior to July 1, 2021:</i> 1.50% (1.60% for USW, OSSTF, CUPE 1334 and Exempt) of Best Average Earnings up to YMPE Average, plus 2.00% of Best Average Earnings in excess of YMPE Average. "Best Average Earnings" means the highest average Earnings over 36 consecutive months. "YMPE Average" means the average of the YMPE during the 60 months prior to retirement.
Early Retirement Date	Within 10 years of normal retirement
Early Retirement Benefit	The pension calculated under the normal retirement formula using Best Average Earnings and YMPE Average at the early retirement date, reduced by 3% for each year that the early retirement date is prior to the earliest of the member's normal retirement date and the member's earliest unreduced retirement date if the member had remained in employment.
Unreduced Early Retirement Date	USW, CUPE 1334, CUPE 1334 Unit 1, CUPE 3913 Unit 2, UGFSEA Unit 1, UGFSEA Unit 2, ONA Age 55 and 85 points UFGA Unit 2 (1) Age 55 and 85 points for pension benefits earned for Credited Service prior to September 1, 2011; or (2) Age 60 and 90 points for pension benefits earned for Credited Service on or after September 1, 2011 Exempt, OPSEU, OSSTF and UNIFOR (1) Age 55 and 85 points for pension benefits earned for Credited Service prior to May 1, 2013; or (2) Age 60 and 90 points for pension benefits earned for Credited Service on or after May 1, 2013 USW TESL and Non-Represented Members (1) Age 55 and 85 points for pension benefits earned for Credited Service prior to July 1, 2013; or (2) Age 60 and 90 points for pension benefits earned for Credited Service on or after July 1, 2013 P&M (1) Age 55 and 85 points for pension benefits earned for Credited Service prior to July 1, 2013; or (2) Age 60 and 85 points for pension benefits earned for Credited Service on or after July 1, 2013 UFGA and Executive (1) Age 55 and 85 points for pension benefits earned for Credited Service prior to July 1, 2013; or (2) Age 62 and 87 points for pension benefits earned for Credited Service on or after July 1, 2013 "points" is the sum of the Member's age and Credited Service
Unreduced Early Retirement Benefit	The pension calculated under the normal retirement formula using Best Average Earnings and YMPE Average at the early retirement date, without reduction for early commencement
Postponed Retirement Benefit	The pension calculated under the normal retirement formula using Best Average Earnings and YMPE Average at the postponed retirement date (no later than November 30 of the year in which the member attains age 71).

PRE-CONVERSION: UNIVERSITY OF GUELPH BENEFITS																					
Disability Benefit	The Earnings for a member on long-term disability will increase at the same rate as base salary for the member's union, association or group, as applicable.																				
Normal Form of Pension	Life guaranteed 5 years for members without a spouse at pension commencement. For members with a spouse at pension commencement, the normal form is a life annuity with 60% continuing thereafter to the surviving spouse for their lifetime. If the member's spouse is more than 5 years younger than the member, the pension will be actuarially reduced to reflect each additional year in excess of 5 years that the spouse is younger than the member. Under certain circumstances, a survivor's pension is payable to a member's dependent children.																				
Termination Benefit	A terminating member is entitled to a benefit calculated under the normal retirement formula based on Best Average Earnings and YMPE Average at the termination date, payable at normal retirement date or as early as 10 years prior to normal retirement date reduced for early commencement as shown below. For pension benefits in respect of Credited Service up to the Termination Benefit Change Date in the following table, the reduction for early commencement is 3% for each year that the pension commencement date precedes the earlier of the normal retirement date and the date on which the member would have attained the 85 points had they remained in employment. <table> <tr> <td colspan="2">Termination Benefit Change Dates:</td></tr> <tr> <td>UGFA Unit 2</td><td>September 1, 2011</td></tr> <tr> <td>USW, UGFSEA Unit 2</td><td>January 1, 2012</td></tr> <tr> <td>UGFSEA Unit 1</td><td>May 1, 2012</td></tr> <tr> <td>ONA</td><td>June 1, 2012</td></tr> <tr> <td>UGFA, P&M</td><td>July 1, 2012</td></tr> <tr> <td>OPSEU, UNIFOR, OSSTF, Exempt</td><td>May 1, 2013</td></tr> <tr> <td>USW TESL, Non-Represented, Executive</td><td>July 1, 2013</td></tr> <tr> <td>CUPE 1334, CUPE 1334 Unit 1</td><td>April 30, 2016</td></tr> <tr> <td>CUPE 3913 Unit 2</td><td>September 1, 2016</td></tr> </table> For service up to the Termination Benefit Change Date, the minimum lump-sum transfer is two times the member's contributions with interest. For pensions in respect of Credited Service after the Termination Benefit Change Date, on early commencement, an actuarial reduction from normal retirement date is applied. In lieu of the pension, the member may choose to transfer the commuted value of their accrued pension to a prescribed retirement savings vehicle, a new employer's pension plan or a life insurance company to purchase an annuity.	Termination Benefit Change Dates:		UGFA Unit 2	September 1, 2011	USW, UGFSEA Unit 2	January 1, 2012	UGFSEA Unit 1	May 1, 2012	ONA	June 1, 2012	UGFA, P&M	July 1, 2012	OPSEU, UNIFOR, OSSTF, Exempt	May 1, 2013	USW TESL, Non-Represented, Executive	July 1, 2013	CUPE 1334, CUPE 1334 Unit 1	April 30, 2016	CUPE 3913 Unit 2	September 1, 2016
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CUPE 1334, CUPE 1334 Unit 1	April 30, 2016																				
CUPE 3913 Unit 2	September 1, 2016																				
Pre-Retirement Death Benefit	The commuted value of the member's accrued pension calculated under the normal retirement formula based on Best Average Earnings and YMPE Average at the member's date of death.																				
Cost of Living Adjustments	Pensions in pay will be increased on September 30 of each year (prorated if the member was not retired for the full prior year) by the excess, if any, of a) over b): (a) Increase in CPI over the twelve-month period ending in April, up to a maximum of 8.00%. (b) 2.00%																				
Maximum Pension	The annual lifetime pension payable under the Plan, shall not exceed the maximum amount allowed by the ITA for registered pension plans, as in force from time to time.																				

PRE-CONVERSION: TRENT UNIVERSITY FACULTY BENEFITS	
Conversion Date	January 1, 2022
Normal Retirement Date	Last day of the month in which the member reaches age 65
Benefit	For each year of Pensionable Service before January 1, 2022: 2% of Final Average Earnings "Final Average Earnings" means the highest average of Earnings over 5 consecutive years in the last 10 years of service
Early Retirement Date	Within 10 years of normal retirement
Early Retirement Benefit	The pension calculated under the normal retirement formula using Final Average Earnings at the early retirement date, reduced by 6% for each year the early retirement date is prior to normal retirement date
Unreduced Early Retirement Date	Age 60 and age plus eligibility service totals at least 80
Unreduced Early Retirement Benefit	The pension calculated under the normal retirement formula using Final Average Earnings at the early retirement date, without reduction for early commencement
Postponed Retirement Benefit	The pension calculated under the normal retirement formula using Final Average Earnings at the postponed retirement date (no later than November 30 of the year in which the member attains age 71)
Disability Benefit	The Earnings for a member on long-term disability will increase at the lesser of the rate of increases they would have received had they remained actively employed and the increase applicable to deferred pensions.
Normal Form of Pension	Life guaranteed 10 years for members without a spouse at pension commencement. For members with a spouse at pension commencement, the normal form is a life annuity with 60% continuing thereafter to the surviving spouse for their lifetime. If the member's spouse is more than 5 years younger than the member, the pension will be reduced by 0.5% for each complete year in excess of 5 that the spouse is younger than the member.
Termination Benefit	A terminating member is entitled to a pension calculated under the normal retirement formula using Final Average Earnings at the termination date, payable at normal retirement date (or actuarially reduced for early commencement). In lieu of the pension, the member may choose to transfer the commuted value of their accrued pension to a prescribed retirement savings vehicle, a new employer's pension plan or a life insurance company to purchase an annuity. For service prior to July 1, 2010, the minimum commuted value will be two times the member's required contributions made prior to July 1, 2010 with interest.
Pre-retirement Death Benefit	<i>Before Eligibility for Normal Retirement:</i> The commuted value of the member's accrued pension calculated under the normal retirement formula using Final Average Earnings at the member's date of death. <i>After Eligibility for Normal Retirement:</i> A survivor pension assuming the member had retired immediately prior to their date of death. The value of this benefit cannot be less than the commuted value above.

PRE-CONVERSION: TRENT UNIVERSITY FACULTY BENEFITS		
Excess Interest Indexation	For members who retired or terminated prior to July 1, 2006: For members who retired or terminated on or after July 1, 2006:	Pensions in pay and pensions in the deferral period are adjusted each July 1 (prorated if the member was not retired or terminated for the full prior year) by the lesser of the increase in CPI over the twelve-month period ending in March and the excess, if any, of the 4-year average of the rate of return of the Plan as of March 31 over 6%. No reduction will be made to pensions even if the 4-year average rate of return is less than 6%. Pensions in pay and pensions in the deferral period are adjusted each July 1 (prorated if the member was not retired or terminated for the full prior year) by the lesser of 50% of increase in CPI (but no greater than 50% of the increase in Average Industrial Wage for pensions in the deferral period) over the twelve-month period ending in March and the amount of indexation that can be provided by Cumulative Excess Investment Earnings (as defined in the Plan text) of the Plan. No reduction will be made to pensions even if Cumulative Excess Investment Earnings are negative. Where Cumulative Excess Investment Earnings are more than sufficient to provide indexation in a year, the excess will be used to provide indexation in respect of previous years.
Maximum Pension	The annual lifetime pension payable under the Plan, shall not exceed the maximum amount allowed by the ITA for registered pension plans, as in force from time to time.	

PRE-CONVERSION: TRENT UNIVERSITY STAFF BENEFITS	
Conversion Date	January 1, 2025
Normal Retirement Date	Last day of the month in which the member reaches age 65
Benefit	For each year of Pensionable Service before January 1, 2025: 2% of Final Average Earnings "Final Average Earnings" means the highest average of Earnings over 5 consecutive years in the last 10 years of service
Early Retirement Date	Within 10 years of normal retirement
Early Retirement Benefit	The pension calculated under the normal retirement formula using Final Average Earnings at the early retirement date, reduced by 6% for each year the early retirement date is prior to the date the member would be at least age 62 and age plus eligibility service totals at least 80 (if, as of June 30, 2017, the member is within 10 year of normal retirement date, then 6% prior to the date the member would be at least age 60 and age plus eligibility service totals at least 80). If as of July 1, 2007 the member was active and within 10 years of normal retirement date, then reduced by 4% for each year the early retirement date is prior to the above referenced dates.
Unreduced Early Retirement Date	Age 60 and age plus eligibility service totals at least 80.
Unreduced Early Retirement Benefit	The pension calculated under the normal retirement formula using Final Average Earnings at the early retirement date, without reduction for early commencement
Postponed Retirement Benefit	The pension calculated under the normal retirement formula using Final Average Earnings at the postponed retirement date (no later than November 30 of the year in which the member attains age 71)
Disability Benefit	The Earnings for a member on long-term disability will increase at the rate of increases they would have received had they remained actively employed.
Normal Form of Pension	Life guaranteed 10 years for members without a spouse at pension commencement. For members with a spouse at pension commencement, the normal form is a life annuity with 60% continuing thereafter to the surviving spouse for their lifetime. If the member's spouse is more than 5 years younger than the member, the pension will be reduced by 0.5% for each complete year in excess of 5 that the spouse is younger than the member.
Termination Benefit	A terminating member is entitled to a pension calculated under the normal retirement formula using Final Average Earnings at the termination date, payable at normal retirement date (or actuarially reduced for early commencement). In lieu of the pension, the member may choose to transfer the commuted value of their accrued pension to a prescribed retirement savings vehicle, a new employer's pension plan or a life insurance company to purchase an annuity. For service prior to July 1, 2015, the minimum commuted value will be two times the member's required contributions made prior to July 1, 2015 with interest.
Pre-retirement Death Benefit	<i>Before Eligibility for Normal Retirement:</i> The commuted value of the member's accrued pension calculated under the normal retirement formula using Final Average Earnings at the member's date of death. <i>After Eligibility for Normal Retirement:</i> A survivor pension assuming the member had retired immediately prior to their date of death. The value of this benefit cannot be less than the commuted value above.

PRE-CONVERSION: TRENT UNIVERSITY STAFF BENEFITS

Excess Interest Indexation	For members who retired or terminated prior to July 2, 2007: Pensions in pay and pensions in the deferral period are adjusted each July 1 (prorated if the member was not retired or terminated for the full prior year) by the lesser of the increase in CPI (but no greater than the increase in Average Industrial Wage for pensions in the deferral period) over the twelve-month period ending in March and the amount of indexation that can be provided by Cumulative Excess Investment Earnings (as defined in the Plan text) of the Plan. For members who retired or terminated on or after July 2, 2007: Pensions in pay and pensions in the deferral period are adjusted each July 1 (prorated if the member was not retired or terminated for the full prior year) by the lesser of 50% of increase in CPI (but no greater than 50% of the increase in Average Industrial Wage for pensions in the deferral period) over the twelve-month period ending in March and the amount of indexation that can be provided by Cumulative Excess Investment Earnings of the Plan. No reduction will be made to pensions even if Cumulative Excess Investment Earnings are negative. Where Cumulative Excess Investment Earnings are more than sufficient to provide indexation in a year, the excess will be used to provide indexation in respect of previous years.
Maximum Pension	The annual lifetime pension payable under the Plan, shall not exceed the maximum amount allowed by the ITA for registered pension plans, as in force from time to time.

PRE-CONVERSION: VICTORIA UNIVERSITY BENEFITS	
Conversion Date	January 1, 2025
Normal Retirement Date	Last day of the month in which the member reaches age 65
Benefit	Faculty: <i>For each year of Credited Service prior to January 1, 2025:</i> 1.5% of Final Average Earnings up to the Average YMPE, plus 2.0% of Final Average Earnings in excess of the Average YMPE Non-faculty: <i>For each year of Credited Service before January 1, 2025:</i> 1.6% of Final Average Earnings up to the Average YMPE plus 2.0% of Final Average Earnings in excess of the Average YMPE "Final Average Earnings" means the highest average Earnings over 36 consecutive months. "Average YMPE" means the average of the YMPE during the last 36 months of participation in the Plan.
Early Retirement Date	Within 10 years of normal retirement
Early Retirement Benefit	The pension calculated under the normal retirement formula, using Final Average Earnings and Average YMPE at the early retirement date, reduced by 5% for each year the early retirement date is prior to normal retirement date
Unreduced Early Retirement Date	Age 60 and age plus continuous service totals at least 80
Unreduced Early Retirement Benefit	The pension calculated under the normal retirement formula, using Final Average Earnings and Average YMPE at the early retirement date, without reduction for early commencement
Postponed Retirement Benefit	The pension calculated under the normal retirement formula, Final Average Earnings and Average YMPE at the postponed retirement date (no later than November 30 of the year in which the member attains age 71)
Disability Benefit	The Salary for a member on long-term disability will increase at the lesser of: 7%, the same rate as "across the board" increases granted to active employees, or the percentage increase in CPI over the previous year
Normal Form of Pension	Life guaranteed for 5 years for members without a spouse at pension commencement. For members with a spouse at pension commencement, the normal form is a life annuity with 60% continuing thereafter to the surviving spouse for their lifetime. If the member's spouse is more than 15 years younger than the member, the pension will be reduced. Under certain circumstances, a survivor's pension is payable to a member's dependent children.
Termination Benefit	A terminating member is entitled to a pension calculated under the normal retirement formula using Final Average Earnings and Average YMPE at their termination date, payable at normal retirement date (or actuarially reduced for early commencement). In lieu of the pension, the member may choose to transfer the commuted value of their accrued pension to a prescribed retirement savings vehicle, a new employer's pension plan or a life insurance company to purchase an annuity. The minimum commuted value is two times the member's required contributions with interest.
Pre-retirement Death Benefit	The commuted value of the member's accrued pension calculated under the normal retirement formula using Final Average Earnings and Average YMPE at the member's date of death. If the member was eligible to retire, the commuted value shall include the value of the early retirement provisions of the Plan.
Cost of Living Adjustments	Pensions in pay will be increased on July 1 each year by the greater of (a) and (b): (a) The increase in the CPI for the previous calendar year minus 4.0%; or (b) 75% of the increase in the CPI for the previous calendar year to a maximum CPI increase of 8%, plus 60% of the increase in CPI in excess of 8%.

PRE-CONVERSION: VICTORIA UNIVERSITY BENEFITS	
Maximum Pension	The annual lifetime pension payable under the Plan, shall not exceed the maximum amount allowed by the ITA for registered pension plans, as in force from time to time.

Appendix B: Assumptions and Methods – Going Concern

Summary of Assumptions

	January 1, 2025	January 1, 2024
ECONOMIC ASSUMPTIONS		
Discount rate:	5.45%, net of investment and administrative expenses	Same
Interest on member contributions ¹ :	2.50% per year	Same
Inflation rate:	2.00% per year	2.25% for 2024, and 2.0% per year thereafter
Indexation Rate (75% of CPI):	1.5% per year ²	1.6875% for 2025 and 1.5% per year thereafter ⁴
Indexation Rate (CPI - 2%):	0.27% for 2025 ³ and 0.50% per year thereafter	1.17% for 2024 ⁵ , 0.5625% for 2025 and 0.50% per year thereafter
Indexation Rate for Trent University Faculty pre-conversion benefits:	0.7% per annum for members who terminated or retired prior to July 1, 2006 0.0% per annum for members who terminated or retired on or after July 1, 2006	Indexation reserve
Salary increase:	Active members and members on leave: 4.00% per year Members on LTD: 2.00% per year	Same
YMPE increase:	2.75% per year	Same
ITA maximum pension limit increase:	2.75% per year	Same
Investment and administrative expenses:	Discount rate reduced by 0.30%	Same

¹Interest on Queen's University pre-conversion money purchase balances is assumed to be equal to the discount rate

²Indexation at July 1, 2025 for pre-conversion University of Toronto benefits is 1.37% based on CPI to December 31, 2024

³Estimated indexation at October 1, 2025 based on estimated CPI to April 30, 2025

⁴Indexation at July 1, 2024 for pre-conversion University of Toronto benefits is 2.55% based on CPI to December 31, 2023

⁵Indexation at October 1, 2024 based on CPI to April 30, 2024

	January 1, 2025	January 1, 2024
DEMOGRAPHIC ASSUMPTIONS		
Mortality:	95% of 2014 Public Sector Mortality Table, with mortality improvements scale MI-2017 from 2014 (sex distinct)	Same
Disability rates:	None	Same
Retirement rates:	Active members and members on leave: Table A following Members on LTD: age 65	Same
Termination rates:	Table B following	Same
Termination option election:	40% elect lump sum transfer	Same
Lump-sum transfer value discount rate:	Gross rate of 4.0%; Indexation as noted in previous table	Same
Marital status:		
Non-retired members:	85% married for male members; 75% married for female members	Same
Retired members:	Actual marital status	Same
Spousal age difference:		
Non-retired members	Male members have a spouse four years younger and female members have a spouse two years older	Same
Retired members:	Actual ages	Same
OTHER ASSUMPTIONS		
Non-reduction reserve for Queen's University pre-conversion benefits:	7.5% reduction is applied to money purchase accounts; 7.5% applied to liabilities for retired members and survivors, which have been determined using true pension rather than actual pension. "True pension" is the pension that would be payable in the absence of the non-reduction provisions of the Plan.	
Deferred indexing reserve:	Reflects expected indexation to Trent University Staff pensions and Queen's University true pensions based on fund returns to valuation date and expected future returns equal to discount rate	Reflects expected indexation to Trent University Faculty pensions and Queen's University true pensions based on fund returns to valuation date and expected future returns equal to discount rate
	Deferred indexing reserve for Trent University Faculty pensions removed and stochastic assumption used	

Table A – Retirement Rates

Age	Faculty Rates*	Staff Rates**
<55	0%	0%
55-59	2%	2%
60-64	5%	7%
65-67	30%	50%
68	30%	100%
69-70	50%	N/A
71+	100%	N/A

*additional 5% at first age eligible for an unreduced pension before 65

** additional 15% at first age eligible for an unreduced pension before 65

Table B – Termination Rates

Age	Rates	Age	Rates
<25	15.0%	41	3.1%
26	13.5%	42	3.0%
27	12.0%	43	2.8%
28	10.7%	44	2.6%
29	9.5%	45	2.4%
30	8.4%	46	2.2%
31	7.5%	47	2.0%
32	6.8%	48	1.8%
33	6.0%	49	1.6%
34	5.4%	50	1.4%
35	4.8%	51	1.2%
36	4.5%	52	1.0%
37	4.2%	53	0.8%
38	3.9%	54	0.6%
39	3.6%	55+	0.0%
40	3.3%		

The going concern assumptions and methods are set by the UPP's Board of Trustees based on the recommendations from the Plan actuary within the parameters of the Plan's Funding Policy, legislation and accepted actuarial practice in Canada.

Actuarial Cost Method

As with the previous valuation, we used the projected unit credit actuarial cost method to determine the going concern actuarial liabilities of the Plan and the current service cost in respect of the defined benefit provisions of the Plan. Under this method, the actuarial liabilities consist of the present value of pensions in payment and vested deferred benefits for terminated members, plus that portion of the future benefits expected to be paid to present members which are related to their credited service up to the valuation date. Amounts of pension are determined based on each member's projected final average earnings. The active member liability arising from the Minimum Guarantee Pension for Queen's University pre-conversion date benefits is the actuarial present value of the excess, if any, of the Minimum Guarantee Pension over the Money Purchase Pension at each decrement date. The Money Purchase Pension is calculated by projecting the member's money purchase balance to the assumed decrement age and converting to a pension using the money purchase conversion factors used by the Plan for administration purposes.

If the value of these actuarial liabilities exceeds the actuarial value of the assets (determined as described below), the excess is defined as the unfunded actuarial liability and is funded by fixed special payments over a specified period or periods.

The current service cost for the defined benefit provision for the year following the valuation date is the present value of benefits accrued by Plan members with respect to their service in that year.

The characteristics of this actuarial cost method are that it matches year-by-year costs of benefits expected to be accrued by the Plan members each year to the contributions required for those years and since it results in a pattern of progressively increasing costs for an individual employee as that employee ages, it may also result in progressively increasing costs for the Plan as a whole if the average age profile of the Plan membership increases from year to year.

Asset Valuation Method

Effective January 1, 2023, we have used an actuarial (smoothed) value of the assets for the going concern assets. Since the Plan has only held assets since July 1, 2021, we have smoothed the assets over the period from July 1, 2021 to January 1, 2025. The assets transferred in from the Victoria University and Trent University Staff plans are not subject to smoothing and are held at market value.

Under the smoothing technique, only a portion of realized and unrealized investment experience over the prior years is recognized at the valuation date. For the January 1, 2024 valuation, 25% of the gain in 2023, 50% of the loss in 2022 and 75% of the gain in 2021 has been recognized in the smoothed value of assets. For the January 1, 2025 valuation, 20% of the gain in 2024, 40% of the gain in 2023, 60% of the loss in 2022 and 80% of the gain in 2021 has been recognized in the smoothed value of assets. The remaining gains or losses will be recognized in future years. A corridor is applied to the calculation of the smoothed value of assets so that it cannot be less than 85% of the market value nor can it be more than 115% of the market value. The objective of the asset valuation method is to moderate the volatility of contribution rates by deferring the recognition of investment gains and losses over the short-term.

The asset valuation method moderates the short-term effects of fluctuations in the market value, is expected to track to market value over time, and is generally free of bias towards systematic overstatement or understatement in relation to the market value. See Appendix F for the development of the actuarial (smoothed) value of assets as at January 1, 2025.

Benefits Valued

The benefits valued were those in effect at the valuation date. A summary of the Plan provisions is provided in Appendix A. Funded conditional indexation for post-conversion date benefits equal to 75% of the increase in CPI has been included in the going concern valuation.

Rationale

Economic Assumptions

With the exception of the indexation assumption for pre-conversion benefits accrued under the provisions of the Trent University Faculty pension plan, we have used the same economic assumptions as those used at the prior valuation, as at January 1, 2024. The indexation assumption for the Trent University Faculty pension plan was changed from a deterministic reserve based on recent fund experience and expected future returns to an annual indexation assumption of 0.7% per year for members who terminated or retired prior to July 1, 2006 and 0.0% for members who terminated or retired on or after July 1, 2006. This assumption was determined using stochastic analysis of the likelihood of future indexation to be granted to retirees and deferred vested members. The impact of this change is summarized in Section 3.

For this valuation, we have used the same inflation assumption as the prior valuation. A long-term inflation assumption of 2.0% per year continues to be supported by Eckler’s stochastic model which projects rates of inflation, bond yields and asset class returns for 5,000 paths over a long-term projection horizon, and is consistent with Bank of Canada’s long-term target of 1% - 3%.

Pre-conversion benefits accrued under the University of Guelph pension plans are indexed post-retirement at a rate equal to inflation, to a maximum of 8%, less 2%. Using a stochastic analysis of potential future indexation granted to these benefits, we have determined that an appropriate assumption for this indexation is 25% of inflation.

The selection of the economic assumptions (i.e. those related to interest rates and inflation) for this valuation was based on reasonable expectations for the relationships between key economic variables over the long-term, as well as the expected impact of those economic variables on the investment performance of the pension fund given the UPP’s Statement of Investment Policies and Procedures effective January 1, 2025.

The going concern discount rate assumption was developed as follows, with rationale for each component described below:

	Discount rate
Gross investment return	6.20%
Provision for investment and administrative expenses	(0.30%)
Estimated net investment return rate before margin	5.90%
Margin for adverse deviations	(0.45%)
Going concern discount rate assumption	5.45%

The gross rate of investment return and the provision for investment and administrative expenses was provided to us by UPP with supporting data and rationale, and approved by the Board.

The gross rate of return was determined based on the target asset allocation set by the Board as noted in the table below, expected long-term capital market returns, standard deviations and correlations for each major asset class.

Asset class	Target allocation
Cash/Short-term	-15%
Long Federal Bonds	26%
Long Provincial Bonds	10%
Real Return Bonds	8%
Private Debt	6%
Public Equity	28%
Private Equity	7%
Real Estate	8%
Infrastructure	10%
Hedge Funds	12%
Total	100%

We have verified the reasonableness of UPP's expected gross rate of return using Eckler's stochastic model which projects rates of inflation, bond yields and asset class returns for 5,000 paths over a long-term projection horizon, assuming that there will be no added-value returns from the active management strategy employed in excess of the associated additional investment management fees.

Based on the terms of engagement, a margin for adverse deviations has been included in the development of the going concern discount rate assumption, as directed by the Board.

For salary increases, we assumed that the real economic growth in salary would be 2.00% per year above the assumed long-term inflation rate of 2.00% per year, which includes an allowance for merit/promotion increases. This leads to a long-term rate of 4.00% for salary increases. For members on disability the salary increase assumption is 2.00%, excluding the 2.00% real economic growth in salary.

The Yearly Maximum Pensionable Earnings ("YMPE") and the Yearly Additional Maximum Pensionable Earnings ("YAMPE") are assumed to grow at a real economic rate of 0.75% above the assumed long-term inflation rate of 2.0%, which leads to a long-term assumption of 2.75% for increases. The ITA benefit limit after 2024 was also increased at the same rate.

In our view, the economic assumptions we have used for the going concern valuation remain within an acceptable range that would be considered by actuaries to be appropriate for the current circumstances of the Plan.

Demographic Assumptions

A key demographic assumption which has an impact on this valuation is the mortality of the Plan's members. As in the prior valuation, we have used the 2014 Public Sector Mortality Table ("CPM Public Table") with generational projection using mortality improvement scale MI-2017 starting in 2014. To address the past experience of the prior plans and the membership of the UPP, the mortality rates in the CPM Public table are adjusted by 95%.

For retirement, the rates reflect recent experience of the participating employers. Different rates are used for Faculty and Staff to reflect their different experience.

For termination before retirement, the rates represent a best estimate of termination rates for a plan the size of the UPP and reflect recent experience of the participating employers.

The assumed proportion of members who have a spouse at retirement and the age difference of the spouse has been based on recent experience of the membership.

Other Assumptions

For the purpose of calculating the Minimum Guarantee Pension, the money purchase accounts for active members entitled to Queen's University pre-conversion date benefits have been reduced by 7.5% to account for the future cost of the non-reduction provision. This reduction has been developed using a stochastic analysis to estimate the total cost of the non-reduction provision applicable to Queen's University pre-conversion money purchase pensions. The Plan's current administrative practice is to apply a 4.5% non-reduction charge when money purchase accounts are converted to lifetime pensions, so the 7.5% reduction provides an additional 3% provision for non-reduction.

For the purpose of calculating liabilities for retired members and survivors entitled to Queen's University pre-conversion date benefits, a 7.5% reserve has been applied to the present value of members' true pensions to account for the estimated cost of the non-reduction provision.

Queen's University and Trent University Staff pre-conversion pensions in pay are indexed in accordance with an excess investment return formula. A deferred indexing reserve has been calculated for these pensions in pay reflecting actual fund experience prior to the valuation date and an expected rate of return on assets in the future equal to the discount rate.

Appendix C: Assumptions and Methods – Hypothetical Wind-Up and Solvency

	January 1, 2025	January 1, 2024
ECONOMIC ASSUMPTIONS		
Discount rate per year (Hypothetical Wind-up Basis):		
Without Indexation:		
• Annuity purchase basis	4.72% per year	4.55% per year
• Transfer value basis	3.90% per year for 10 years and 4.60% per year thereafter.	4.10% per year for 10 years and 4.20% per year thereafter.
With Indexation at 75% of CPI		
• Annuity purchase basis	2.31% per year	2.19% per year
• Transfer value basis	2.47% per year for 10 years and 3.16% per year thereafter.	2.80% per year for 10 years and 2.90% per year thereafter.
With Indexation at CPI -2%		
• Annuity purchase basis	3.27% per year	3.00% per year
• Transfer value basis	3.38% per year for 10 years and 4.08% per year thereafter.	3.90% per year for 10 years and 4.00% per year thereafter.
• Duration for annuity purchase rate	9.73	9.90
Interest rate per year (Solvency Basis):		
• Annuity purchase basis	4.72% per year	4.55% per year
• Transfer value basis	3.90% per year for 10 years and 4.60% per year thereafter.	4.10% per year for 10 years and 4.20% per year thereafter.
Salary increase:	None	Same
Final average earnings	The average of the earnings at the valuation date and the corresponding prior years, which were determined by projecting backward using the going concern salary increase assumption.	Same
YMPE and YAMPE increase:	\$71,300 YMPE for 2025. \$81,200 YAMPE for 2025. No increase in YMPE.	\$68,500 for 2024. No increase in YMPE.
ITA maximum pension limit increase:	\$3,757 per year of pensionable service.	\$3,610 per year of pensionable service

	January 1, 2025	January 1, 2024
DEMOGRAPHIC ASSUMPTIONS		
Mortality:	2014 Mortality Table (CPM 2014) with Improvement Scale CPM-B on a unisex basis. 90% of mortality rates used for annuity purchase liabilities to reflect expected annuity pricing	Same
Disability rates:	None	Same
Retirement age:		
• Members who were assumed to elect an annuity purchase	Age that produces the highest lump sum value of the pension	Same
• All other members who were assumed to elect the lump sum option	50% probability at age that produces the highest lump sum value assuming all service ceases at the valuation date and 50% probability at earliest age becomes eligible for an unreduced lifetime pension	Same
Termination rates:	None	Same
Marital status:		
Non-retired members	85% married for male members; 75% married for female members	Same
Retired members	Actual marital status	
Spousal age difference:		
Non-retired members	Male members with spouse four years younger and female members with spouse two years older	Same
Retired members	Actual age	
Form of Benefit Settlement elected by member:	Annuity purchase 100% of retirees and deferred vested members 75% of active members who are retirement eligible (other than Queen's University members) - Queen's University members: 30% of active members who are not retirement eligible and 50% of active members who are retirement eligible Transfer Value All other members	Same
OTHER		
Allowance for Wind-up Expenses:	\$10,000,000	Same

Actuarial Cost Method

As with the prior valuation, we valued the termination benefit payable under the Plan or the PBA, if different. Under this valuation, the actuarial liabilities consist of the present value of pensions in payment and vested deferred benefits for terminated members, plus the portion of the future benefits expected to be paid to present members which are related to their credited service up to the valuation date. Amounts of pension for active members are determined based on each member's estimated final average earnings at the valuation date. Actual pensions in pay for Queen's University pre-conversion date benefits have been used in the hypothetical wind-up and solvency valuations.

Funded conditional indexation for post-conversion date benefits equal to 75% of the increase in CPI has been included in the hypothetical wind-up valuation.

Asset Valuation Method

As with the previous valuation, we used the market value of assets for the hypothetical wind-up and solvency valuations, adjusting for amounts in transit and amounts payable.

Incremental Cost

In our report we have determined the incremental cost under the hypothetical wind-up basis. The incremental cost was determined as the sum of (a) and (b) minus (c)

- a) the projected hypothetical wind-up liability at the next valuation date for those members at the current valuation date, allowing for expected decrements and change in membership status, service accrual and increase in earnings between the current valuation date and the next valuation date. No adjustment was made for new entrants between the two valuation dates. The resulting projected hypothetical wind-up liability was then discounted to the current valuation date;
- b) the present value of the benefit payments expected to be paid between current valuation date and the next valuation date, discounted to the current valuation date;
- c) the hypothetical wind-up liability as at the current valuation date.

For purposes of calculating the hypothetical wind-up incremental cost, the expected decrements, as well as the expected benefit payments between the current valuation date and the next valuation date, were determined using the going concern demographic assumptions. The projected hypothetical wind-up liability at the next valuation date was determined using the same method and assumptions as disclosed in Appendix C of this report. In particular, we have assumed that the discount rates will remain the same throughout the projection period and the Standards of Practice for determining commuted value rates in effect at the valuation date will remain unchanged, as will the current educational guidance on the estimation of annuity purchase costs.

Appendix D: Membership Data

The valuation was based on data as at January 1, 2025. A summary of the data is shown in this Appendix.

We subjected this data to a number of tests of reasonableness and consistency, including the following:

- a member's (and partner's as applicable) age is within a reasonable range;
- all dates remained unchanged from the data used in the previous actuarial valuation of the Plan;
- salaries increased at a reasonable rate;
- credited service increased by a reasonable amount;
- accrued pensions changed by a reasonable amount;
- the form of pension payment did not change (other than resulting from the death of a retired member);
- the pension amounts for retired members and survivors were compared with the payments reported in the financial statements for the Plan; and
- we examined the additions to and deletions from each of the data files (i.e., the files for active employees, retired members and terminated members entitled to a deferred vested pension) since the previous valuation to determine whether all Plan members were accounted for in this valuation, to check for duplicate records and to confirm pension amounts.

All of our tests had satisfactory results or the data was corrected. However, the tests may not have captured all deficiencies in the data. Although the data for a number of participants was incomplete, as is not unusual in multi-employer plans, we do not believe this has a material effect on the results of the valuation. Where necessary, we made reasonable assumptions for the missing data. We have also relied on the Plan administrator's certification on the quality of the data.

The membership data used in the valuation may be summarized as follows:

	January 1, 2025	January 1, 2024
Active Members and Members on Leave and LTD		
Number	23,153	21,594
Average age at hire	35.3	35.3
Average age	46.2	46.5
Average years of pensionable service	9.6	9.9
Average pensionable earnings	\$115,309	\$114,578
Average capped pensionable earnings	\$111,864	\$110,017
Deferred Vested Members		
Number	6,559	6,088
Number with a defined benefit pension	4,890	4,849
Average age	52.3	51.0
Average annual pension	\$8,137	\$7,250
Number with money purchase balance	1,426	1,440
Average money purchase balances	\$133,408	\$119,892
Number with an estimated liability ¹	470	n/a
Average age	43.1	n/a
Average pensionable service	6.0	n/a
Retired members and Survivors		
Number	13,492	12,676
Average age	76.4	76.3
Average annual lifetime pension ²	\$39,370	\$39,110

¹Pension amounts for some new deferred vested members were unavailable so liabilities were estimated using available data from the prior valuation

²Actual pension paid for pre-conversion Queen's University retired members and survivors. True pension is used to value going concern liabilities

Reconciliation of Membership Data

	Active Members and Members on Leave & LTD	Retired members and survivors	Deferred Vested Members	Other	Total
Members, January 1, 2024	21,594	12,676	6,088	50	40,408
Changes due to:					
New entrants	2,450	-	-	-	2,450
Returned from deferred/retired	6	-	(6)	-	-
Retirement	(458)	595	(136)	(1)	-
Termination					
Deferred vested	(960)	-	961	(1)	-
Lump sum	(335)	-	(437)	(4)	(776)
Pending	(25)	-	-	25	-
Death					
With a beneficiary(ies)	(1)	(139)	-	-	(140)
No further benefits	-	(312)	-	-	(312)
Lump sum	(10)	(3)	(2)	-	(15)
Pending	-	-	-	-	-
New beneficiaries	-	141	(1)	-	140
Data correction	(1)	2	(22)	-	(21)
Transfer from Trent University Staff Plan	678	408	82	-	1,168
Transfer from Victoria University Plan	<u>215</u>	<u>124</u>	<u>32</u>	<u>-</u>	<u>371</u>
<i>Net change</i>	<i>1,559</i>	<i>816</i>	<i>471</i>	<i>19</i>	<i>2,865</i>
Members, January 1, 2025	23,153	13,492	6,559	69	43,273

Distribution of Active Members and Members on Leave and LTD

As at January 1, 2025

Age	Males			Females		
	Number of Members	Average Years of Pensionable Service	Average Pensionable Earnings	Number of Members	Average Years of Pensionable Service	Average Pensionable Earnings
			\$			\$
<25	88	0.8	61,566	164	0.9	62,884
25-30	441	2.0	75,787	971	2.0	73,657
30-35	880	3.3	92,842	1,715	3.4	87,894
35-40	1,206	4.7	109,651	2,047	4.9	99,284
40-45	1,410	7.2	115,766	2,175	7.0	108,408
45-50	1,308	10.0	130,538	1,881	9.4	114,300
50-55	1,203	13.3	143,140	1,705	12.0	121,090
55-60	1,230	16.0	149,914	1,596	15.3	118,097
60-65	1,000	19.2	150,153	1,216	17.1	120,087
65+	482	22.2	178,953	435	18.8	143,507
Total	9,248	10.6	127,569	13,905	9.0	107,155

Average age: 46.2

Average pensionable service: 9.6

Distribution Of Deferred Vested Members With Defined Benefit Pension

As at January 1, 2025

Age	Males		Females	
	Number of Members	Average Lifetime Annual Pension	Number of Members	Average Lifetime Annual Pension
		\$		\$
<25	4	832	10	955
25-30	27	2,032	78	1,318
30-45	88	2,360	163	2,799
35-40	159	4,071	251	4,316
40-45	243	6,460	349	6,133
45-50	284	8,544	409	7,237
50-55	333	9,603	439	9,299
55-60	341	11,742	427	10,056
60-65	342	11,069	376	10,126
65+	334	8,879	233	8,556
Total	2,155	8,753	2,735	7,652

Average age: 52.3

Distribution of Retired Members and Survivors

As at January 1, 2025

Age	Males		Females	
	Number of Members	Average Lifetime Annual Pension ¹	Number of Members	Average Lifetime Annual Pension ¹
		\$		\$
<60	75	24,562	108	21,009
60-65	299	37,876	581	33,094
65-70	885	39,437	1,437	32,638
70-75	1,228	47,365	1,654	33,431
75-80	1,249	50,310	1,492	32,457
80-85	997	60,907	1,078	33,605
85+	1,037	54,073	1,372	26,944
Total	5,770	49,544	7,722	31,768

Average age: 76.4

¹Actual pension paid for pre-conversion Queen's University retired members and survivors. True pension is used to value liabilities.

Appendix E: Plan Assets

Reconciliation of Assets

The asset data used in the valuation were compiled as at January 1, 2025. We have relied on the audited financial statements for the fund prepared by UPP and audited by Pricewaterhouse Coopers LLP for the December 31, 2024 year-end.

Tests of reasonableness with respect to contributions, benefit payments and investment income have been performed on the asset data provided. However, the asset data has not been independently audited or verified.

The following is a reconciliation of the pension fund assets from January 1, 2024 to December 31, 2024 and do not include the transfer of assets from the Victoria University Plan and the Trent University Staff Plan.

(\$000's)	January 1, 2024 to December 31, 2024
Market value as at beginning of year	\$11,719,434
Employee contributions	233,852
Employer contributions	243,337
Pre-Conversion Date employer contributions	31,870
Investment income	1,195,493
Pension payments	(508,392)
Lump sum payments	(55,610)
Transfers from other Plans	5,531
Transfer to other Plans	-
Investment fees and expenses	(56,886)
Non-investment fees and expenses	(45,757)
Total Market value as at end of year	\$12,762,872
Rate of return for the period, net of all expenses	9.3%

Summary of Asset Allocation at January 1, 2025

The asset mix as at January 1, 2025 shown below was prepared by UPP for disclosure in the annual report.

Classification	Notional Exposure (\$'000's)	Asset Mix %	Threshold Range in SIPP
Public Equity	4,186,222	32.80%	25% to 35%
Private Equity	701,958	5.50%	2% to 12%
Fixed Income	5,015,809	39.30%	33% to 43%
Inflation Sensitive Bonds	523,278	4.10%	3% to 13%
Private Debt	650,906	5.10%	1% to 11%
Absolute Return	1,301,813	10.20%	7% to 17%
Infrastructure	663,669	5.20%	3% to 13%
Real Estate	319,072	2.50%	1% to 11%
Cash and Short-Term Money Market (adjusted for derivatives)	<u>(599,855)</u>	<u>-4.70%</u>	-17% to 3%
Total Market Value of Assets	12,762,872	100%	

Appendix F: Development of Actuarial Value of Assets

(\$000's)	2021	2022	2023	2024
Asset value at January 1 (July 1 for 2021)	11,230,192	11,794,755	10,762,959	11,719,434
Asset transfers		277,236		
Total contributions, including transfers-in	214,338	419,910	520,229	514,590
Total benefit payments	(253,832)	(550,557)	(558,501)	(564,002)
Other adjustments	0	(429)	0	0
Total investment income (net of fees)	<u>604,057</u>	<u>(1,177,956)</u>	<u>994,747</u>	<u>1,092,850</u>
Asset value at December 31	11,794,755	10,762,959	11,719,434	12,762,872 (A)
Discount rate	5.60%	5.45%	5.45%	5.45%
Expected asset value at December 31	11,504,590	12,595,267	11,310,225	12,306,950 (B)
Gain/(loss) (A - B)	290,165	(1,832,308)	409,209	455,922
Deferral of gain/(loss) - %	20%	40%	60%	80%
Deferral of gain/(loss) - \$	58,033	(732,923)	245,525	364,738
Total deferral (2021 + 2022 + 2023 + 2024)				(64,627) (C)
Actuarial value of assets (A - C) <i>(prior to money purchase asset adjustment)</i>				12,827,499 (D)
Ratio of Actuarial Value of Assets to Market Value of Assets (D / A)				100.5% (E)
Estimated Queen's University Money Purchase assets				970,566 (F)
Total market value of Plan assets related to DB benefits (A - F)				11,792,306 (G)
Actuarial value of assets (G x E + F) (after money purchase asset adjustment)				12,821,834

The adjusted value of assets is 100.5% of the market value of assets as of January 1, 2025 and the smoothing adjustment is \$58,962,000.

Appendix G: Plausible Adverse Scenarios

A plausible adverse scenario is considered to be one that will occur in the short-term (immediately to one year) with a likelihood of occurring between 1 in 10 and 1 in 20 based on the opinion of the actuary. The purpose of the following scenarios is to illustrate the impact on the Plan's financial position of the following adverse but plausible assumptions relative to the best estimate assumptions selected for the Plan's going concern valuation. The purpose of disclosing these results is to demonstrate the sensitivity of the funded status and annual current service cost between the January 1, 2025 and the next valuation date to certain key risk factors affecting the Plan. The results of the scenarios selected are shown in the table below, with a description of each scenario following.

	Plausible Adverse Scenario Results at January 1, 2025			
	Going Concern Results at January 1, 2025	Interest Rate Risk	Deterioration of Asset Values	Longevity Risk
Discount rate	5.45%	5.15%	5.45%	5.45%
Market value of assets	13,048,570	13,740,021	11,648,458	13,048,570
Actuarial value of assets	13,107,532	13,305,420	12,722,212	13,107,532
Actuarial liabilities	12,862,499	13,440,780	12,758,357	13,137,417
Excess/(unfunded liability)	245,033	(135,360)	(36,145)	(29,885)
<i>Change in excess/(unfunded liability)</i>		<i>(380,393)</i>	<i>(281,178)</i>	<i>(274,918)</i>
Current service cost	484,133	519,922	484,133	491,957
<i>Change in current service cost</i>		<i>35,789</i>	<i>-</i>	<i>7,824</i>
% change in market value of assets		5.30%	(10.73%)	0.00%
% change in actuarial value of assets		1.51%	(2.94%)	0.00%
% change in actuarial liabilities		4.50%	(0.81)%	2.14%
% change in current service cost		7.39%	0.00%	1.62%

Interest Rate Risk

This scenario illustrates the sensitivity of the funded status of the Plan and current service cost to an immediate change in the market interest rates underlying fixed income investments.

In order to assess the impact of a decrease in interest rates of a magnitude consistent with a 1 in 10 likelihood of occurring, we have used the same stochastic model that is used to determine the going concern discount rate (see Appendix B). The stochastic model is based on 5,000 simulations of projected financial variables, including long-term yields on fixed income investments and asset class returns. Our long-term best estimates for these variables, and the going concern discount rate are based on the median values over these 5,000 simulations.

To determine the sensitivity to interest rate risk, and the resulting impact on Plan assets and liabilities, we have:

- considered the hypothetical going concern discount rate over the 500 trials where fixed income yields are lowest at the one-year horizon,
- determined the decrease in median long-term fixed income yields over the 500 trials where fixed income yields are the lowest at the one-year horizon.

As such, under the interest rate risk scenario, the going concern discount rate is decreased by 30 basis points as of January 1, 2025. With respect to the impact on fixed income assets, the scenario results in a decrease in yields on fixed income investments of 0.82%.

Based on the estimated duration of the Plan assets, liabilities and the current service cost, we have then determined the estimated change to the Plan's funded status under the interest rate risk scenario.

The change in the market value of Plan assets has been reflected in the money purchase account balances for Queen's University pre-conversion date benefits as well as the smoothed value of assets. The change in the value of the money purchase account balances was assumed to have an immaterial impact on the defined benefit liabilities of the Plan and therefore has not been reflected.

Deterioration of Asset Values

This scenario illustrates the sensitivity of the funded status of the Plan to a short-term economic shock which causes a reduction in the market value of non-fixed income assets, with no change to the liabilities of the Plan. This scenario is assumed not to impact the current expectation of the long-term rate of return, and consequently, the going concern discount rate.

In order to assess the impact of a decrease in asset values of a magnitude consistent with a 1 in 10 likelihood of occurring, we have used the same stochastic model that is used to determine the going concern discount rate (see Appendix B). The stochastic model is based on 5,000 simulations of projected financial variables, including long-term yields on fixed income investments and asset class returns.

To determine the sensitivity to a deterioration in asset values, based on the Plan's target asset mix, we have determined the decrease in median investment returns over the 500 trials where non-fixed income investment returns are the lowest at the one-year horizon.

As such, under the deterioration of asset values scenario, the market value of assets is decreased by 10.73% as of January 1, 2025.

The change in the market value of Plan assets has been reflected in the money purchase account balances for Queen's University pre-conversion date benefits as well as the smoothed value of assets. The change in the value of the money purchase account balances was assumed to have an immaterial impact on the defined benefit liabilities of the Plan and therefore has not been reflected.

Longevity Risk

This scenario illustrates the sensitivity of the funded status of the Plan to members living longer than expected. The impact of this scenario was determined using a one-year age setback to the mortality table used for the going concern valuation as of January 1, 2025; that is, a more conservative mortality assumption than currently employed.

For the purposes of calculating the Queen's University pre-conversion liabilities, it was assumed that the assumptions used to convert the money purchase accounts to a pension did not change.

Appendix H: Certificate of Administrator

With regards to the January 1, 2025 actuarial report for the University Pension Plan Ontario, I hereby certify, in my capacity as an officer of the University Pension Plan Ontario, and not in my personal capacity that, to the best of my knowledge and belief:

The significant terms of engagement contained in Section 1 of this report are accurate and reflect the Plan administrator's direction with respect to this valuation;

The Summary of the Plan Provisions contained in Appendix A of this actuarial report is a complete and accurate summary of the terms of the Plan which affect the funding requirements;

The membership data provided to the actuary includes a complete and accurate description of every person who is entitled to benefits under the terms of the Plan for service up to January 1, 2025;

The asset data provided or made available to the actuary is complete and accurate; and

All events subsequent to January 1, 2025 that may have an impact on the valuation have been communicated to the actuary.



Barbara Zvan

CEO & President

September 19, 2025

Date